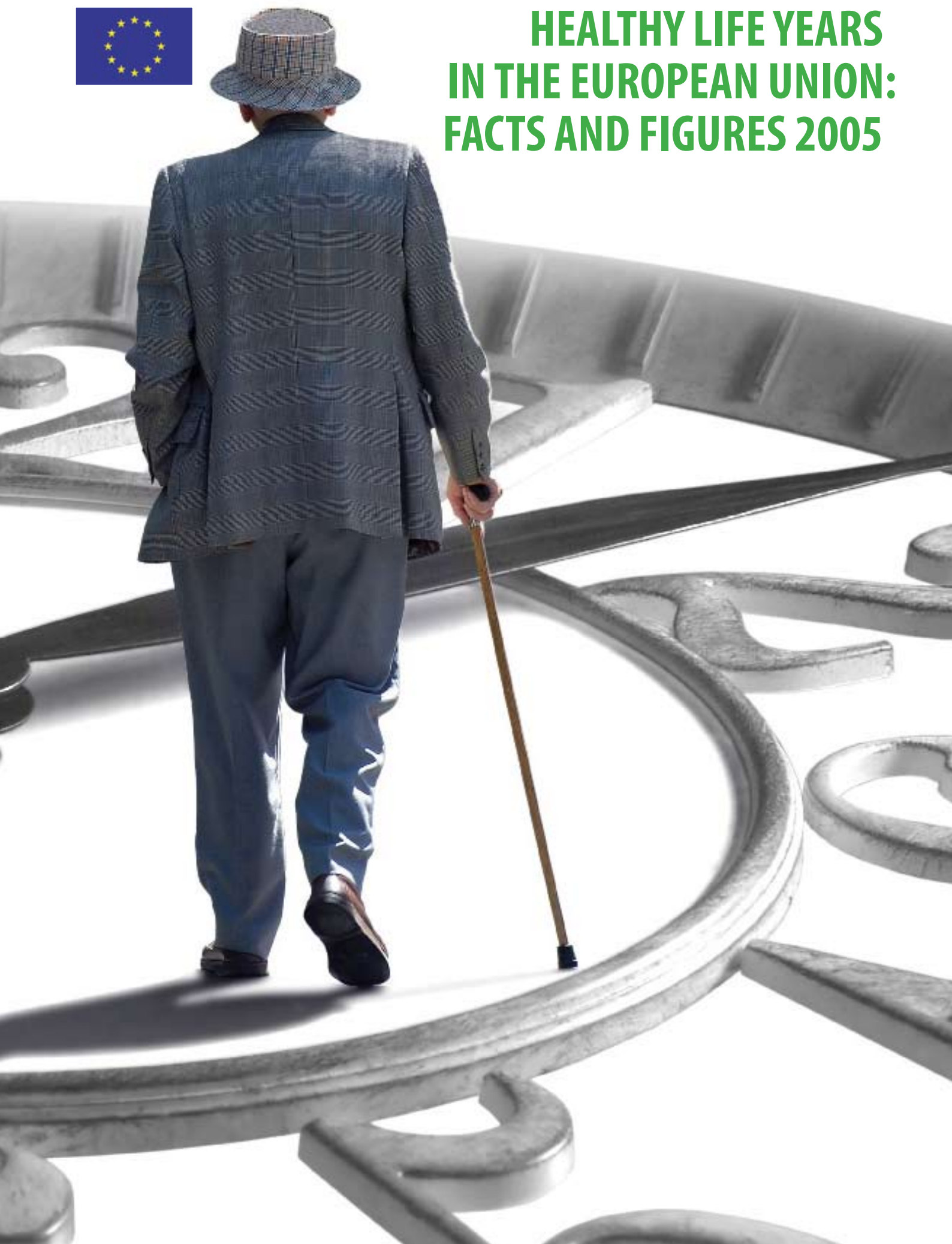




# HEALTHY LIFE YEARS IN THE EUROPEAN UNION: FACTS AND FIGURES 2005



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The present report has been prepared by the European Union Task Force on Health Expectancies on the basis of the text prepared by the EHEMU (European Health Expectancies Monitoring Unit) Project supported by the Public Health Programme of the European Union.

See EU Task Force on Health Expectancies activities

[http://ec.europa.eu/health/ph\\_information/implement/wp/indicators/taskforce\\_expectancies\\_en.htm](http://ec.europa.eu/health/ph_information/implement/wp/indicators/taskforce_expectancies_en.htm)

See EHEMU (European Health Expectancies Monitoring Unit) Project

<http://www.ehemu.eu/>

The European Commission supported and contributed to the report. Units C-2 (Health Information) in the General Directorate Health and Consumers, and F-5 (Health and food safety statistics) from the Statistical Office of the European Union were in charge.

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

for additional details on European Commission activities on the Healthy Life Years indicator.

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# European Health Reports

## Healthy Life Years in the European Union

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# 1. Introduction

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## 1.1. Background

Whether the extra years of life gained across Europe during the last decade are being spent in good or bad health is a crucial question both for individual EU Member States and the EU as a whole. Over a long period of time, increases in life expectancy at birth were used to infer improvements in population health. This was a plausible assumption whilst infectious diseases were the main cause of death. However, as they were replaced by chronic diseases, the risk of becoming ill was not solely linked to the risk of dying but also to the risk of surviving many years with functional restrictions and activity limitations (Riley, 1990). These changes led to the development of indicators of health expectancies, such as Healthy Life Years indicator (also called disability-free life expectancy), increasing the focus onto the quality of life lived (life spent in a healthy state) rather than, as previously, only on the quantity (life expectancy) (Robine, Jagger and Euro-REVES, 2003; Robine et al, 2003).

As the European population ages, it will be crucial to maintain the overall health of the population, not just their years of life. Chronic disease, frailty, and disability tend to become more prevalent at older ages, so that a population with a higher life expectancy may not be healthier. The Healthy Life Years indicator (also called disability-free life expectancy) introduces the concept of quality of life and distinguishes between years of life free of activity limitation and years experienced with activity limitation. Healthy Life Years is a sound indicator to monitor health as a factor in productivity or economic prosperity, particularly in the context of the ageing population.

## 1.2. What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the 'compression of morbidity' scenario) or in bad health ('expansion of morbidity'). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## 1.3. Why we are monitoring the Healthy Life Years Indicator?

Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe<sup>1</sup>.

In March 2000, the European Council adopted a ten-year plan, known as the Lisbon Strategy which aims at making the EU the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth and greater social cohesion<sup>2</sup>. Achieving full employment by 2010 is seen as one of the main means to meet the Lisbon expectations and, in March 2001, the Council added a new target, that the employment rate for older workers should reach 50% by 2010. In this context, the Council invited the Commission to draw up an annual report which provides an objective assessment of the progress made towards the Lisbon objectives<sup>3</sup>. This assessment is made on the basis of the European Structural Indicators<sup>4</sup> related to employment, innovation, economic reform and social cohesion and developed for this purpose by the Commission to evaluate progress annually. As a

<sup>1</sup> See Jagger C, Cox B, Le Roy S, EHEMU (2006) Health Expectancy Calculation by the Sullivan Method. Third Edition. EHEMU Technical Report September 2006.

<sup>2</sup> [http://europa.eu/scadplus/glossary/lisbon\\_strategy\\_en.htm](http://europa.eu/scadplus/glossary/lisbon_strategy_en.htm)

<sup>3</sup> [http://www.consilium.europa.eu/ueDocs/cms\\_Data/docs/pressData/en/ec/00100-r1.en0.htm](http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/ec/00100-r1.en0.htm)

<sup>4</sup> [http://epp.eurostat.ec.europa.eu/portal/page?\\_pageid=1133,47800773,1133\\_47802558&\\_dad=portal&\\_schema=PORTAL](http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1133,47800773,1133_47802558&_dad=portal&_schema=PORTAL)

consequence the European Commission launched the process of elaboration of such a report<sup>5</sup>. The Commission communication (2004) on the report from the Commission to the Spring European Council delivering Lisbon reforms for the enlarged Union listed as a priority to examine possibilities for integrating public health into the Lisbon strategy by 2005, as a contribution to growth and sustainable development. The Healthy Life Years indicator (HLY) is now in the core set of the European Structural Indicators. HLY is the first and currently the only EU Structural Indicator on health and in its 2005 annual report to the Spring European Council, the Commission emphasized that increasing Healthy Life Years is crucial in attracting people, especially older workers into employment (Commission of the European Communities, 2005<sup>6</sup>).

Healthy Life Years is also an overarching indicator in the framework of the Open Method of Coordination in social protection and social inclusion where it is used to monitor progress towards the objectives of access, quality and sustainability of healthcare<sup>7</sup>. Moreover, the communication annexed to the Renewed Social Agenda of 2.7.2008, 'A renewed commitment to social Europe: Reinforcing the Open Method of Coordination for Social Protection and Social Inclusion' (COM(2008) 418), proposes to support the implementation of the objectives by setting quantified targets, and Healthy Life Years is given as an example of a possible target.

## 1.4. How do we compare health expectancies?

Health expectancies (and the HLY indicator) are most often calculated using the 'Sullivan method' based on the age specific prevalence of a health measure (for instance the proportion of the population with and without disability) and on mortality data. To make valid comparisons between countries, the underlying health measure should be truly comparable.

Progress towards comparability has been ongoing since 1995 when the Euro-REVES project began as a Concerted action of BIOMED 2 (1995-1997), aiming to identify the reasons for the incomparability of health expectancy calculations in Europe. At European Commission level, the European Statistical System (ESS) was built up gradually with the objective of providing reliable and comparable statistics at EU level. A second project for the EU Health Monitoring Program (Euro-REVES 2, 1997-2002) followed aiming to create a coherent set of health indicators covering the various dimensions of health at the population level. In total ten instruments were proposed with their exact wording in English. This number allowed the calculation of many health expectancies covering the totality of the conceptual framework of the measurement of population health, specifically measuring the extent of the differences in health between the European Union Member States, to appreciate the causes, to specify the profile of each country and the differences between the various concepts of health: chronic disease, functional limitations, activity restrictions, mental health and health perceptions (Robine, Jagger and Euro-REVES, 2003; Robine et al, 2004). Three global instruments (chronic morbidity, activity limitation and perceived health) were included in the list of ten indicators and were later 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 Eurostat Statistics on Income and Living Conditions (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<sup>8</sup>.

In 2002-2003 Euro-REVES developed the draft of the European Health Status Module (EHSM) for Eurostat, mainly built from the 10 instruments selected during the second stage of Euro-REVES. The major importance of this development was the formation of a strict protocol for the translation process. Hitherto the few European surveys that had taken place, for instance the European Community

<sup>5</sup> [http://europa.eu/eur-lex/en/com/cnc/2004/com2004\\_0029en02.pdf](http://europa.eu/eur-lex/en/com/cnc/2004/com2004_0029en02.pdf)

<sup>6</sup> [http://ec.europa.eu/growthandjobs/pdf/COM2005\\_024\\_en.pdf](http://ec.europa.eu/growthandjobs/pdf/COM2005_024_en.pdf)

<sup>7</sup> See Commission Services Document on monitoring progress towards the objectives of the European Strategy for social protection and social inclusion, 2008 (Forthcoming).

<sup>8</sup> <http://www.echim.org/docsheets.html>

Household Panel (ECHP) had paid less attention to this key aspect for true harmonisation. Initially the translation process involved 6 countries but after a series of validation pilots, translations in the remaining languages of the EU27 were undertaken by Eurostat. The systematic, protocol-driven approach taken in the development and translation of the EHSM provided a template for the remaining three core modules of the European Health Interview Survey (EHIS).

## 1.5. Monitoring HLY in the European Union

This report 'Healthy Life Years in the European Union' is published by the European Commission in 2008 giving a first broad analysis of the situation of life expectancy and healthy life years all EU Member States except Bulgaria and Romania, who were not EU members at the time when the relevant data was collected in 2005.

The European Union Health Programme is contributing to a sounder statistical approach to life expectancy and healthy life years indicators through support of the projects EHEMU (European Health Expectancy Monitoring Unit) and now EHLEIS (European Health and Life Expectancy Information Systems). EHLEIS is focusing specifically on gender gaps in life and health expectancies and in identifying factors which might explain inequalities in life and health expectancies between the EU countries.

All calculations for this report were done through the European Health Expectancy Monitoring Unit (EHEMU) Information System and are available on the EHEMU website (<http://www.ehemu.eu>). Life expectancy estimates for 2005 were computed using the current Eurostat algorithm, and national death counts and population estimates from the Eurostat database, except for France and Italy where death counts were unavailable and thus were directly collected at INSEE and ISTAT respectively. HLY estimates for 2005 were computed with an algorithm developed by Eurostat in collaboration with EHEMU based on the Sullivan methodology (Sullivan, 1971).

## 1.6. The Task Force Health Expectancies

The EU Task Force on Health Expectancies (TF-HE) was established in 2004 to monitor the development of different health expectancies indicators including the Healthy Life Years (HLY). As well as its main objectives of improving comparability of HLY both within and outside the EU, specifically with the USA and Japan, the TF-HE provides a forum through which EU countries can share experience of using HLY nationally to inform and monitor policy reforms.

A further purpose of the TF-HE has been to oversee projects that involve health expectancies and HLY of which the major ones are EHEMU and EHLEIS. EHEMU developed a comprehensive website (<http://www.ehemu.eu>) including an Information System, several scientific reports on health expectancy in Europe, training material including a step-by-step calculation guide with accompanying software (Jagger et al 2006), a glossary of key definitions and an interpreting guide aimed at non-technical audiences as well as bibliographic tools. Moreover, EHEMU performed the feasibility study for the adoption of HLY as a Structural Indicator. With its second grant (EHLEIS, 2007-2010), EHEMU will develop further the European Health and Life Expectancy Information System (EHLEIS), provide new insights into gender gaps in health expectancies (HE) and trade-offs between health dimensions through scientific reports, organize a training workshop in HE and a European Health Expectancy conference and provide scientific resources to the Commission. Through their results reported in the two chapters following, these projects demonstrate the importance of a support structure to supply in-depth analyses and thoughtful interpretation of trends in HLY.





## 1.7. The European Health Survey System

In 2002, the Directors of Social Statistics meeting created a framework – named the European Health Survey System (EHSS) – in order to get regular collections of harmonised data by means of surveys (or survey modules) on health. The EHSS is a comprehensive and co-ordinated but flexible set of surveys, allowing inter country comparisons, and built around an essential core survey, according to flexible and modular implementation. It consists of four parts:

- The European Health Interview Survey (EHIS)<sup>9</sup> and survey modules, managed by Eurostat under the Community Statistical Programme and/or within the European Statistical System (composed of the national statistical institutes and other national authorities in charge of national official statistics). The EHIS is planned to be held every five years with the first round of the EHIS taking place in 2007/2009 in all the EU Members States.
- A complementary set of special interview survey modules to be developed under the Community public health programme. These special modules will address specific demands and the national institutes of public health and research groups will play a central role in their development.
- A European Health Examination Survey (EHES)<sup>10</sup> is being developed under the responsibility of DG SANCO in the framework of the Community Health Programme.
- The European Health Interview & Health Examination Surveys Database (EUHSID)<sup>11</sup> of standard certified and recommended reference instruments (available at national and EU level). This database carried out in EU-MS, EFTA and CC countries, the US, Canada and Australia. This ongoing base contains the questionnaires, a description of the methods used for the data collection as well as the sample designs implemented, and details on the institutions in

charge of them.

The first pillar of the EHIS, consists of:

- (i) an annual Minimum European Health Module (MEHM) composed of 3 questions on self-perceived health, longstanding illness and activity limitation due to health problems. This module is also included in the annual Eurostat European social survey on Statistics on Income and Living Conditions (EU-SILC) which has begun in 2004. It is used to compute the structural indicator Healthy Life Year (HLY). Moreover, the EU-SILC contains four questions about the unmet needs for medical or dental care and the reasons for this lack of satisfaction. The replies to these questions are used to calculate indicators within the framework of the open method of coordination (OMC) concerning health care and long-term care. The EU-SILC was already implemented in 2003 for pilots and from 2004 onwards is carried out on a routine basis;

The European HIS (EHIS) including the following modules:

- (ii) a module on health status (EHSM);
- (iii) a module on health care (EHCM);
- (iv) a module on health determinants (EHDM), and
- (v) a module on background variables.

The Member States agreed on a common questionnaire and some of them are still in the implementation phase.

The future European Household Survey (EHS), whose protocol will be tested in 2008, will be implemented from 2010 onwards on (if decided by the Member States in 2009) an annual basis. 21 questions of health resulting from the EHIS are included in this survey in order to have more regular data than those obtained from the five-year EHIS. These 21 questions will permit to work out the indicators of the ECHI list or of the social protection indicators included in the open method of coordination (OMC) for those considered the most sensitive ones to short term trends. The EHS will include non-regular specific modules to answer to new political requests from various DGs of the Commission. The special interview survey modules proposed by DG SANCO could therefore be

<sup>9</sup> [http://circa.europa.eu/Public/irc/dsis/health/library?l=/methodologiessandsdatasc/healthsinterviewssurvey/2007-2008\\_methodology](http://circa.europa.eu/Public/irc/dsis/health/library?l=/methodologiessandsdatasc/healthsinterviewssurvey/2007-2008_methodology)

<sup>10</sup> [http://ec.europa.eu/health/ph\\_information/dissemination/reporting/report\\_en.htm?sancorep=4#rep\\_4](http://ec.europa.eu/health/ph_information/dissemination/reporting/report_en.htm?sancorep=4#rep_4)

<sup>11</sup> <https://hishes.ipf.fgov.be/index.php?hishes=home>

taken over in this survey.

Finally, a module on disability and social inclusion (EDSIM) is being prepared and will be available end-2008; later it will have to be translated and tested in the various EU-languages and the process of its implementation will have to be decided with the Member States. It will be probably included in the EHS. In addition a module on the employment of disabled persons will be introduced into the Labour Force Survey (LFS -employment survey) in 2011.

## 1.8. Contact us

There are probably numerous ways in which future reports could be improved over the present one. Comments and suggestions would therefore be gratefully received and should be sent to:

Unit C-2 Health Information  
Directorate-General for Health and Consumers (SANCO)  
Directorate of Public Health  
European Commission  
Hitech Building  
L-2920 Luxembourg

e-mail: [SANCO-C2-HEALTH\\_INFORMATION@ec.europa.eu](mailto:SANCO-C2-HEALTH_INFORMATION@ec.europa.eu)







## 2. Executive Summary by the Task Force on Health Expectancies

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The two chapters following present data on health expectancies based on two of the three items of the MEHM which was included in the Statistics of Income and Living Conditions (SILC 2005): HLY from the global activity limitation question (Van Oyen et al, 2006); and life expectancy free of chronic morbidity. The first chapter reports the first HLY estimates for the EU25. In addition the chapter includes a review of the trends in life expectancy at birth and at age 65 in the EU27 since 1995 and HLY for the EU15, since trends in HLY for the EU27 are not yet available. In all cases gender differences are debated as well as the interrelationships between life expectancy and HLY as the preliminary means of determining whether longer life is implying better health. The second chapter brings together all chronic diseases through assessment of life expectancy with and without chronic morbidity in Europe.

As an annex to the report, the status of every Member State is described in detail in a "Country Report". The Country Reports were developed by EHEMU with the aims of improving the understanding and dissemination of the HLY indicator at national level, improving its measurement by providing standardized definitions and stimulating the use of national estimates. The standardized four page format was designed to be suitable for non-technical readers, with key messages and benchmarking of the Member States against the EU average (without ranking of countries) provided.

Finally, care should be taken when reading the remainder of this report since the health data collected through SILC is not yet completely harmonized across the EU. In the preparation of the European Health Interview Survey (EHIS), special attention has been given to ensure a high degree of harmonization through the provision of translation guidelines so that the health survey instruments, including the Global Activity Limitation Indicator (GALI) module and the MEHM, could be translated to the underlying concept.

SILC will benefit from this improvement from 2008 onwards. Thus it is as yet too early to fully compare countries in terms of health expectancies, and it will be safer to compare trends rather than annual values although emerging trends will not be evident for some years. Cultural differences may impact on the self-reporting of health and may explain some of the inequalities between Member States. Trends in HLY over time will provide the opportunity to quantify these. Theoretically cultural differences may have less of an impact on severe activity limitation, but such a severity level addresses a very specific type of disability linked to the need for daily assistance and most common in the elderly whilst less severe activity limitation is more policy relevant to the wider population. Through its analysis of other European data sets, EHEMU will undertake wider validation of the activity limitation data used in the HLY against other measures of health and functioning.



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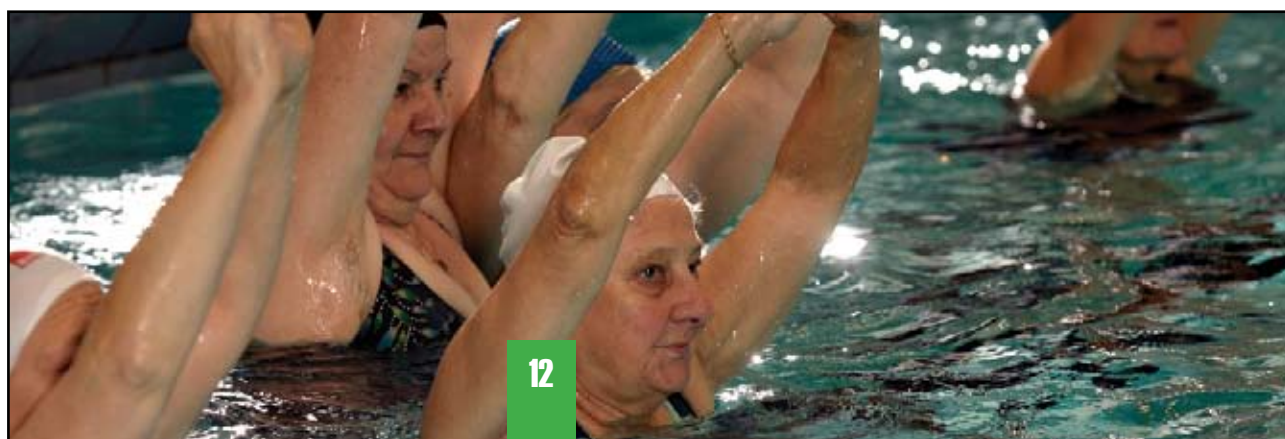
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### 3. Increasing healthy life expectancy and reducing longevity gaps between European countries

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#### Summary

The number of Healthy Life Years (HLY) lived by the inhabitants of the European Union (EU) at 25 (without Bulgaria and Romania) reached 60.8 years for men and 62.1 years for women in 2005 (EHEMU calculation). These years represent 80.1 % and 75.8 % of the total life expectancy at birth for men and women, respectively. For survivors at age 50, the number of remaining HLY still reaches 17.3 years for men and 18.1 years for women.

Although in 2005 the EU life expectancy at birth ranks amongst the highest in the world, at almost 76 years for men and 82 years for women (EU25), for its 461 million inhabitants, too many years are still lived with activity limitations, close to 15 years for men and 20 years for women, including 5 to 6.5 years with severe limitations.

European women live on average 6 years longer than men but most of these additional years are lived with moderate or severe activity limitations. Therefore the HLY gender gap in favour of women appears to be much smaller, less than 2 years, than the total longevity gap. European men tend to spend a greater proportion of their shorter life expectancy free of activity limitation.

Over the 10 year period 1995-2005 life expectancy at birth steadily increased in the EU, by 3 years for men and by 2 years for women. Monitoring that this significant lengthening of

the duration of life is not increasing the number of years lived with activity limitations is an important issue for the Union, as such limitations dramatically increase the risk of becoming dependent for everyday tasks.

Trends in HLY are not yet available at the European level because the European Health Survey System (EHSS) is relatively new. However a feasibility study, using survey data coming from the European Community Household Panel (ECHP) run in the EU15, suggested a very slow increase over time in the number of years lived without disability in Europe (Robine J-M, Jagger C, group Euro-REVES (2003)).

At the Member States level, the national values of life expectancy at birth in 2005 range between 65.3 and 78.5 years (13.2 years gap) for men and between 76.5 and 84.0 years (7.5 years gap) for women. The corresponding HLY values range respectively from 48.0 years to 68.5 years (20.5 years gap) for men and from 52.2 years to 70.2 years (18.0 years gap) for women. Moreover, at age 50, the HLY values range respectively from 9.1 years to 23.6 years (14.5 years gap) for men and from 10.4 years to 24.1 years (13.7 years gap) for women, underlying that the employment rate for older workers cannot be expected to be the same throughout Europe. Equivalent gaps are also evident at age 65, though these are more relevant for long-term care services than employment rates.

Understanding and reducing gaps between quantity and quality of life, between men and women and between Member States is a necessary condition for ensuring sustainable economic growth and greater social cohesion in Europe.





## 3.1 Introduction

In this chapter we present the first HLY estimates for the EU25 using the Statistics of Income and Living Conditions (SILC 2005). We also review the trends in life expectancy at birth and at age 65 in the EU27 since 1995. Trends in HLY for the EU27 are not yet available and thus we only show trends in HLY for the EU15 using the European Community Household Panel (ECHP) study run between 1995 and 2001. The ECHP formed the basis of the feasibility study for the adoption of HLY as a Structural Indicator. In all cases we look at the differences between genders and the interrelationships between life expectancy and HLY as the preliminary means of determining whether longer life also means better health. However the significant gaps and diverging trends in longevity observed across the EU and between genders justifies the importance that is attached to continued inclusion of life expectancy at birth (and at age 50 and 65) as key health indicators in Europe in addition to the new HLY. Moreover, essential information in term of quality of life is provided by the ratio HLY to life expectancy which measures the proportion of the life expectancy lived in good health.

## 3.2 Information Sources

Activity limitation data come from the new longitudinal survey, Statistics of Income and Living Conditions (SILC), whose health module is part of the European Health Survey System (Bonte J, Jagger C, Robine J-M, 2003). SILC includes a global question on activity limitation, known as the GALI (Van Oyen et al, 2006), which has been especially designed for estimating the HLY (Robine, Jagger and Euro-REVES, 2003)<sup>12</sup>. The question explores whether the surveyed individuals are limited in activities people usually do, for at least the last 6 months, because of a health problem with responses: Yes, strongly limited; Yes, limited; No, not limited. All data (death counts, population estimates and activity limitation), are for the years 2005 and were collected or estimated to ensure maximum harmonization for all Member States in 2005.

The data used for the feasibility study for the adoption of HLY as a Structural Indicator come from the European Community Household Panel (ECHP). The questions used explore whether the surveyed individuals have any chronic physical or mental health problem, illness or disability and if it is the case whether they are hampered in their daily activities by these physical or mental health problems, illnesses or disabilities. Possible responses are: Yes, severely; Yes, to some extent; No.

All health expectancy calculations were made following the Sullivan approach as described in section 1.5 of the Introduction. Details on the HLY, Structural Indicators and the Lisbon Strategy can be found on the DG SANCO<sup>13</sup> and Eurostat<sup>14</sup> websites. Methodological reports on health expectancies can be found on the EHEMU<sup>15</sup> website.

## 3.3 Data Presentation

Table 1 shows estimates for 2005 at the European level (EU25) by gender: life expectancy (LE), Healthy Life Years (HLY), the expected number of remaining years with moderate activity limitations (LEwML), the expected number of remaining years with severe activity limitations (LEwSM) and the ratio of the Healthy Life Years to life expectancy expressed a percentage (HLY/LE), at birth, at age 50 and at age 65. It also shows the difference in these quantities between men and women, the gender gaps.

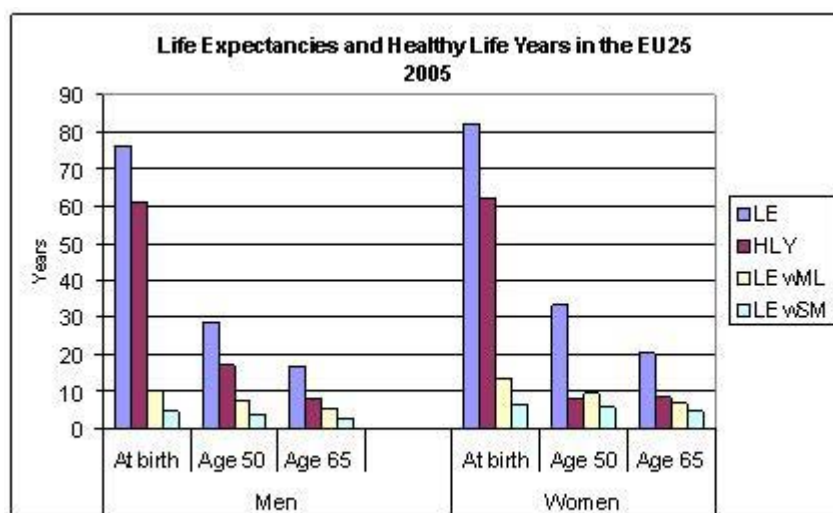
<sup>12</sup> [http://ec.europa.eu/health/ph\\_information/dissemination/reporting/ehss\\_04\\_en.htm#top](http://ec.europa.eu/health/ph_information/dissemination/reporting/ehss_04_en.htm#top)

<sup>13</sup> [http://ec.europa.eu/health/ph\\_information/indicators/lifeyears\\_en.htm](http://ec.europa.eu/health/ph_information/indicators/lifeyears_en.htm)

<sup>14</sup> [http://epp.eurostat.ec.europa.eu/portal/page?\\_pageid=1090,30070682,1090\\_33076576&\\_dad=portal&\\_schema=PORTAL](http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1090,30070682,1090_33076576&_dad=portal&_schema=PORTAL)

<sup>15</sup> <http://www.ehemu.eu/>

Graph 1: Life expectancy (LE) and Healthy Life Years (HLY) at birth, at age 50 and at age 65, in the European Union (EU25), in 2005, by gender



See Annex 4 for original data

Source: Eurostat for death and population data (<http://epp.eurostat.ec.europa.eu>), Eurostat SILC for activity limitation data, and EHEMU for calculations ([www.ehemu.eu](http://www.ehemu.eu))

Where LE indicates Life Expectancy, HLY indicates Healthy Life Years, LEwML indicates Life Expectancy with moderate activity limitations and LEwSM indicates Life Expectancy with severe activity limitations.

The number of Healthy Life Years (HLY) lived in 2005 by the inhabitants of the European Union (EU25) reached 60.8 years for men and 62.1 years for women. These years represent 80.1 % and 75.8% of the total life expectancy at birth for men and women, respectively (Table 1). Although in 2005 the EU life expectancy at birth ranks amongst the highest in the world, at almost 76 years for men and 82 years for women (EU25), for its 461 million inhabitants, too many years are still lived with activity limitations, close to 15 years for men and 20 years for women including 5 to 6 years with severe limitations. Women live on average 6 years longer than men but most of these additional years correspond to years with reported moderate or severe activity limitations. Therefore the HLY gender gap in favour of women appears to be much smaller, less than 2 years, than the total longevity gap.

The number of remaining HLY at age 50 is 17.3 years for men and 18.1 years for women representing 60.4 % and 53.9 % of total life expectancy respectively. This provides a good indication of the number of year with good functioning which may be available for work and hence is crucial for monitoring progress

towards the EU target of increasing the employment rate of the older workers. Above the age of 50 years, women live longer than men, 4.9 years on average, but more than three-quarters of these additional years correspond to years lived with activity limitations. Therefore the HLY gender gap in favour of women at age 50 is much smaller, 0.8 years, than the total longevity gap. By age 65, the number of remaining HLY still reaches 8.4 years for men and 8.7 years for women representing 50.4 % and 43.2% of the total life expectancy for men and women respectively. Men in Europe spend a greater proportion of their shorter life expectancy free of activity limitations. At age 50, as well as at age 65, the gender gaps in the number of expected years with activity limitations are quite substantial in Europe. For both genders, activity limitations dramatically increase the risk of becoming dependent for everyday tasks and relying on formal or informal care for daily survival.

Trends in HLY are not yet available at the European level because the European Health Survey System (EHSS) is relatively new. However the feasibility study for the adoption of the Healthy Life Years (HLY) indicator (also called disability-free life expectancy, DFLE) as a Structural Indicator, using survey data coming from the ECHP and run in EU15, gave an idea of likely trends in Europe. Table 2 gives estimates of life expectancy (LE65) and disability-free life expectancy (DFLE65) at age 65 as well as the ratio LE65/DFLE65 computed from 1995 to 2001 with the ECHP survey.

Graph 2: Life expectancy at age 65 (LE65) and Disability-free life expectancy (DFLE65), in the European Union (EU15), from 1995 to 2001, by gender



See Annex 4 for original data

Where LE65 indicates the total life expectancy at age 65 for a given sex recorded in the given year, and DFLE65 indicates the number of LE65 years expected to be disability-free.

In summary, the study suggested a slightly slower increase in the number of years without disability than in total life expectancy, resulting in a slight decrease in the proportion of life free of disability in the EU15. However there is no obvious single trend at the MS level. Roughly one third of the countries showed a slight compression of disability over the seven years of the study (i.e. the

increase of years without disability is larger than the increase of the total life expectancy), one third a slight expansion of disability and one third a kind of status quo known as dynamic equilibrium (Manton, 1982). Details can be found in Annex 1.

Table 3 shows 10-year trends in life expectancy at birth (LE0) in the European Union by gender, including the new members, Bulgaria and Romania, entering in 2007 (EU27). The table also displays the maximum, minimum and range of values estimated each year at the MS level within EU27.

Graph 3: Life expectancy at birth (LE0), in the European Union (EU27), from 1995 to 2005, by gender



See Annex 4 for original data

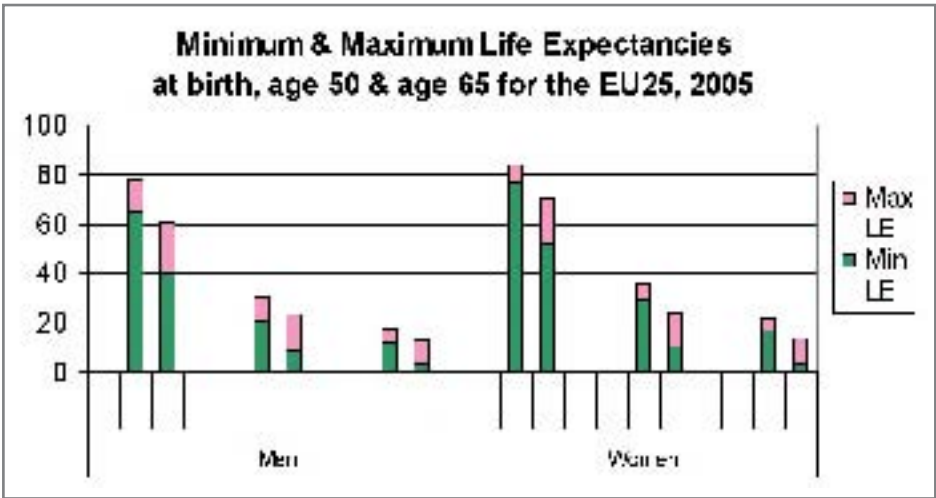
Source: Eurostat for death and population data (<http://epp.eurostat.ec.europa.eu>) and EHEMU for calculations ([www.ehemu.eu](http://www.ehemu.eu))



Where LE indicates the Life Expectancy, Min LE indicates the minimum Life Expectancy and Max LE indicates the maximum Life expectancy at birth for members of the EU27 for the year range 1995-2005.

Over the 10 year period 1995-2005, life expectancy at birth steadily increased in the European Union, by three years for men and by two years for women, thereby reducing the longevity gender gap by one year (Table 3). Monitoring that this significant lengthening of the duration of life is not increasing the number of years lived with functional limitations is an important issue for the Union.

Graph 4: Minimum and maximum values of life expectancy (LE) and Healthy Life Years (HLY), at birth, at age 50 and at age 65, among the Member States of the European Union (EU25), in 2005, by gender



See Annex 4 for original data

Source: Eurostat for death and population data (<http://epp.eurostat.ec.europa.eu>), Eurostat SILC for activity limitation data, and EHEMU for calculations ([www.ehemu.eu](http://www.ehemu.eu))

Where Max LE and Min LE indicate the maximum and minimum Life Expectancies respectively for members of the EU25 in 2005.

Table 4 underlines the significant LE and HLY gaps observed between the Member States in 2005. At the Member State level, values of life expectancy at birth in 2005 range from 65.3 years to 78.5 years (13.2 years gap) for men and from 76.5 years to 84.0 years (7.5 years gap) for women. The corresponding HLY values range respectively from 48.0 years to 68.5 years (20.5 years gap) for men and from 52.2 years to 70.2 years (18.0 years gap) for women. Estimates shown in Table 3 for life expectancy only suggest a very slow reduction in the longevity gaps between the Member States since 1995. Detailed values for the Member States are displayed in Annexes 2 and 3. Table 4 provides additional information on the life expectancy and HLY gaps observed between the Member States in 2005 at ages 50 and 65. Moreover, at

age 50, the HLY values range respectively from 9.1 years to 23.6 years (14.5 years gap) for men and from 10.4 years to 24.1 years (13.7 years gap) for women, underlying that the employment rate for older workers cannot be expected to be the same throughout Europe.



### 3.4 Data Discussion

The calculation of HLY at the European level and for all Member States, spurred on by the Lisbon Strategy, has disclosed striking gaps in the quantity and quality of life (i.e. between total longevity and years lived free of disability), between men and women and between Member States. Understanding and reducing these gaps will be required for ensuring sustainable economic growth, full employment and greater social cohesion in Europe.

In short, residents of the European Union (based on HLY calculations for the 25 EU Member States of 2005) can expect to live slightly more than 60 years in good health, as estimated by the HLY. Around 20 % (17 % for men and 21 % for women) of the life expectancy at birth are lived with some reported activity limitations. Under the current conditions observed in Europe, women at birth are expected to live 6 years more than men. They will also live 4.7 years more with activity limitations, including over 1.7 year more with severe limitations. Severe activity limitations dramatically increase the risk of losing independence and requiring long term care. For survivors at age 50, the number of remaining HLY still reaches 17.3 years for men and 18.1 years for women, providing possibilities for increasing the employment rate of the older workers. In 2005 the gaps between the MS with the highest and lowest life expectancies at birth is over 13 years for men and over 7 years for women. Reduction of this longevity gap between MS appears to have been extremely slow during the 1995-2005 period. Gaps in HLY between MS are even wider: over 20 years for men and 18 years for women in total. At age 50 the HLY gaps reach 14.5 years for men and 13.7 years for women, underlying that the labor force participation of older workers cannot be expected to be uniform throughout Europe. Equivalent gaps are evident at age 65 but they point more towards long term care services than to employment rates.

Longevity gaps in Europe are much more complex than a simple comparison between western and eastern countries. A specific analysis made by EHEMU showed that European countries experienced a marked convergence in their life expectancy values in the aftermath of the Second World War from a different but generally increasing trend in life expectancy<sup>16</sup>. However during the 1960s European life expectancies began to diverge. In one group of countries (Sweden, Switzerland, France, Italy and Spain for women and Sweden, Switzerland and Italy for men), the growth in life expectancy hardly slowed during the 1960s, and continued to converge towards higher values. These are high convergence countries. A second group (England and Wales, Belgium and Finland for women and France for men), where growth in life expectancy slowed more in the late 1950s and early 1960s, converged to a level of around two years from the highest European values<sup>17</sup>. These are low convergence countries. The third group includes those European countries that at some time ceased to follow the trend of the highest European values. These are divergent countries. It is in this third group that the Baltic and Eastern Europe countries are found as their life expectancies ceased to follow the trend of the highest European values from the 1960s onwards. Denmark is also included though its life expectancy trend varied from the mid-1970s, whilst trends in Norway and the Netherlands diverged from the mid-1980s onwards. These divergences coincided with health crises in Europe but their impact varied tremendously from one country to the next.

If the HLY indicator does not yet permit direct comparison with United States of America (USA) and Japan, life expectancy does. Thus Table 5 presents the values of life expectancy at birth in the EU27, USA and Japan in 1995 and in 2005 and by gender. The US data come from the National Center for Health Statistics (Anderson, Kochanek and Murphy, 1997; Kung et al, 2007)<sup>18</sup> and the Japanese data from the Ministry of Health and Welfare for Japan (Ministry of Health and Welfare, 2006)<sup>19</sup>.

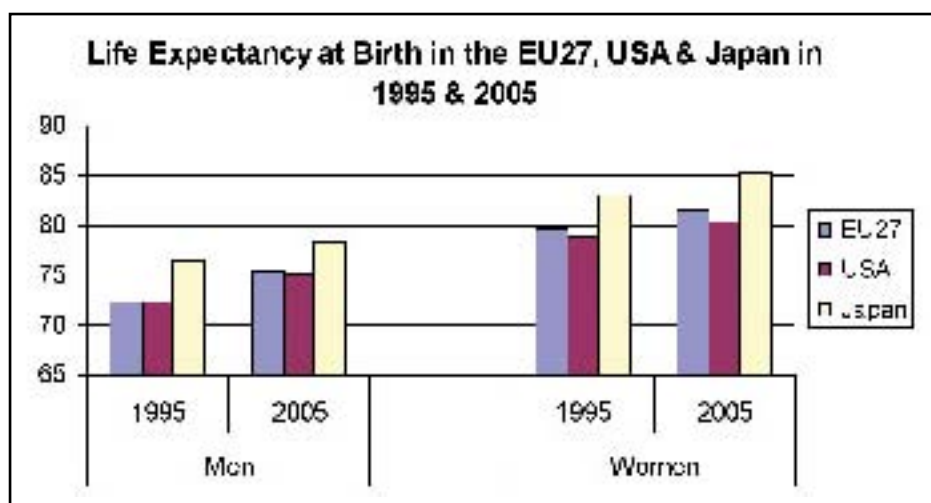
<sup>16</sup> [http://ec.europa.eu/health/ph\\_information/reporting/community\\_en.htm](http://ec.europa.eu/health/ph_information/reporting/community_en.htm)

<sup>17</sup> These are called divergent countries and the group comprises the Eastern European and Baltic countries (Hungary, Bulgaria, Czech Republic, Latvia and Lithuania) where the divergent phase began in the 1960s, Denmark where divergence began in the mid-1970s and Norway and the Netherlands divergent since the mid-1980s. It should be noted that, for men, Spain also began a divergent phase in the mid-1980s, but there pattern was a very different in Norway and the Netherlands. These divergences coincide with health crises in Europe, the Eastern crisis and in the Baltic states firstly, but also health crises in some Northern European countries (Denmark, Netherlands and Norway).

<sup>18</sup> <http://www.cdc.gov/nchs>

<sup>19</sup> <http://www.mhlw.go.jp/english/index.html>

Graph 5: Life expectancy at birth (LE0) in the European Union (EU27), in the United States of America (USA) and in Japan in 1995 and 2005, by gender



See Annex 4 for original data

Source: EHEMU for the European Union ([www.ehemu.eu](http://www.ehemu.eu)), National Center for Health Statistics for the USA (<http://www.cdc.gov/nchs>) and Ministry of Health and Welfare for Japan (<http://www.mhlw.go.jp/english/index.html>)

Table 5 shows firstly that by 2005 life expectancy at birth is almost identical for men in the USA and in the EU, but that life expectancy in Japan is four years higher than both. Women's LE at birth is almost one year higher in the EU compared to the USA but 3 years lower than Japan. Secondly, the table shows that gender gaps range from 5.2 years in the USA to 7 years in Japan, suggesting that the size of the longevity gender gap is mainly determined by women's longevity. Finally the EU had the largest increase in male life expectancy over the 10-year period 1995-2005 and the second largest (to Japan) for female life expectancy.

The USA have developed a nationwide health promotion and disease prevention agenda, known as Healthy People 2010, in which the two overarching national health goals are to increase the quality and years of healthy life and eliminate health disparities. In this framework, the US National Center for Health Statistics (NCHS) developed three summary measures similar to the HLY for monitoring progress toward the goals of Healthy People 2010. They are: expected years in good health, expected years free of activity limitation, and expected years free of selected chronic diseases. Data have been analyzed for the period 1999-2002 and findings were mixed with continued improvements in life expectancy and a slight increase in expected years free of activity limitation (Department of Health and Human Service 2006; Molla et al

2001 and 2003; Wagener et al 2001). However, the expected years free of activity limitation computed by the US administration are not directly comparable to the number of HLY as the surveys used to collect the necessary information on activity limitations are not harmonized between the EU and the USA. The Commission is working to improve this comparability in cooperation with the US authorities, including through the OECD.





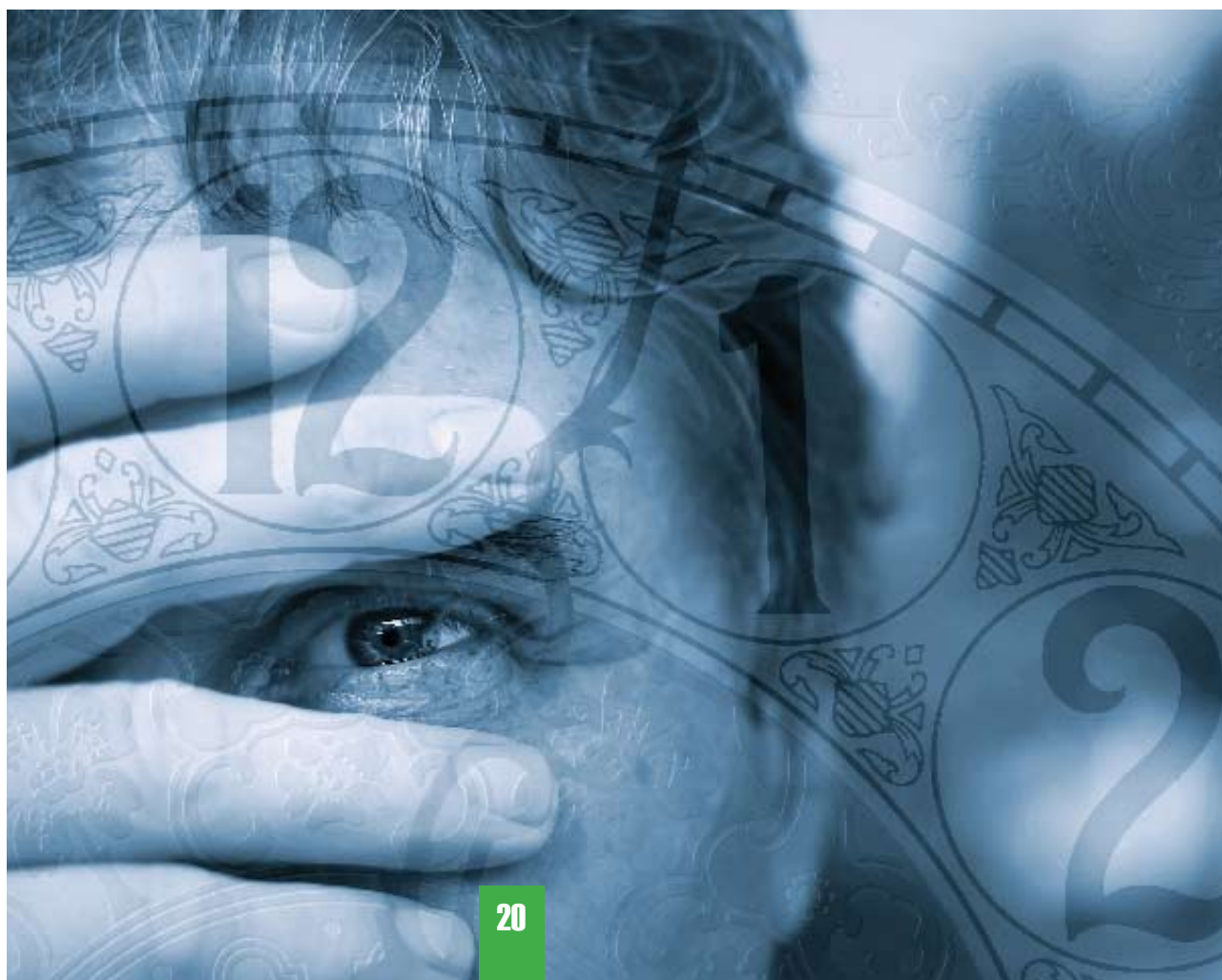
### 3.5 Policy Tools

In the first assessment to become a Structural Indicator, HLY was awarded a grade B. The two main issues were shortcomings with regard to comparability between Member States/Candidate Countries/US and Japan (including the lack of data), and a break in the series hampering comparison over time. Indeed the ECHP ended in 2001 and no European data was available for 2002 or 2003. However the new survey, the Statistics of Income and Living Conditions (SILC) began in 2004 in several Member States, from 2005 in the then 25 Member States and 2006 in the current 27 EU Member States.

Although not a health survey, SILC contains the Minimum European Health Module (MEHM) which was devised by the Euro-REVES group (Robine, Jagger and Euro-REVES, 2003) and is to be a subset of the health module in the European Health Interview Survey (EHIS). The MEHM includes measures of chronic morbidity, perceived health and disability, the latter by means of the GALI (Van Oyen et al, 2006). The HLY is based on the disability measure: limitation in activities people usually do, for at least the last 6 months, because of

health problems. A major drawback with the 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 health questions in SILC (and further in the EHIS) and a more rigorous translation process to the underlying health concept will minimise cultural differences in the comprehension of the questions. Thus SILC (annually) and EHIS (every 5 years) will provide the required harmonized disability data for the HLY, thus addressing the shortcoming on data availability across all Member States (Robine and Jagger, 2007).

Several services of the Commission (the Health and Consumers Directorate-General and Eurostat) have been working together with the Member States to improve the reliability of the HLY through a Task Force on Health Expectancies and through the EHEMU projects (see [www.tf-he.eu](http://www.tf-he.eu) and [www.ehemu.eu](http://www.ehemu.eu)). The Task Force on Health Expectancies has prepared a 3-year strategic plan to meet all the Structural Indicators criteria (Robine and Jagger, 2007).





### 3.6 The future perspective

Significant progress has been made during the last few years in developing sustainable summary measures of population health to meet 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.

Further political demands about the quality of life of populations will come in the near future and policy makers will have more experience and higher expectations of such indicators. To be ready to meet these, the European Commission considers that the scientific community should work on second generation summary measures, true period indicators (using incidence in place of prevalence), less

subjective (using measured in place of self-reported activity limitation) and covering the whole population (rather than excluding those living in institutions such as long-term care establishments). Such efforts should be strongly supported by relevant research bodies: the Research Directorate-General of the European Commission in the EU, the National Institutes of Health (NIH) in the US and relevant administrations in Japan. Eurostat has already established a Task Force to explore the possibility to compute comparable life expectancy tables by socio-economic status between Member States. This is a necessary step for computing HLY by socio-economic status.

A few years ago, the World Health Organization 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). The HLY offers the means to monitor that reducing the longevity gaps in Europe and increasing life expectancy will be accompanied by better functional health and better quality of life.

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## Feasibility study for the adoption of the Healthy Life Years (HLY) as European Structural Indicator

Prior to acceptance as EU Structural Indicator, HLY underwent a rigorous process of evaluation coordinated by Eurostat and carried out by EHEMU, conforming to a set of criteria concerning historical and future data methodology and accuracy and harmonization both within the EU and wider. Specifically structural indicators should cover all the EU Member States plus Iceland, Norway, the United States of America and Japan, and data sets should cover a 10-year period, beginning in the 1990s, up to the year for which the most recent data is available.

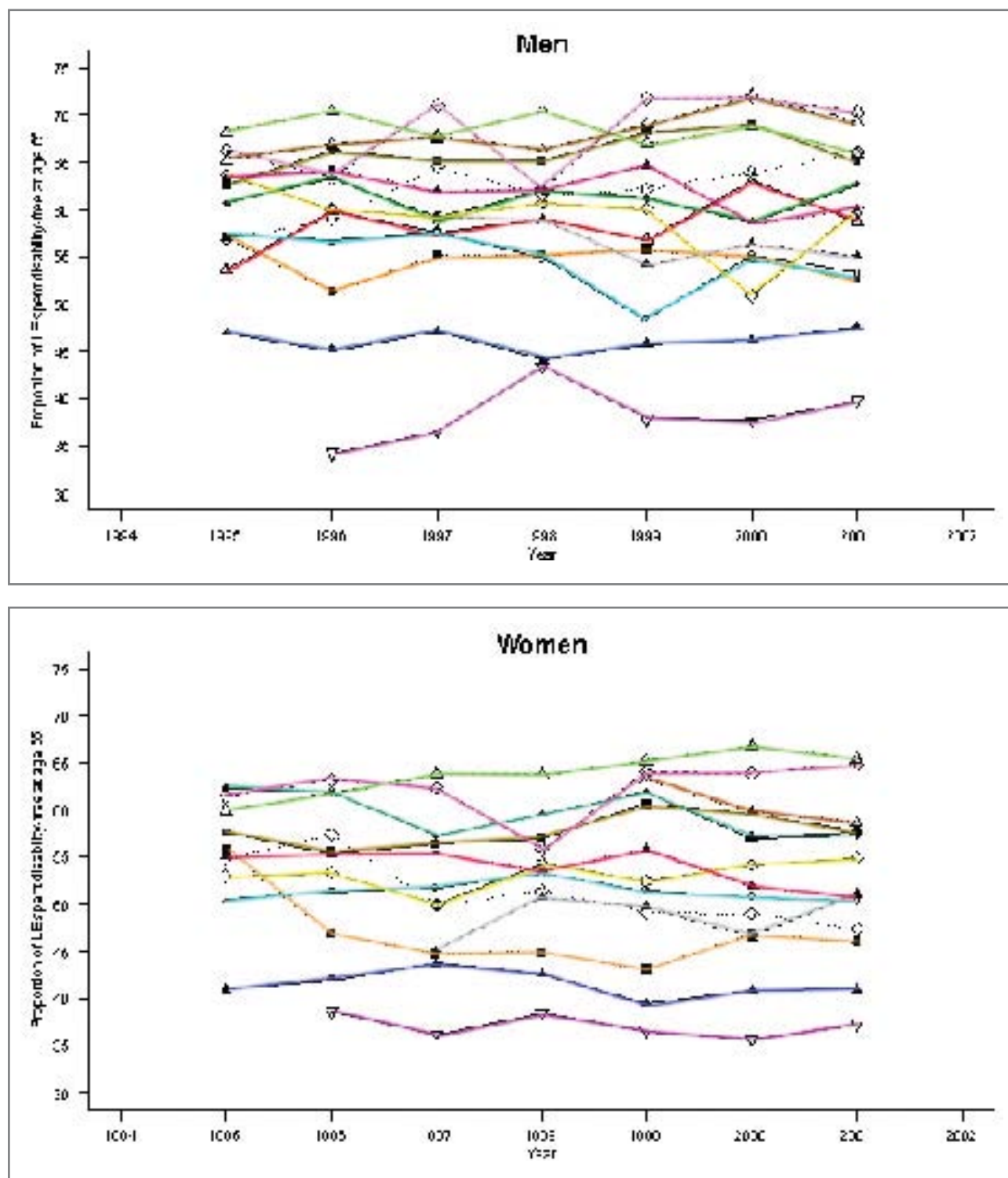
The feasibility study for HLY used the European Community Household Panel survey (ECHP) (Robine, Jagger and Cambois, 2002; Robine, Jagger and Romieu, 2001). This survey, conducted from 1994 to 2001 on the 15 first Member States, allowed EHEMU to demonstrate both the wide range of variability in HLY/DFLE across EU Member States and the differing trends over time (Jagger and EHEMU 2005).

Compression and expansion of disability are determined through the relationships over time of life expectancy (LE) and HLY (also called DFLE) or indeed in the proportion of remaining life expectancy spent free of disability (the ratio of DFLE to LE). Thus if this ratio is increasing then DFLE is increasing faster than life expectancy and a compression of disability is occurring. Conversely if the ratio is reducing then DFLE is increasing (or indeed decreasing) at a slower rate than life expectancy and an expansion of disability is occurring. Figure A.1 shows the trend in the proportion of life at age 65 spent healthy (DFLE/LE) for 14 Member States (excluding Luxembourg) having participated to the ECHP between 1995 and 2001 and for men and women respectively.

There is no obvious single trend of compression or morbidity between all countries for men and women. If we consider a gain of 5% between 1995 and 2001 to signify compression and a loss of 5% to signify expansion then for men Austria, Belgium, Finland, Germany and Italy appeared to experience a compression of disability, and Denmark, the Netherlands, Sweden and the United Kingdom an expansion. For women at age 65 Belgium, Italy and Sweden appeared to experience a compression of disability whilst Germany, Ireland, the Netherlands and Portugal experienced an expansion. Although there is some consistency between the genders with Italy and Belgium showing compression for men and women and the Netherlands and Portugal showing expansion for both, there is considerable heterogeneity between the genders. These gender differences may be a result of differential reporting of disability or the omission of the institutionalized population (which will adversely affect older women more than older men). However if real, they may reflect different stages of health transitions as populations age as suggested by Robine and Michel (2004).

In the first assessment to be a structural indicator, HLY was awarded a grade B. The two main issues were shortcomings with regard to comparability between Member States, candidate countries and the US and Japan (including the lack of data), and a break in the series which hampers comparison over time. The ECHP ended in 2001 and no European data was available for 2002 or 2003. However, a new survey, the Statistics of Income and Living Conditions (SILC) began in 2004 in several Member States and from 2005 in the EU25 and 2006 in the EU27 (Robine and Jagger, in press).

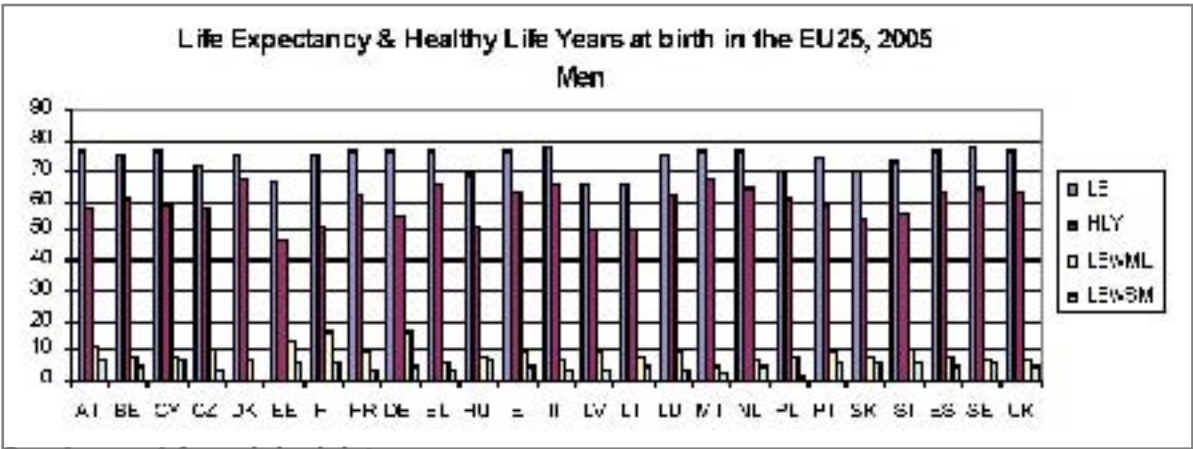
Annex 1: Trend in the proportion of life spent disability-free at age 65 years for 14 Member States of EU15, 1995-2001 by gender



Source: Eurostat for death and population data (<http://epp.eurostat.ec.europa.eu>), Eurostat ECHP for disability data, and EHEMU for calculations ([www.ehemu.eu](http://www.ehemu.eu))



Annex 2: Life expectancy at birth (LE0) and Healthy Life Years (HLY0) in the Member States of the European Union in 2005 (EU25), for men (first estimation by EHEMU)



See Annex 4 for original data

Source: Eurostat for death and population data (<http://epp.eurostat.ec.europa.eu>), Eurostat SILC for disability data, and EHEMU for indicators calculations ([www.ehemu.eu](http://www.ehemu.eu))  
eProvisional values computed by EHEMU

LEwML is the expected number of remaining years with moderate activity limitation  
LEwSM is the expected number of remaining years with severe activity limitations

Where LE indicates Life Expectancy, HLY indicates Healthy Life Years, LEwML indicates Life Expectancy with moderate

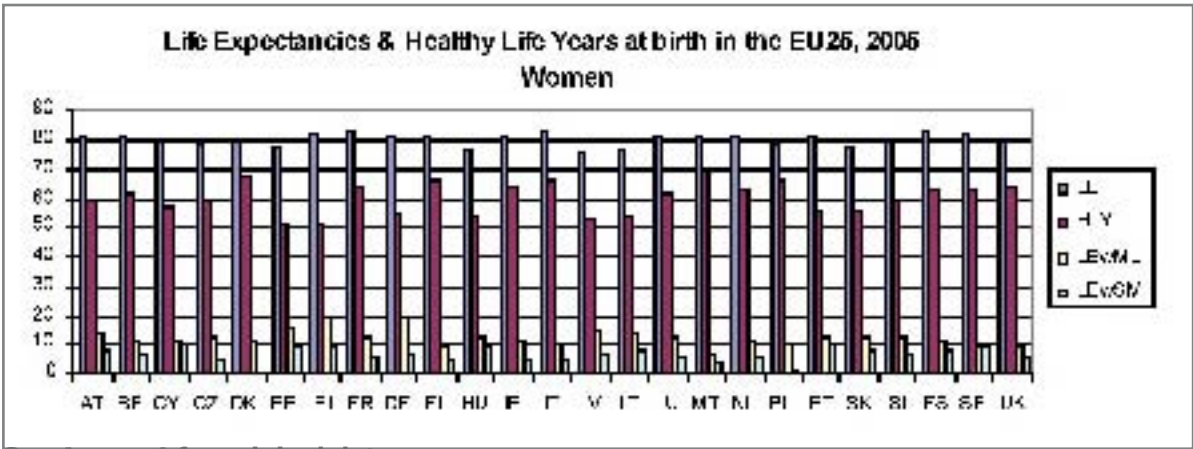
activity limitations and LEwSM indicates Life Expectancy with severe activity limitations.

Country abbreviations are given by their two-letter ISO codes:

Austria	AT	Greece	EL	Poland	PL
Belgium	BE	Hungary	HU	Portugal	PT
Cyprus	CY	Ireland	IE	Slovakia	SK
Czech Republic	CZ	Italy	IT	Slovenia	SI
Denmark	DK	Latvia	LV	Spain	ES
Estonia	EE	Lithuania	LT	Sweden	SE
Finland	FI	Luxembourg	LU	United Kingdom	UK
France	FR	Malta	MT		
Germany	DE	Netherlands	NL		



Annex 3: Life expectancy at birth (LE0) and Healthy Life Years (HLY) in the Member States of the European Union in 2005 (EU25), for women (first estimation by EHEMU)



See Annex 4 for original data

Source: Eurostat for death and population data (<http://epp.eurostat.ec.europa.eu>), Eurostat SILC for disability data, and EHEMU for calculations ([www.ehemu.eu](http://www.ehemu.eu))

eProvisional values computed by EHEMU

Where LE indicates Life Expectancy, HLY indicates Healthy Life Years, LEwML indicates Life Expectancy with moderate

activity limitations and LEwSN indicates Life Expectancy with severe activity limitations.

Country abbreviations are given by their two-letter ISO codes:

Austria	AT	Greece	EL	Poland	PL
Belgium	BE	Hungary	HU	Portugal	PT
Cyprus	CY	Ireland	IE	Slovakia	SK
Czech Republic	CZ	Italy	IT	Slovenia	SI
Denmark	DK	Latvia	LV	Spain	ES
Estonia	EE	Lithuania	LT	Sweden	SE
Finland	FI	Luxembourg	LU	United Kingdom	UK
France	FR	Malta	MT		
Germany	DE	Netherlands	NL		



Annex 4:

Data for Graph 1: Life expectancy (LE) and Healthy Life Years (HLY) at birth, at age 50 and at age 65, in the European Union (EU25), in 2005, by gender.

<b>EU25</b>	<b>LE</b>	<b>HLY</b>	<b>LEwML</b>	<b>LEwSM</b>	<b>HLY/LE</b>
	<b>(in years)</b>	<b>(in years)</b>	<b>(in years)</b>	<b>(in years)</b>	<b>(in %)</b>
<b>At birth</b>					
<b>Men</b>	75.9	60.8	10.3	4.8	80.1
<b>Women</b>	82.0	62.1	13.3	6.6	75.8
<b>Difference</b>	6.1	1.3	3.0	1.7	-4.3
<b>At age 50</b>					
<b>Men</b>	28.6	17.3	7.4	3.9	60.4
<b>Women</b>	33.5	18.1	9.8	5.7	53.9
<b>Difference</b>	4.9	0.8	2.4	1.7	-6.4
<b>At age 65</b>					
<b>Men</b>	16.7	8.4	5.3	3.0	50.4
<b>Women</b>	20.3	8.7	6.9	4.6	43.2
<b>Difference</b>	3.6	0.3	1.6	1.6	-7.2

Source: Eurostat for death and population data (<http://epp.eurostat.ec.europa.eu>), Eurostat SILC for activity limitation data, and EHEMU for calculations ([www.ehemu.eu](http://www.ehemu.eu))

Data for Graph 2: Life expectancy at age 65 (LE65) and Disability-free life expectancy (DFLE65), in the European Union (EU15), from 1995 to 2001, by gender

	<b>men</b>			<b>women</b>		
	<b>LE<sub>65</sub></b>	<b>DFLE<sub>65</sub></b>	<b>DFLE<sub>65</sub>/LE<sub>65</sub></b>	<b>LE<sub>65</sub></b>	<b>DFLE<sub>65</sub></b>	<b>DFLE<sub>65</sub>/LE<sub>65</sub></b>
<b>1995</b>	15.3	8.6	55.9	19.3	9.5	49.0
<b>1996</b>	15.4	8.7	56.5	19.4	9.5	48.9
<b>1997</b>	15.7	8.8	55.9	19.6	9.5	48.4
<b>1998</b>	15.7	8.6	54.9	19.7	9.7	49.2
<b>1999</b>	15.9	8.7	54.7	19.7	9.1	46.2
<b>2000</b>	16.2	9.1	56.2	20.0	9.9	49.5
<b>2001</b>	16.4	9.1	55.4	20.2	9.7	48.3

Source: Eurostat for death and population data (<http://epp.eurostat.ec.europa.eu>), Eurostat ECHP for disability data, and EHEMU for LE65 and other calculations ([www.ehemu.eu](http://www.ehemu.eu))

Data for Graph 1: Life expectancy (LE) and Healthy Life Years (HLY) at birth, at age 50 and at age 65, in the European Union (EU25), in 2005, by gender.

	Men				Women				Gender gap
	EU_27	Max	Min	Range	EU_27	Max	Min	Range	
1995	72.4	76.2	60.0	16.2	79.6	82.2	72.9	9.3	7.2
1996	72.7	76.6	63.0	13.6	79.7	82.3	72.7	9.6	7.0
1997	73	76.8	63.9	12.9	79.9	82.6	73.1	9.5	6.9
1998	73.2	76.9	63.5	13.4	80	82.7	73.6	9.1	6.8
1999	73.6	77.1	64.4	12.7	80.1	82.7	74.1	8.6	6.5
2000	74	77.4	64.8	12.6	80.5	83.0	74.6	8.4	6.5
2001	74.4	77.6	64.7	12.9	80.9	83.2	74.8	8.4	6.5
2002	74.5	77.7	64.7	13.0	80.9	83.4	74.7	8.7	6.4
2003	74.7	78.0	65.6	12.4	80.9	83.2	75.0	8.2	6.2
2004	75.3	78.6	65.9	12.7	81.5	83.8	75.5	8.3	6.2
2005	75.4	78.7	65.3	13.4	81.6	84.0	75.7	8.3	6.2
1995-2005	3.0	2.5	5.3	-2.8	2.0	1.8	2.8	-1.0	-1.0

Source: Eurostat for death and population data (<http://epp.eurostat.ec.europa.eu>) and EHEMU for calculations ([www.ehemu.eu](http://www.ehemu.eu))

Data for Graph 4: Minimum and maximum values of life expectancy (LE) and Healthy Life Years (HLY), at birth, at age 50 and at age 65, among the Member States of the European Union (EU25), in 2005, by gender

	Men		Women	
	LE	HLY	LE	HLY
<b>At birth</b>				
Min value	65.3	48.0	76.5	52.2
Max value	78.5	68.5	84.0	70.2
Difference	13.2	20.5	7.5	18.0
<b>At age 50</b>				
Min value	21.3	9.1	29.3	10.4
Max value	30.4	23.6	35.4	24.1
Difference	9.1	14.5	6.1	13.7
<b>At age 65</b>				
Min value	12.5	3.4	17.1	3.4
Max value	17.7	13.1	22.0	14.1
Difference	5.2	9.7	4.9	10.7

Source: Eurostat for death and population data (<http://epp.eurostat.ec.europa.eu>), Eurostat SILC for activity limitation data, and EHEMU for calculations ([www.ehemu.eu](http://www.ehemu.eu))

Data for Graph 5: Life expectancy at birth (LE0) in the European Union (EU27), in the United States of America (USA) and in Japan in 1995 and 2005, by gender

	Men			Women			Gender gap		
	EU27	USA	Japan	EU27	USA	Japan	EU27	USA	Japan
1995	72.4	72.5	76.4	79.6	78.9	82.9	7.2	6.4	6.5
2005	75.4	75.2	78.5	81.6	80.4	85.5	6.2	5.2	7.0
1995-2005	3.0	2.7	2.1	2.0	1.5	2.6	-1.0	-1.2	0.5

Source: EHEMU for the European Union ([www.ehemu.eu](http://www.ehemu.eu)), National Center for Health Statistics for the USA (<http://www.cdc.gov/nchs>) and Ministry of Health and Welfare for Japan (<http://www.mhlw.go.jp/english/index.html>)



Data for Annex 2 graph: Life expectancy at birth (LE<sub>0</sub>) and Healthy Life Years (HLY<sub>0</sub>) in the Member States of the European Union in 2005 (EU25), for men (first estimation by EHEMU)

<b>Country</b>	<b>LE<sub>0</sub></b> (in years)	<b>HLY<sub>0</sub></b> (in years)	<b>LEwML</b> (in years)	<b>LEwSM</b> (in years)	<b>HLY<sub>0</sub>/LE<sub>0</sub></b> (in %)
<b>Austria</b>	76.7	57.8	11.7	7.2	75.4
<b>Belgium</b>	76.2	61.7	9.3	5.2	81.0
<b>Cyprus</b>	76.8	59.5	9.2	8.1	77.5
<b>Czech Republic</b>	72.9	57.9	10.9	4.2	79.4
<b>Denmark</b>	76.0	68.4	7.5	0.0	90.0
<b>Estonia</b>	67.3	48.0	13.2	6.1	71.3
<b>Finland</b>	75.6	51.7	16.9	7.0	68.4
<b>France</b>	76.8 <sup>e</sup>	62.1	10.3	4.5	80.9
<b>Germany</b>	76.7	55.0	16.5	5.2	71.7
<b>Greece</b>	76.8	65.7	7.0	4.1	85.5
<b>Hungary</b>	68.7	52.0	9.1	7.6	75.7
<b>Ireland</b>	77.3	63.0	9.4	4.9	81.5
<b>Italy</b>	78.2 <sup>e</sup>	66.3	7.8	4.1	84.8
<b>Latvia</b>	65.4	50.6	10.1	4.7	77.4
<b>Lithuania</b>	65.3	51.2	9.0	5.2	78.4
<b>Luxembourg</b>	76.6	62.2	9.9	4.5	81.2
<b>Malta</b>	77.3	68.5	5.6	3.2	88.6
<b>Netherlands</b>	77.3	65.0	7.2	5.1	84.1
<b>Poland</b>	70.8	61.0	8.3	1.5	86.2
<b>Portugal</b>	74.9	58.4	9.7	6.9	78.0
<b>Slovakia</b>	70.2	54.9	9.0	6.2	78.2
<b>Slovenia</b>	73.9	56.3	11.4	6.2	76.2
<b>Spain</b>	77.0	63.2	8.3	5.5	82.1
<b>Sweden</b>	78.5	64.2	7.9	6.4	81.8
<b>United Kingdom</b>	77.1	63.2	8.0	5.9	82.0

Source: Eurostat for death and population data (<http://epp.eurostat.ec.europa.eu>), Eurostat SILC for disability data, and EHEMU for indicators calculations ([www.ehemu.eu](http://www.ehemu.eu))

<sup>e</sup>Provisional values computed by EHEMU

LEwML is the expected number of remaining years with moderate activity limitation

LEwSM is the expected number of remaining years with severe activity limitations

Data for Annex 3 graph: Life expectancy at birth (LE<sub>0</sub>) and Healthy Life Years (HLY<sub>0</sub>) in the Member States of the European Union in 2005 (EU25), for women (first estimation by EHEMU)

Country	LE <sub>0</sub> (in years)	HLY <sub>0</sub> (in years)	LEwML (in years)	LEwSM (in years)	HLY <sub>0</sub> /LE <sub>0</sub> (in %)
<b>Austria</b>	82.3	59.6	14.2	8.5	72.4
<b>Belgium</b>	81.9	61.9	12.2	7.8	75.6
<b>Cyprus</b>	81.1	57.9	12.5	10.6	71.4
<b>Czech Republic</b>	79.3	59.9	13.7	5.7	75.5
<b>Denmark</b>	80.5	68.2	12.3	0.0	84.7
<b>Estonia</b>	78.2	52.2	16.3	9.7	66.8
<b>Finland</b>	82.5	52.4	19.9	10.3	63.5
<b>France</b>	83.8 <sup>e</sup>	64.4	13.2	6.3	76.8
<b>Germany</b>	82.0	55.1	19.8	7.2	67.2
<b>Greece</b>	81.6	67.2	9.4	5.0	82.4
<b>Hungary</b>	77.2	53.9	13.0	10.2	69.8
<b>Ireland</b>	81.7	64.1	11.8	5.9	78.5
<b>Italy</b>	84.0 <sup>e</sup>	67.4	10.8	5.8	80.2
<b>Latvia</b>	76.5	53.1	15.5	7.9	69.4
<b>Lithuania</b>	77.3	54.3	14.5	8.5	70.2
<b>Luxembourg</b>	82.2	62.1	13.5	6.7	75.5
<b>Malta</b>	81.4	70.2	7.5	3.8	86.2
<b>Netherlands</b>	81.7	63.1	12.4	6.2	77.2
<b>Poland</b>	79.3	66.6	10.8	1.9	84.0
<b>Portugal</b>	81.3	56.7	13.8	10.8	69.7
<b>Slovakia</b>	78.1	56.4	13.2	8.5	72.2
<b>Slovenia</b>	80.9	59.9	13.7	7.3	74.0
<b>Spain</b>	83.7	63.1	12.0	8.6	75.4
<b>Sweden</b>	82.9	63.1	10.2	9.6	76.1
<b>United Kingdom</b>	81.1	65.0	9.5	6.7	80.1

Source: Eurostat for death and population data (<http://epp.eurostat.ec.europa.eu>), Eurostat SILC for disability data, and EHEMU for calculations ([www.ehemu.eu](http://www.ehemu.eu))

<sup>e</sup>Provisional values computed by EHEMU



## 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”.

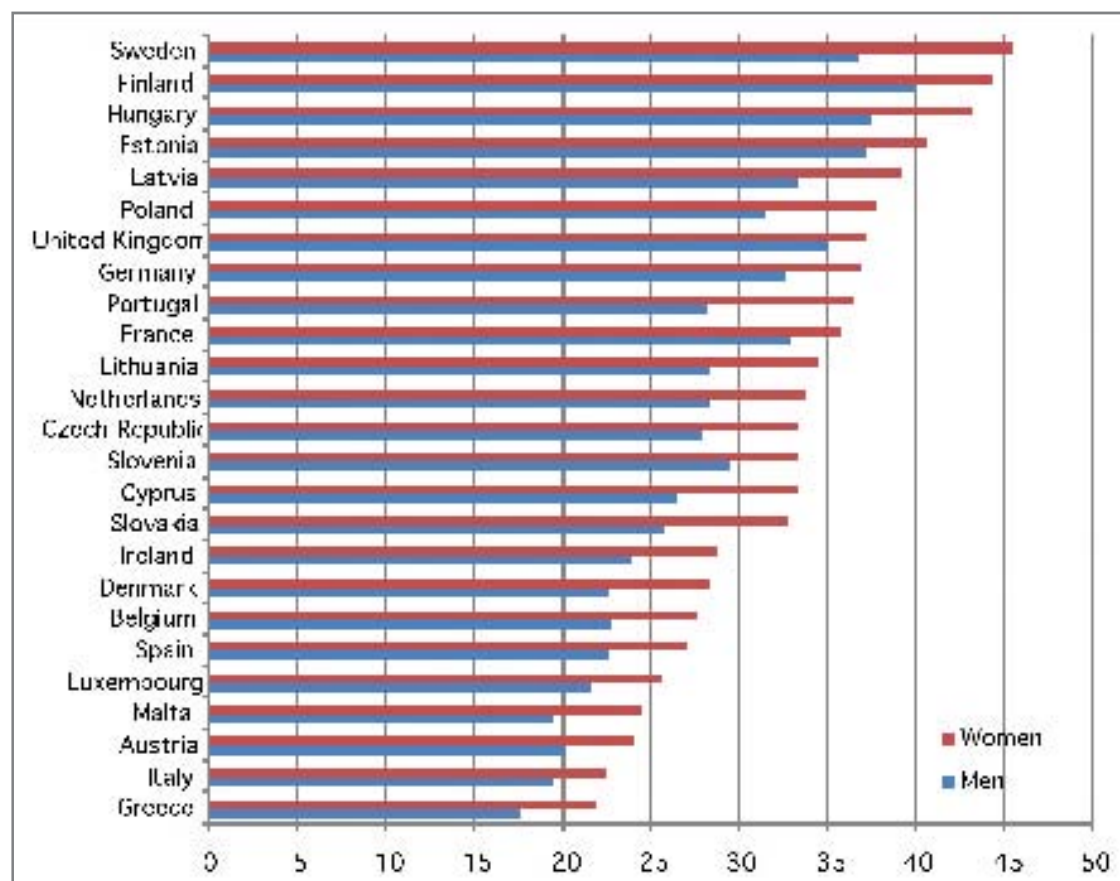
The data were collected from SILC to ensure maximum

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\*

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



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

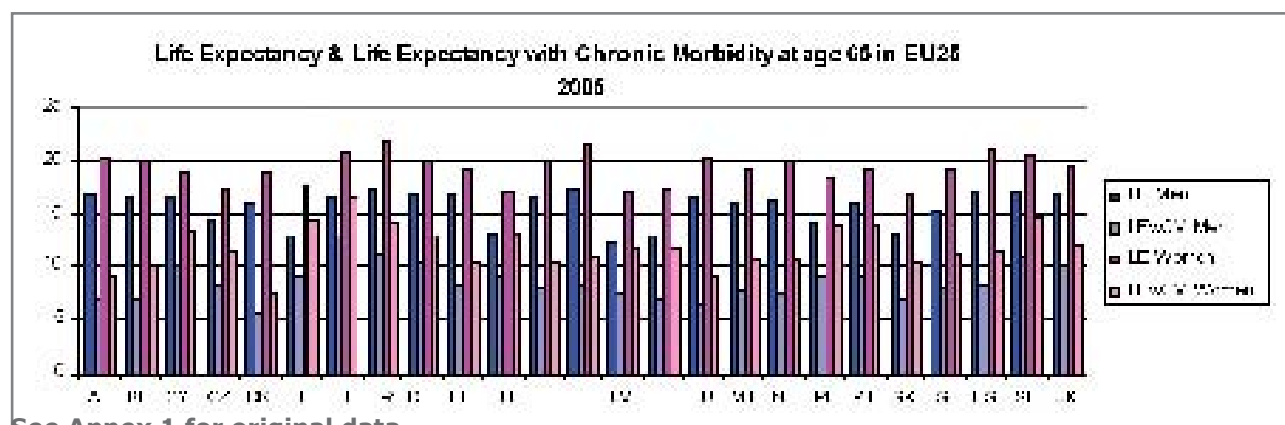
### 4.3 Life expectancy with chronic morbidity (LEwCM)

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 ( $p=0.84$ ,  $p<0.001$ ). 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.

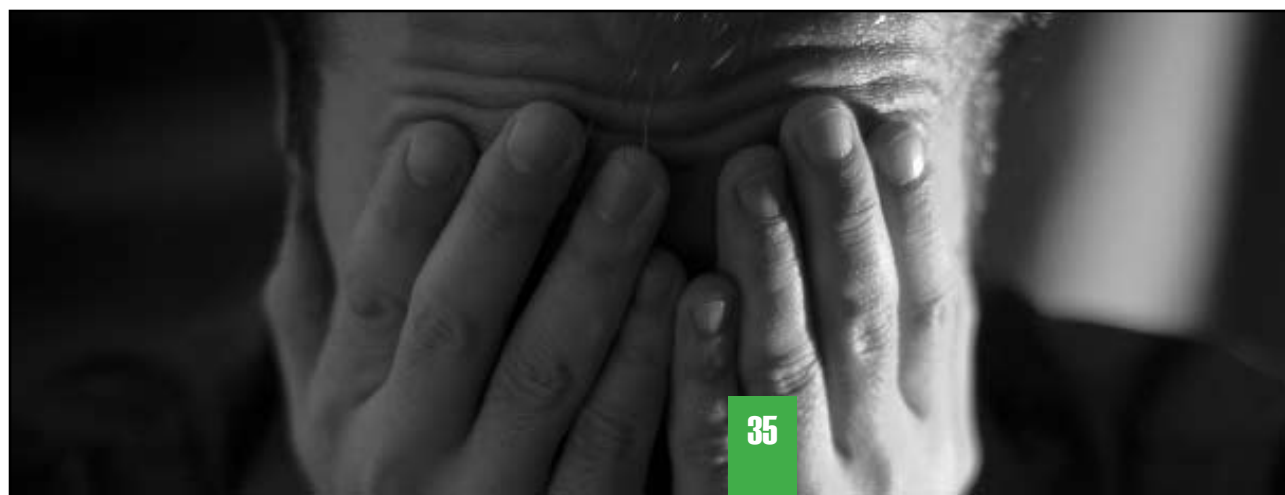
Graph 1: Where LE indicates Life Expectancy and LEwCM indicates Life Expectancy with Chronic Morbidity.



<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 Member 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.

## Acknowledgment

Sophie Leroy in charge of the EHEMU Information System.

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

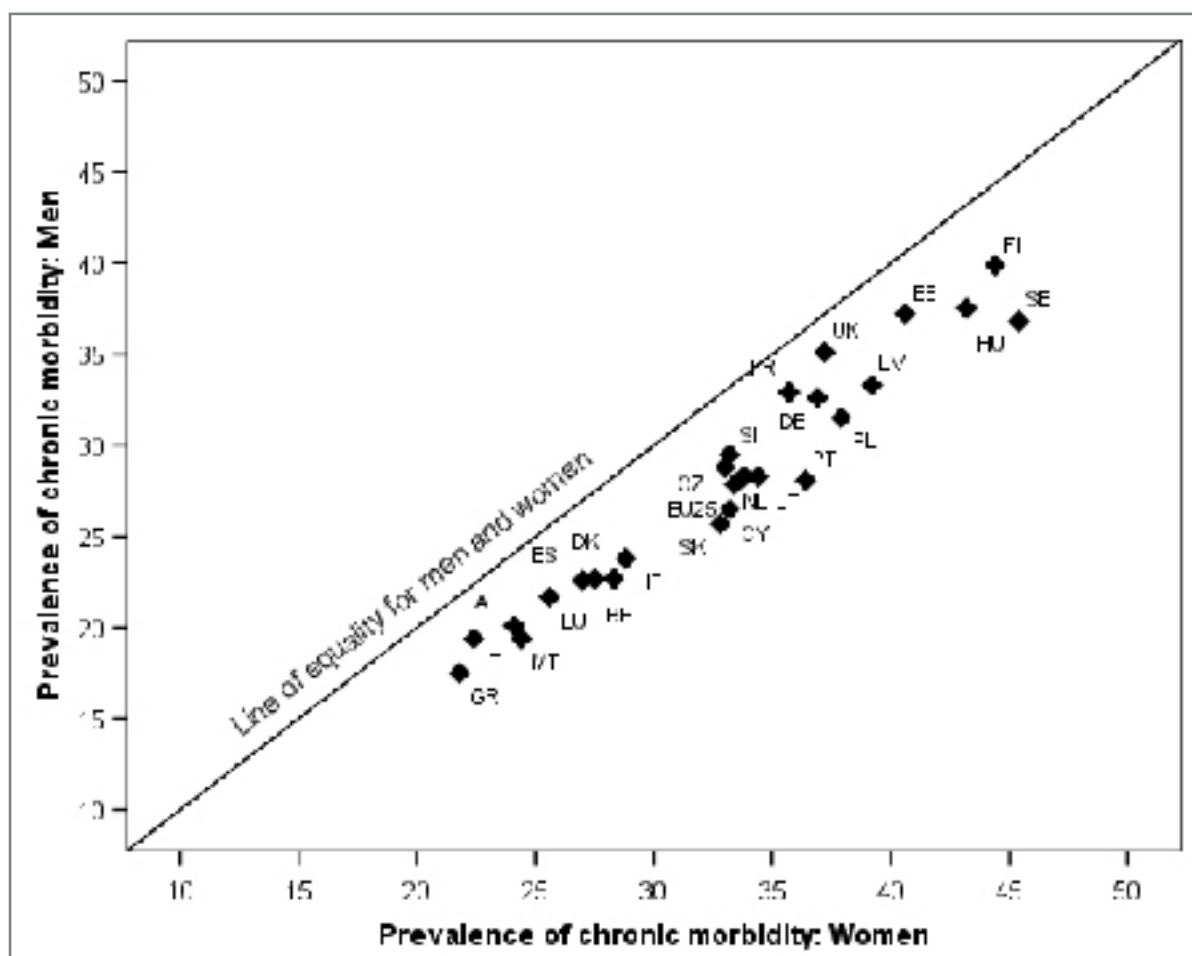


Figure 3: Changes in life expectancy at age 65 in period 1995-2000 and 2000-2005 by Member State and gender (Source: Eurostat and EHEMU Information System)

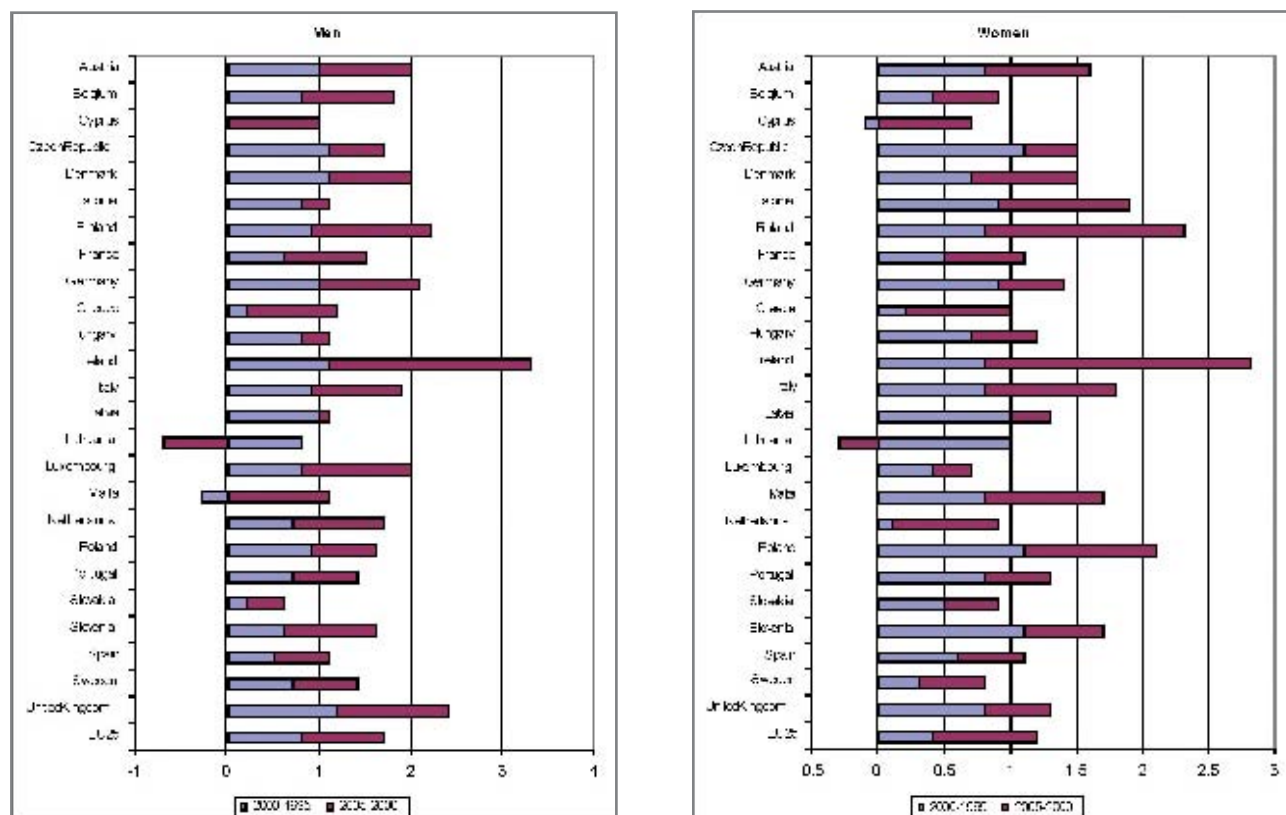


Figure 4: Proportion of remaining life at age 65 spent with and without chronic morbidity, by Member State and gender (Source: EU-SILC 2005 and EHEMU Information System)

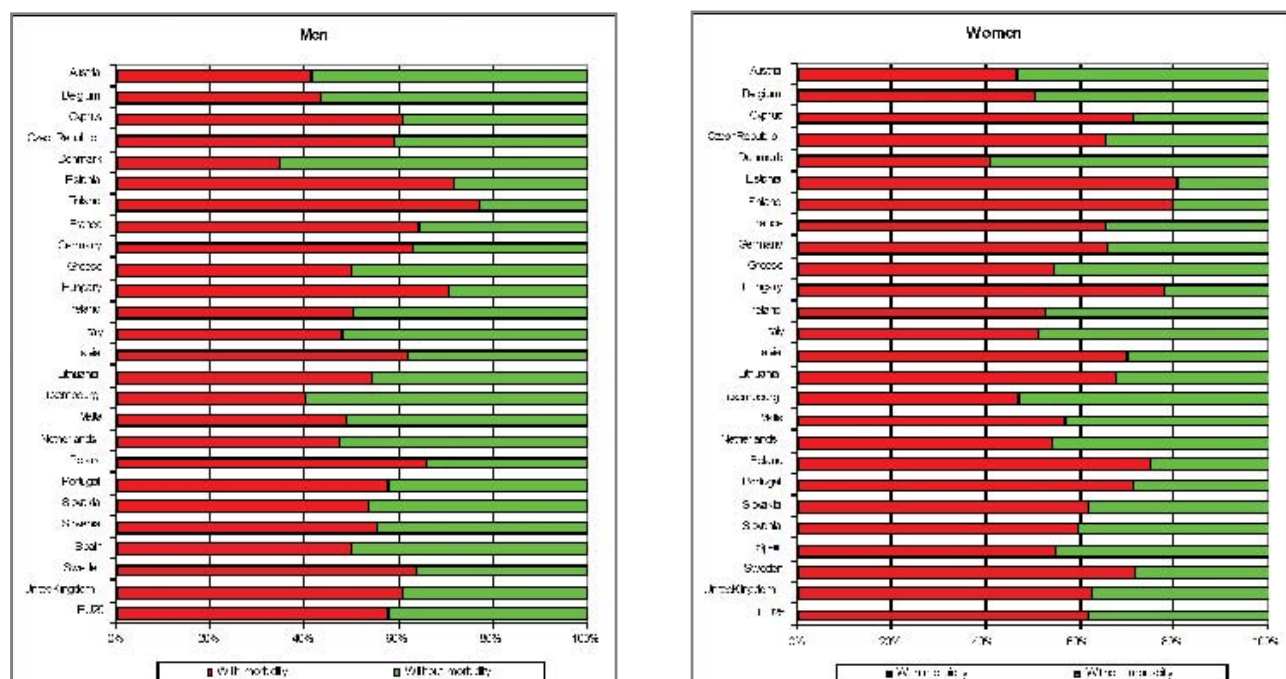
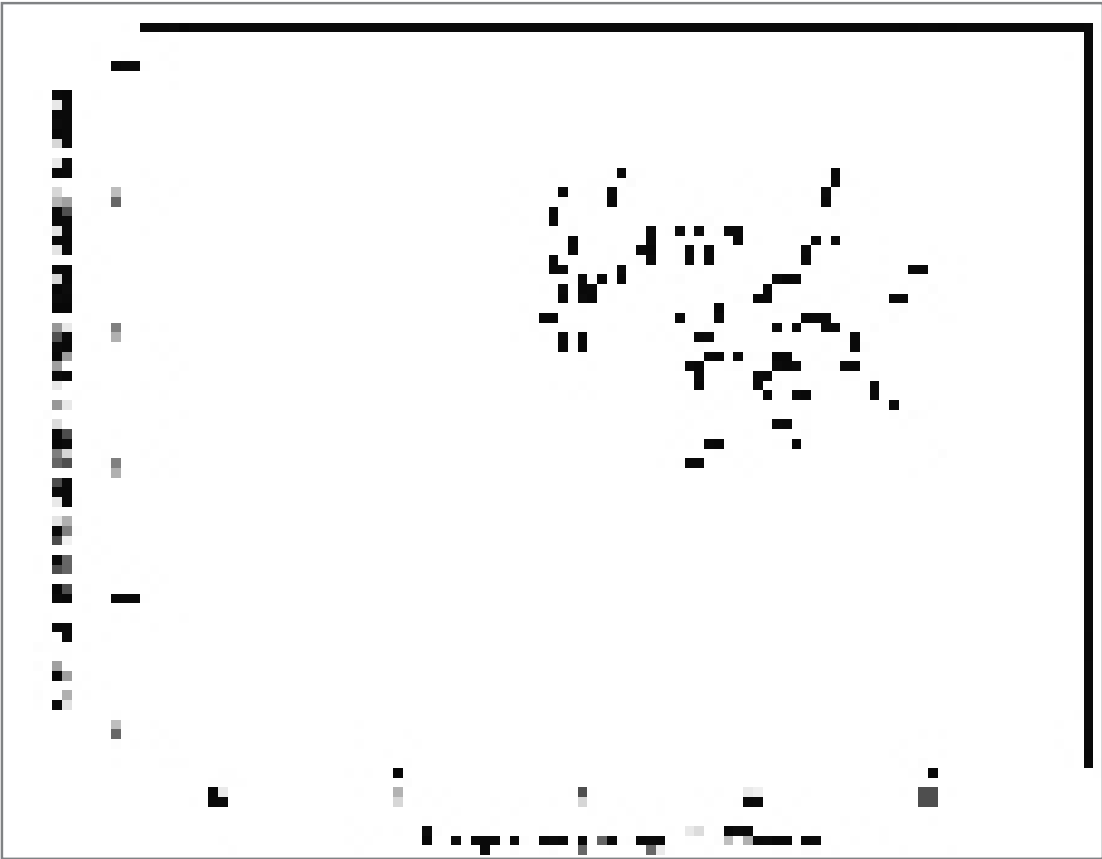
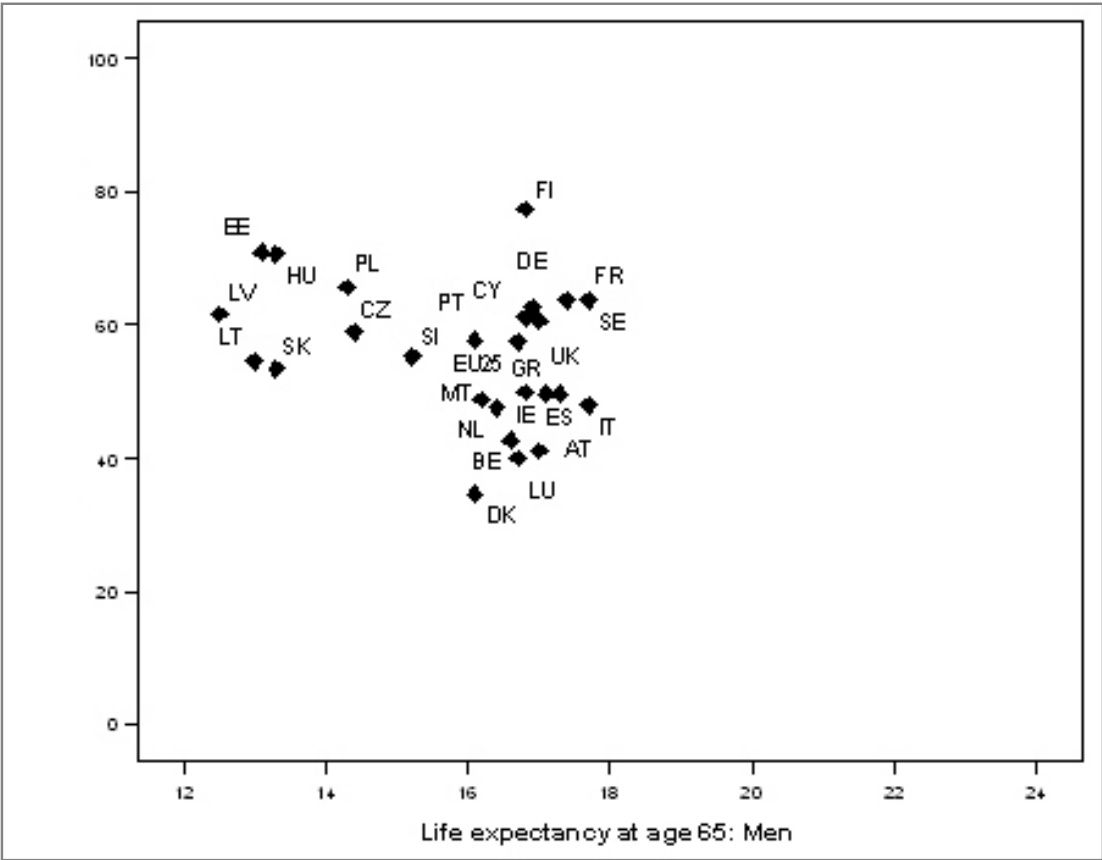


Figure 5: Proportion of remaining life at age 65 spent with chronic morbidity and life expectancy at age 65, by Member State and gender (Source: EU-SILC 2005 and EHEMU Information System)





## 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)

Country	Life expectancy (years)		Life expectancy with chronic morbidity (years)	
	Men	Women	Men	Women
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))







**ANNEXES**

**HEALTH EXPECTANCY  
IN EACH OF  
THE 25 MEMBER STATES:  
COUNTRY REPORTS**





# Introduction

This report by the European Health Expectancy Monitoring Unit (EHEMU) comprises the first issue of Country Reports on life and health expectancies for the 25 EU Member States in 2005. In particular Country Reports present analysis of the EU structural indicator Healthy Life Years (HLY) for each country in the wider European context. The joint analysis of health and life expectancies adds a quality dimension to the quantity of life lived by the European populations and can provide evidence of inequalities between Member States in terms of health gaps and highlight potential targets for public health strategies both nationally and at a pan-European level.

To date a major limitation to such analyses has been the lack of harmonization of data for all MS. An evaluation by the RAND Europe<sup>22</sup> of the uptake of the HLY indicated that since its adoption as a Lisbon Structural Indicator only a small number of national and regional health ministries monitor healthy ageing and use HLY for policy making. Moreover the majority of the national and regional non-health ministries are unaware of the concept of HLY, or its stage of development, and therefore do not use the indicator despite health being considered a precursor for economic growth. It was concluded that HLY should be put higher on the European political agenda.

The development of the Country Reports by EHEMU fits these recommendations in that they aim to:

- improve the understanding and dissemination of the HLY indicator at national level;
- and improve the measurement of the HLY indicator by providing standardized definitions and to stimulate the use of national estimates.

In particular, the design of the Country Reports as a standardized four page newsletter is an important asset to the Member States and the EU in the realization of their health policies since the format is suitable for non-technical readers and

key-points and benchmarking of the Member States against the EU average (without ranking of countries) is provided. The main objective of the Country Reports is to give a simple interpretation of the values and trends of health expectancies. More specifically:

- Page 1 provides a background to HLY and describes the contents of the report;
- Page 2 shows the series of life expectancy and HLY for 1995-2001 in the MS, based on the European Community Household Panel (ECHP) and then from 2005, based on the European Statistics on Income and Living Conditions (SILC), together with EU average values;
- Page 3 describes the most recent health expectancies in the MS. Three health expectancy indicators are presented based on the Minimal European Health Module (MEHM): HLY, life expectancy free of chronic morbidity, and life expectancy in good perceived health;
- Page 4 uses the latest available data to show the relationship between male and female life expectancy (LE), HLY, LE free of morbidity and LE in good perceived health for all 25 EU Member States covered and highlights the gender inequalities between Member States.

This document assembles the Country Reports in alphabetical order of the countries in English. Care should be taken when reading the reports since the health data collected through SILC is not yet completed harmonized across all the Member States. Thus it is as yet too early to compare countries in terms of health expectancies and indeed it will be safer to compare trends rather than annual values though emerging trends will not be evident until at least three annual values have been collected. Cultural differences may impact on the self-reporting of health and may explain some of the inequalities

<sup>22</sup> Oortwijn, W., Mathijssen, J, Lankhuizen, M., and Cave, J. Evaluating the uptake of the Healthy Life Years Indicator. 2006, Rand-Europe. (see [http://ec.europa.eu/health/ph\\_information/indicators/docs/RAND\\_HLY\\_en.pdf](http://ec.europa.eu/health/ph_information/indicators/docs/RAND_HLY_en.pdf))

between Member States. Trends in the HLY over time will provide the opportunity to quantify these. Theoretically cultural differences may have less of an impact on severe activity limitation, but such a severity level addresses a very specific type of disability linked to the need for daily assistance and most common in the elderly whilst less severe activity limitation is more policy relevant to the wider population. Through its analysis of other European data sets, EHEMU will undertake wider validation of the activity limitation data used in the HLY against other measures of health and functioning.

The European Health Expectancy Monitoring Unit (EHEMU) is funded by the European Public Health Programme (2004-2007) and is a collaboration between: French National Institute for Health and Medical Research (INSERM) and CRLC (Montpellier, France), University of Leicester (UK), the Scientific Institute of Public Health (ISP Belgium) and the French National Institute of Demography (INED). EHEMU aims to provide a central facility for the co-ordinated analysis, interpretation and dissemination of life and health expectancies to add the quality dimension to the quantity of life lived by the European populations. Further details about EHEMU can be found on the website: [www.ehemu.eu](http://www.ehemu.eu)

## About EHEMU







## EHEMU Country Reports June 2008

### HEALTH EXPECTANCY IN AUSTRIA





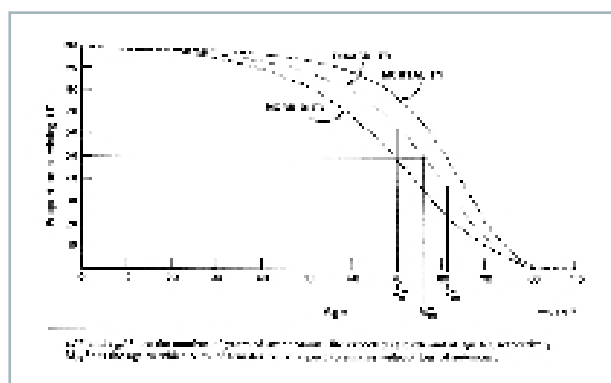
## What is health expectancy?

Health expectancy indicators were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

**The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.**



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

## How do we compare health expectancies?

Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe (Robine et al., 2003).

Health expectancies are most often calculated by the Sullivan method (Sullivan, 1971). However to make valid comparisons, the underlying health measure should be truly comparable.

To address this, the European Union has decided to include a small set of health expectancies among its European Community Health Indicators (ECHI) to provide synthetic measures of disability, chronic morbidity and perceived health. Therefore the Minimum European Health Module (MEHM), composed of 3 general questions covering these dimensions, has been introduced into the Statistics on Income and Living Conditions (SILC) to improve the comparability of health expectancies between countries. In addition life expectancy without long term activity limitation, based on the disability question, was selected in 2004 to be one of the structural indicators for assessing the EU strategic goals (Lisbon strategy) under the name of "Healthy Life Years" (HLY).

Further details on the MEHM, the European surveys and health expectancy calculation and interpretation can be found on [www.ehemu.eu](http://www.ehemu.eu).



## What is in this report?

This report is produced by the European Health Expectancy Monitoring Unit (EHEMU) as part of a country series. In each report we present:

- health expectancies based on activity limitation (HLY) for the country of interest and for the overall 25 European Union Member States in 2005 (EU25), using the SILC 2005 question on long term activity limitation. As the SILC has been only recently initiated, to document trends we provide previous HLY series based on the disability question of the 1995-2001 European Community Household Panel (ECHP);
- health expectancies based on the two additional dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2005;
- and a global analysis of health expectancies of European countries, based on the SILC 2005.



## References

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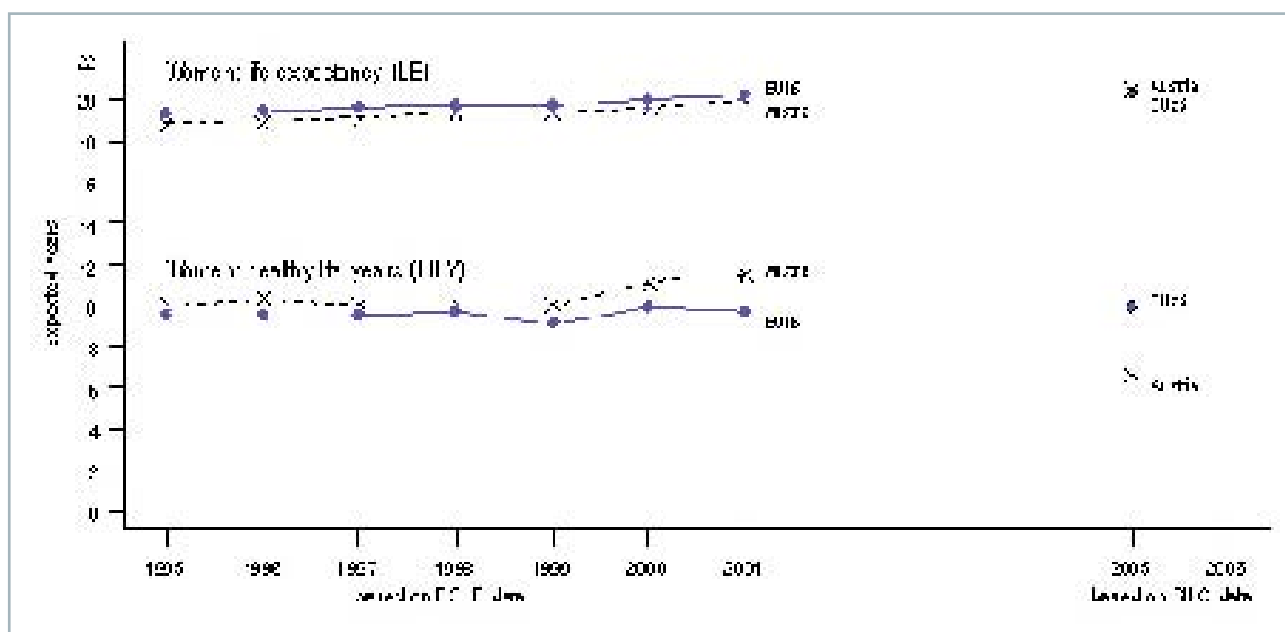
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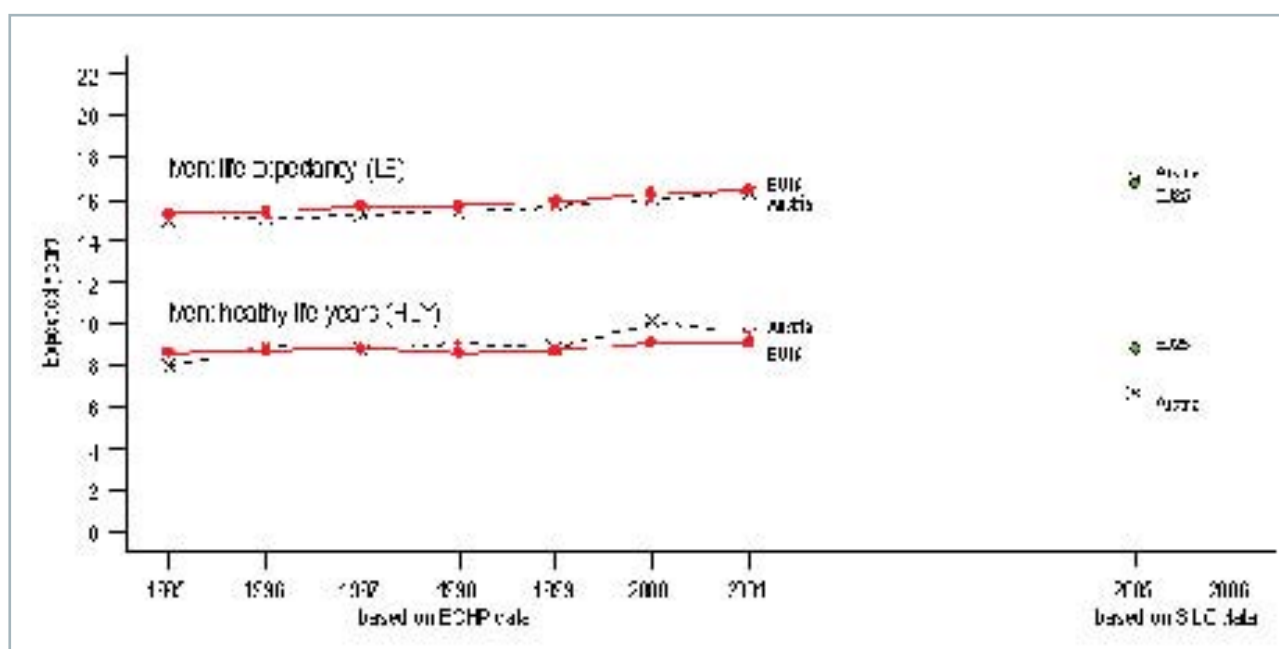
The uses of epidemiology in the study of the elderly: Report of a WHO Scientific Group on the Epidemiology of Aging. Geneva: WHO, 1984 (Technical Report Series 706).

Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

## Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Austria and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



<b>Austria</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Women: LE</b>	18.8	18.9	19.1	19.4	19.4	19.6	20.0	-	-	-	20.4	
<b>Women: HLY</b>	10.0	10.3	10.0	10.0	10.0	11.1	11.5	-	-	-	6.6	
<b>%HLY/LE</b>	53%	54%	52%	52%	52%	57%	58%	-	-	-	33%	



<b>Austria</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Men: LE</b>	15.0	15.1	15.2	15.4	15.7	16.0	16.3	-	-	-	17.0	
<b>Men: HLY</b>	8.0	9.0	8.8	9.1	8.9	10.1	9.6	-	-	-	6.7	
<b>%HLY/LE</b>	54%	60%	58%	59%	57%	63%	59%	-	-	-	40%	

### Key points:

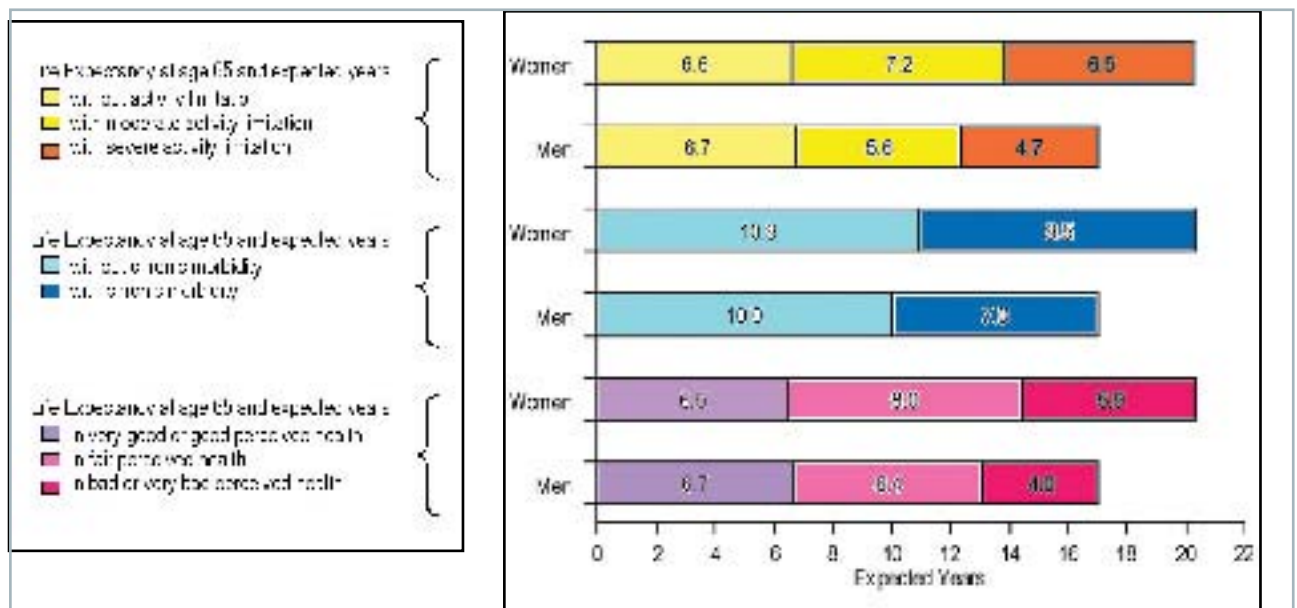
- Austrian life expectancy (LE) at age 65 has increased by 1.6 years for women and 2 years for men over the 1995-2005 period. It had almost reached the EU15 average in 2001 but by 2005 was higher than the EU25 average;
- Over the 1995-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data steadily increased. Therefore the proportion of HLY (or years without self-reported limitations due to a health condition or disability), within the total expected years, increased for both sexes, being close to 58% for women and 59% for men by 2001. Between

1995 and 2001 HLY in Austria was above the average for the EU15;

- The new HLY series, initiated in 2005 with the SILC data, shows a significantly lower value for Austria than previously and compared to the EU average, being 3.3 years and 2.1 years below the EU25 average (and below the EU15 average) for women and men respectively. Women and men at age 65 can expect to spend 33% and 40% of their life without self-reported long-term activity limitations respectively. Compared to earlier trends, the SILC question may result in people reporting limitations of different severity than previously and Austrian women and men may be more likely to report less severe problems than before and now more likely than the EU25 as a whole.



Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Austria (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Austria was 20.4 years for women and 17.0 years for men;
- Based on the SILC 2005, at age 65, women spent 33% of their remaining life (6.6 years) without activity limitation (corresponding to Healthy Life Years (HLY)), 35% (7.2 years) with moderate activity limitation and 32% (6.5 years) with severe activity limitation;\*
- Men of the same age spent 40% (6.7 years) of remaining life without activity limitation compared to 33% (5.6 years) with moderate activity limitation and 28% (4.7 years) with severe activity limitation;\*
- Although the total years lived by men were less than those

for women, the numbers of years lived in very good or good perceived health and the years lived without activity limitation were similar. However the numbers of years lived without chronic morbidity were greater for women than men;

- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of data from people in institutions and in some countries the small sample size. The sample size for Austria comprised 988 women and 771 men aged 65+ years.

\* These may not sum to life expectancy due to rounding.



Published results and other reports of health expectancies for Austria

Lievre A, Jusot F, Barnay T, Sermet C, Brouard N, Robine J-M, et al. Healthy working life expectancies at age 50 in Europe: a new indicator. *J Nutr Health Aging*. 2007;11(6):508-514.

Robine J-M, Le Roy S, Jagger C, EHEMU team.

Changes in life expectancy in the European Union since 1995: similarities and differences between the 25 EU countries. In: Institut des Sciences de la Santé, editor. *Living longer but healthier lives: how to achieve health gains in the elderly in the European Union* Europe Blanche XXVI, Budapest, 25-26 November 2005. Paris: ISS; 2006. p.48.







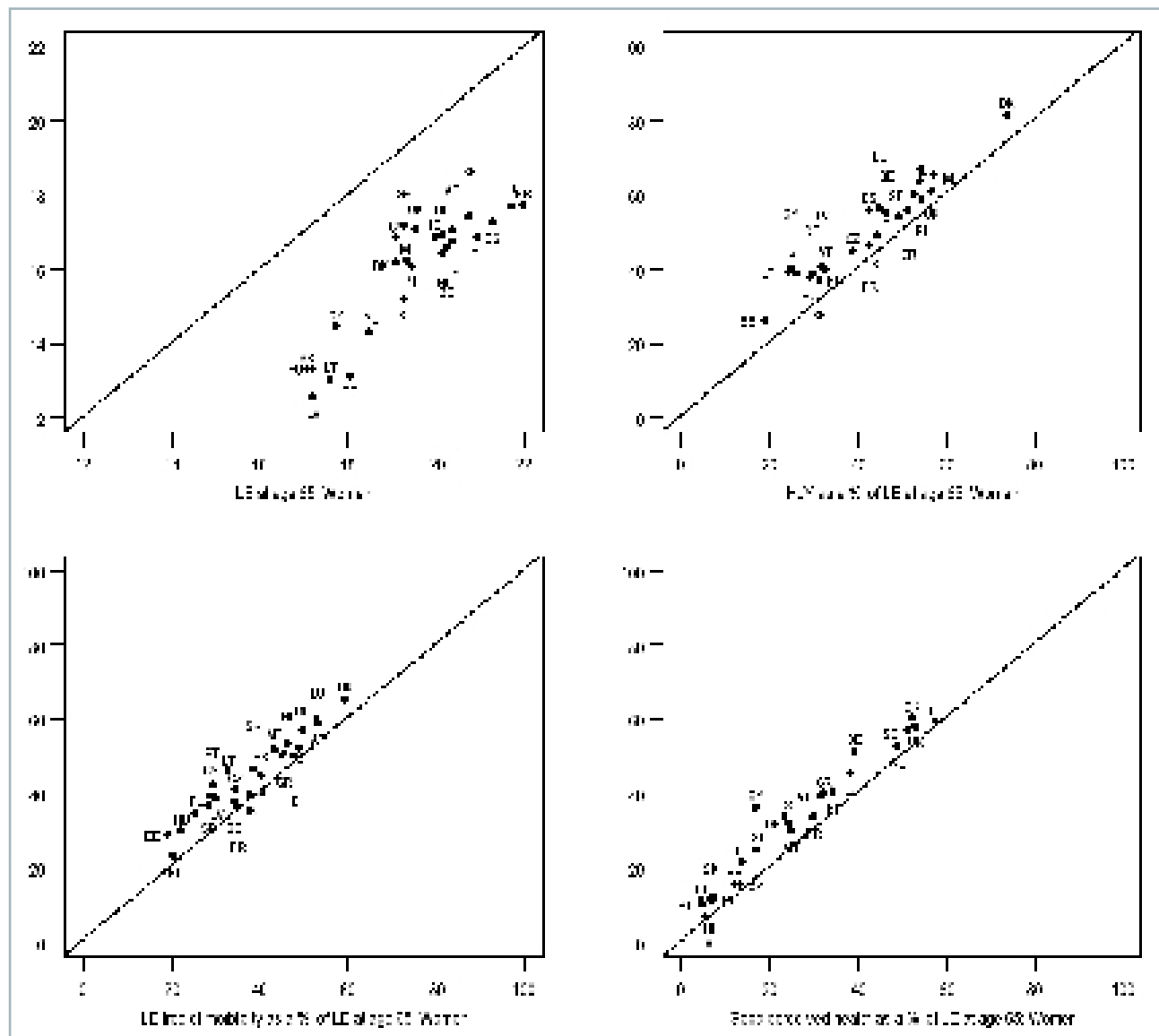
## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation;
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy;
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.



Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)





# EHEMU Country Reports

## June 2008

### HEALTH EXPECTANCY IN BELGIUM



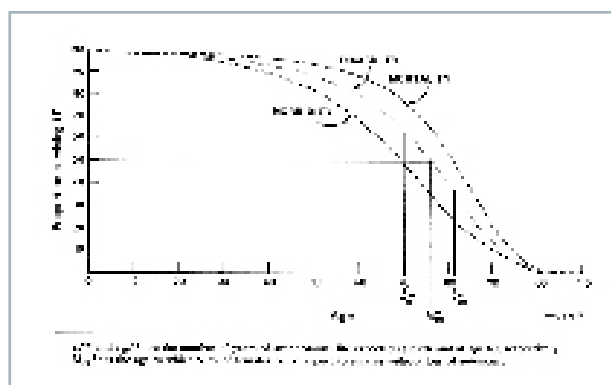
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- health expectancies based on the two additional dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2005
- a global analysis of health expectancies of European countries, based on the SILC 2005



## References

Robine JM, Jagger C, Mathers CD, Crimmins EM, Suzman RM, Eds.

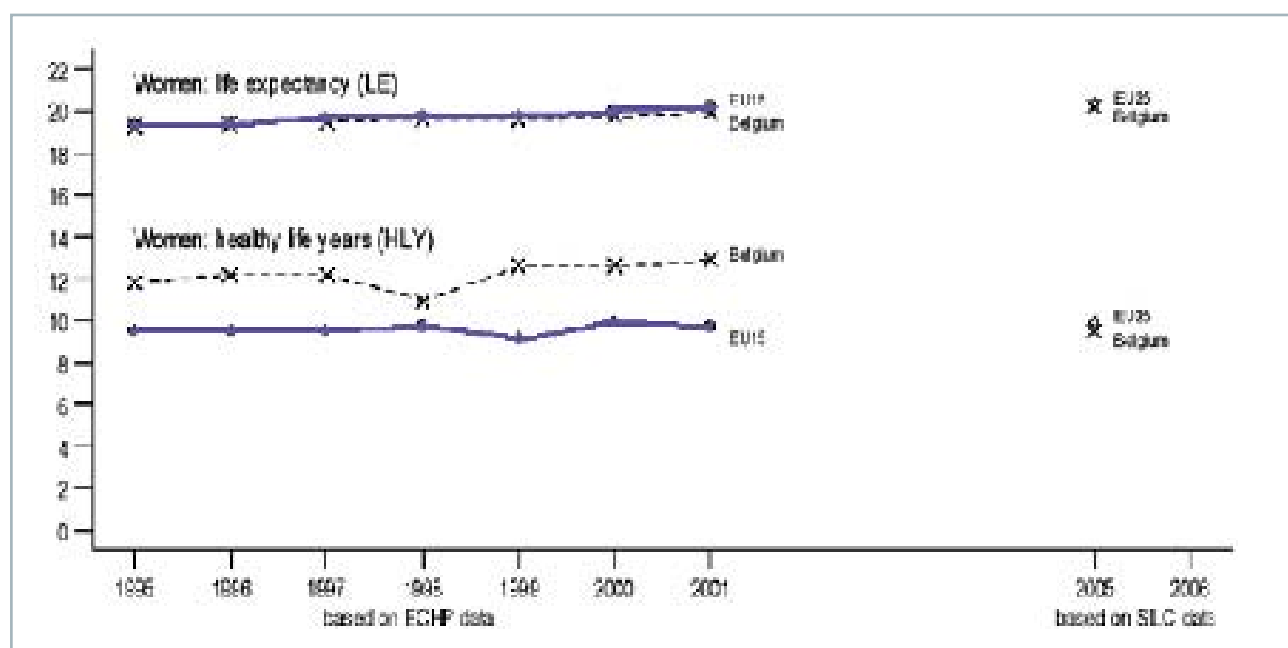
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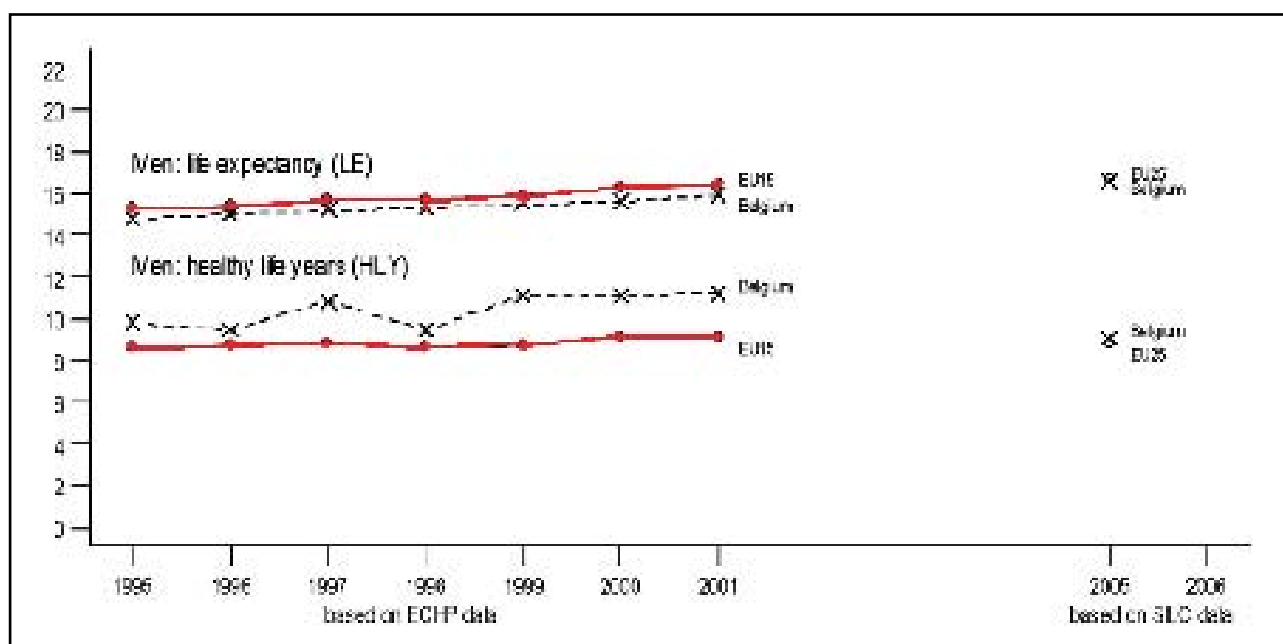
Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Belgium and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)





<b>Belgium</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Women:</b>												
LE	19.3	19.4	19.5	19.6	19.6	19.7	19.9	-	-	-	20.2	
<b>Women:</b>												
HLY	11.8	12.2	12.2	10.9	12.6	12.6	12.9	-	-	-	9.5	
%HLY/LE	62%	63%	62%	56%	64%	64%	65%	-	-	-	47%	



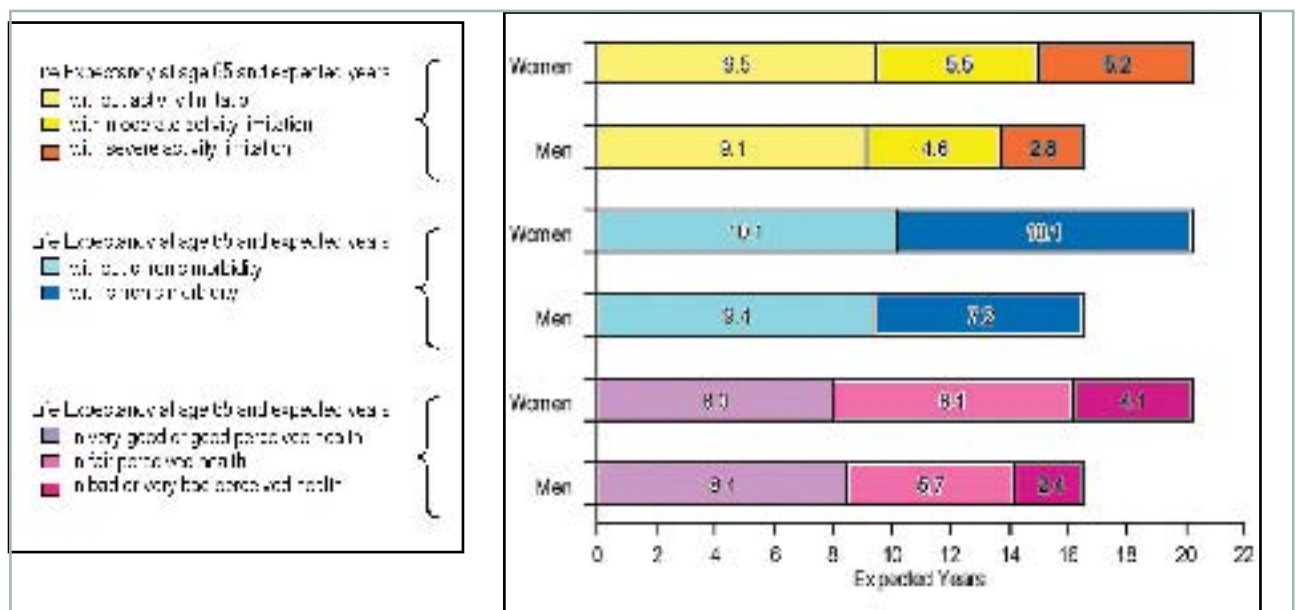
<b>Belgium</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Men: LE</b>	14.8	15.0	15.2	15.3	15.5	15.6	15.9	-	-	-	16.6	
<b>Men: HLY</b>	9.8	9.5	10.8	9.5	11.1	11.1	11.2	-	-	-	9.1	
<b>%HLY/LE</b>	66%	63%	71%	62%	72%	71%	70%	-	-	-	55%	

### Key points:

- Belgian life expectancy (LE) at age 65 has increased by 0.9 years for women and 1.8 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was slightly below the EU15 average. By 2005 LE for both sexes was close to the EU25 average.
- Over the 1995-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data increased in Belgium. The proportion of HLY (or years without self-reported limitations due to health condition or disability), within the total expected years, slightly increased for both sexes between 1999 and 2001, being close to 65% for women and 70% for men in 2001. Between 1995 and 2001 HLY in Belgium was above the EU15 average.
- The new HLY series, initiated in 2005 with the SILC data, shows a significantly lower value for Belgium than previously but still above the EU average, being close to the EU25 average (and similar to the EU15 average). Women and men at age 65 can expect to spend 47% and 55% of their life without self-reported long-term activity limitations respectively. Compared to earlier trends, the SILC question may result in people reporting limitations of different severity than previously and Belgian women and men may be more likely to report less severe problems than before.



## Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Belgium (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Belgium was 20.2 years for women and 16.6 years for men.
- Based on the SILC 2005, at age 65, women spent 47% of their remaining life (9.5 years) without activity limitation (corresponding to Healthy Life Years (HLY)), 27% (5.5 years) with moderate activity limitation and 26% (5.2 years) with severe activity limitation.\*
- Men of the same age spent 55% (9.1 years) of remaining life without activity limitation compared to 28% (4.6 years) with moderate activity limitation and 17% (2.8 years) with severe activity limitation.\*
- Although the total years lived by men were less than those

for women, the numbers of years lived in very good or good perceived health and the years lived without activity limitation were similar. However the numbers of years lived without chronic morbidity were greater for women than men.

- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Belgium comprised 992 women and 810 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.

#### Published results and other reports of health expectancies for Belgium

Van Oyen H, Bossuyt N, Deboosere P, Gadeyne S, Abatih E, Demarest S. Differential inequity in health expectancy by region in Belgium. *Sozial- und Präventivmedizin*. 2005;50(5):301-310.

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Bossuyt N, Gadeyne S, Deboosere P, Van Oyen H. Socio-economic inequalities in health expectancy in Belgium. *Public Health*. 2004;118:3-10.

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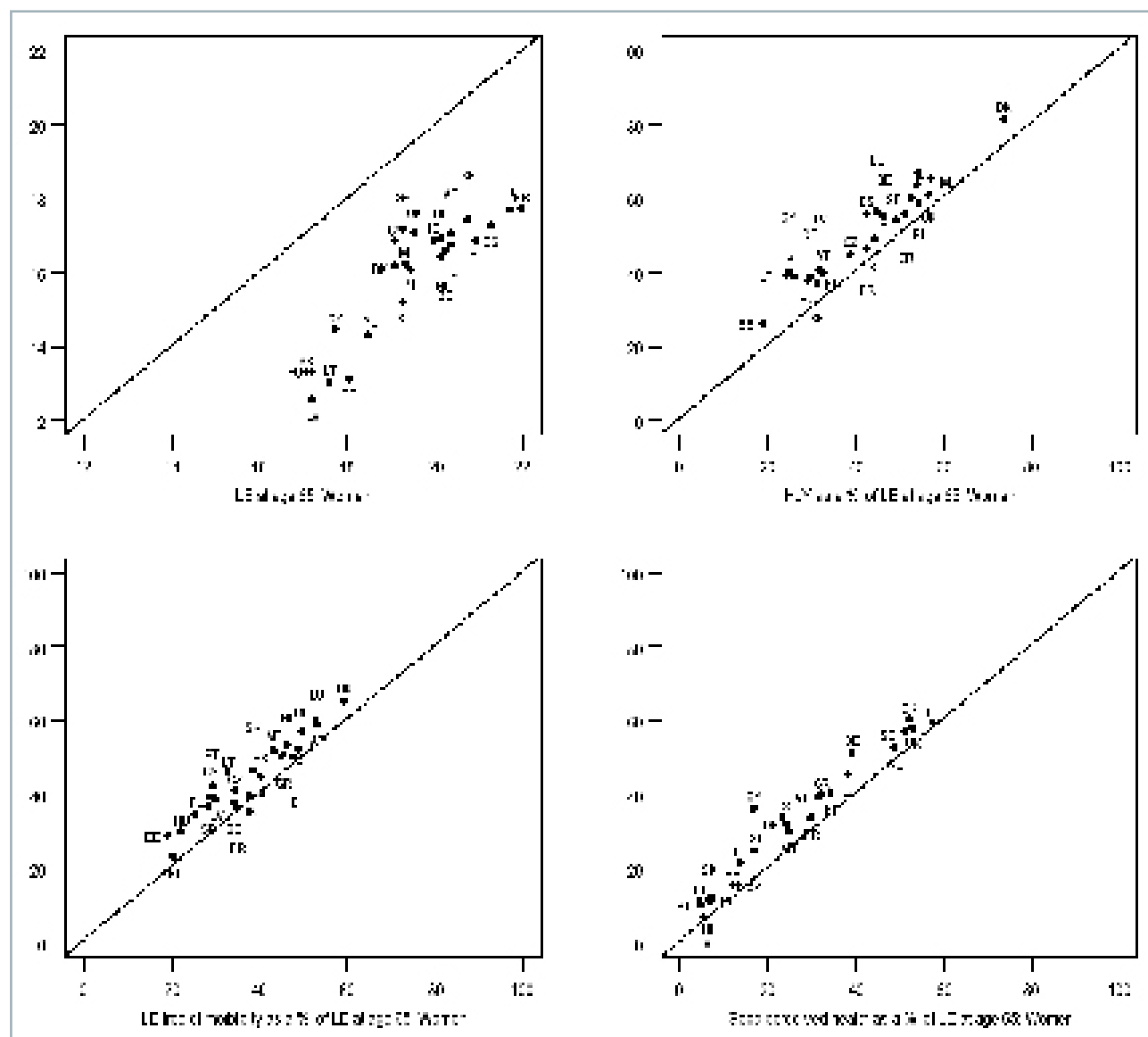


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The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.

Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)



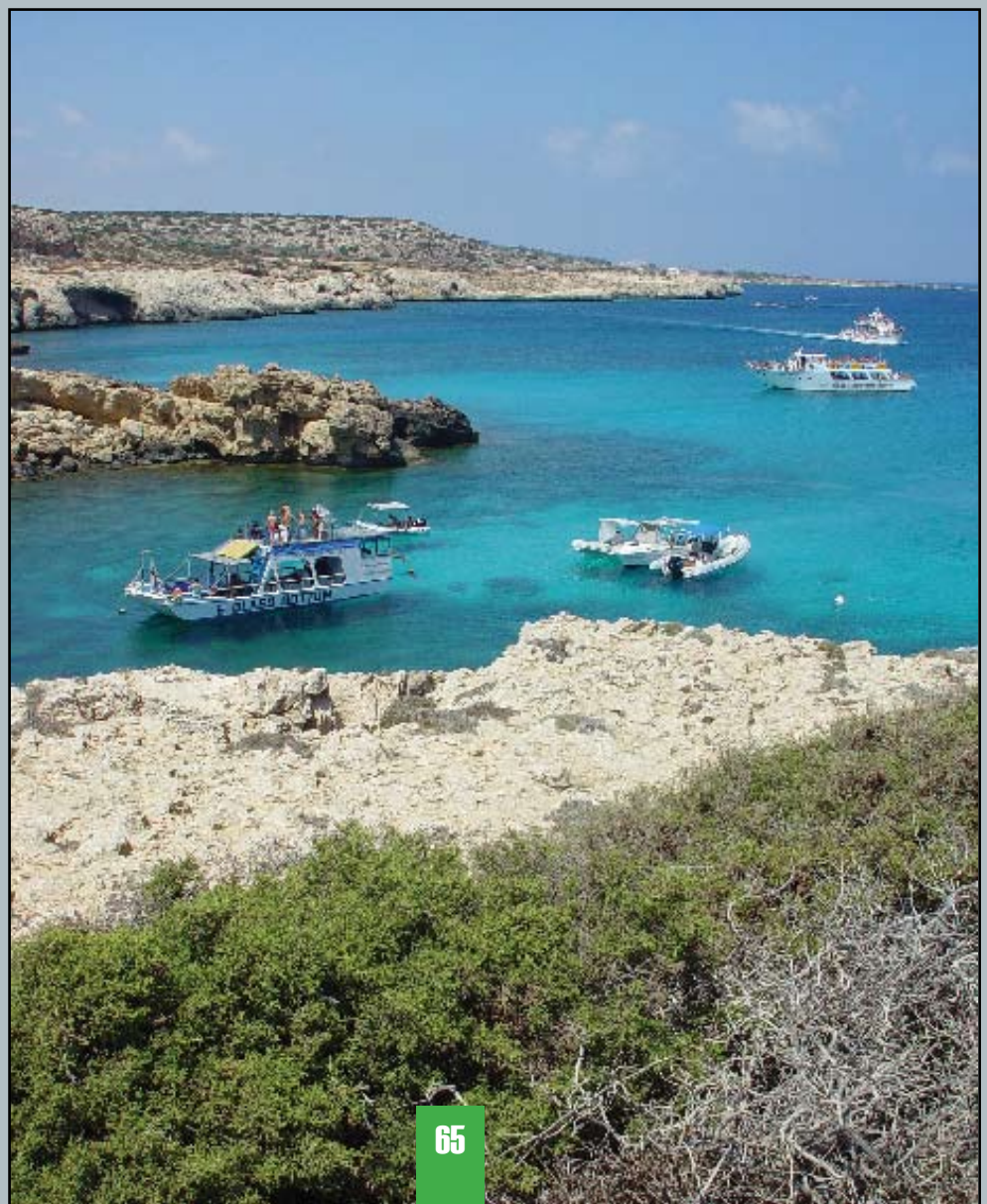




# EHEMU Country Reports

## June 2008

### HEALTH EXPECTANCY IN CYPRUS



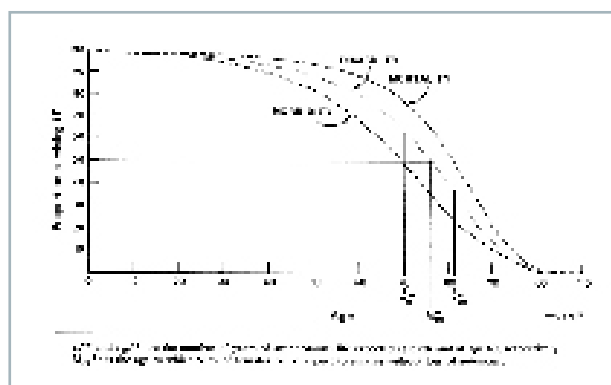
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

**The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.**



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

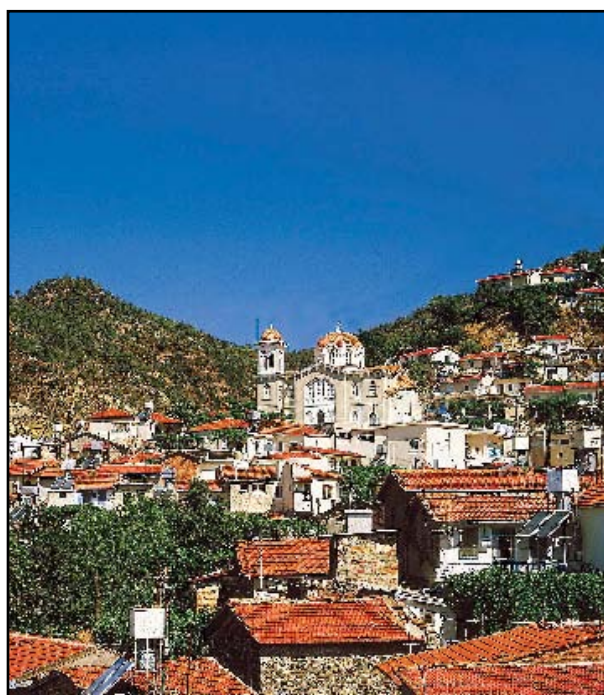
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Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe (Robine et al., 2003).

Health expectancies are most often calculated by the Sullivan method (Sullivan, 1971). However to make valid comparisons, the underlying health measure should be truly comparable.

To address this, the European Union has decided to include a small set of health expectancies among its European Community Health Indicators (ECHI) to provide synthetic measures of disability, chronic morbidity and perceived health. Therefore the Minimum European Health Module (MEHM), composed of 3 general questions covering these dimensions, has been introduced into the Statistics on Income and Living Conditions (SILC) to improve the comparability of health expectancies between countries. In addition life expectancy without long term activity limitation, based on the disability question, was selected in 2004 to be one of the structural indicators for assessing the EU strategic goals (Lisbon strategy) under the name of "Healthy Life Years" (HLY).

Further details on the MEHM, the European surveys and health expectancy calculation and interpretation can be found on [www.ehemu.eu](http://www.ehemu.eu).



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- health expectancies based on activity limitation (HLY) for the country of interest and for the overall 25 European Union member states (EU25), using the SILC 2005 question on long term activity limitation. As the SILC has been only recently initiated, to document trends we provide previous HLY series based on the disability question of the 1995–2001 European Community Household Panel (ECHP)
- health expectancies based on the two additional dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2005
- a global analysis of health expectancies of European countries, based on the SILC 2005



## References

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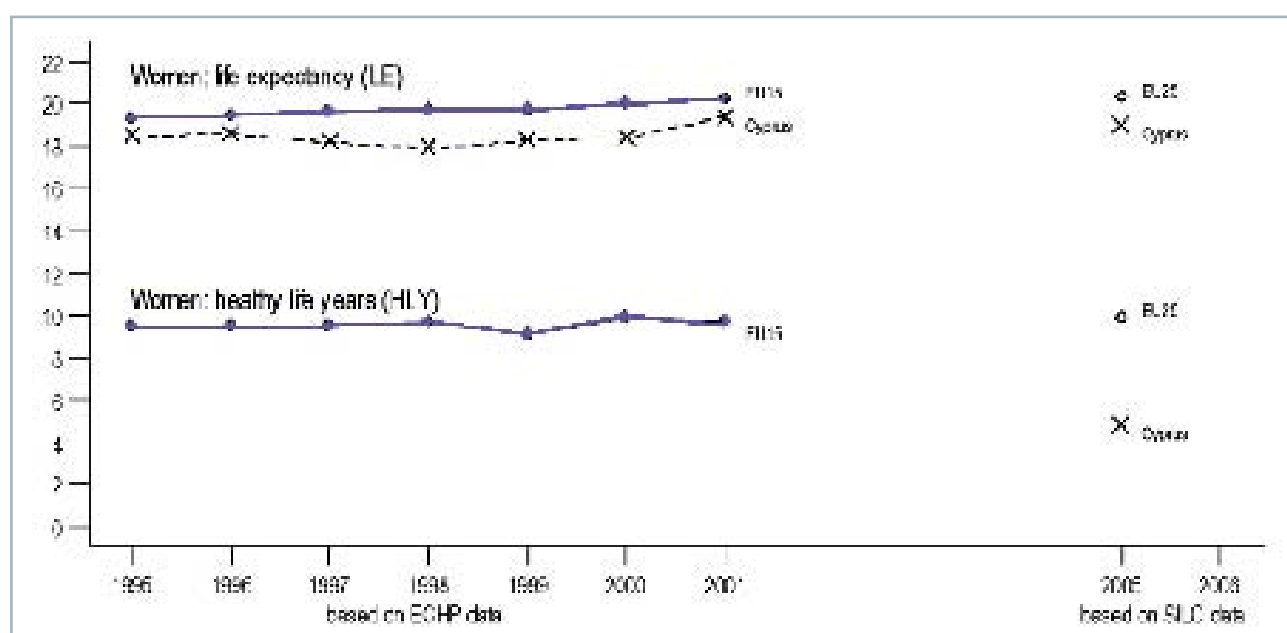
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World Health Organization.

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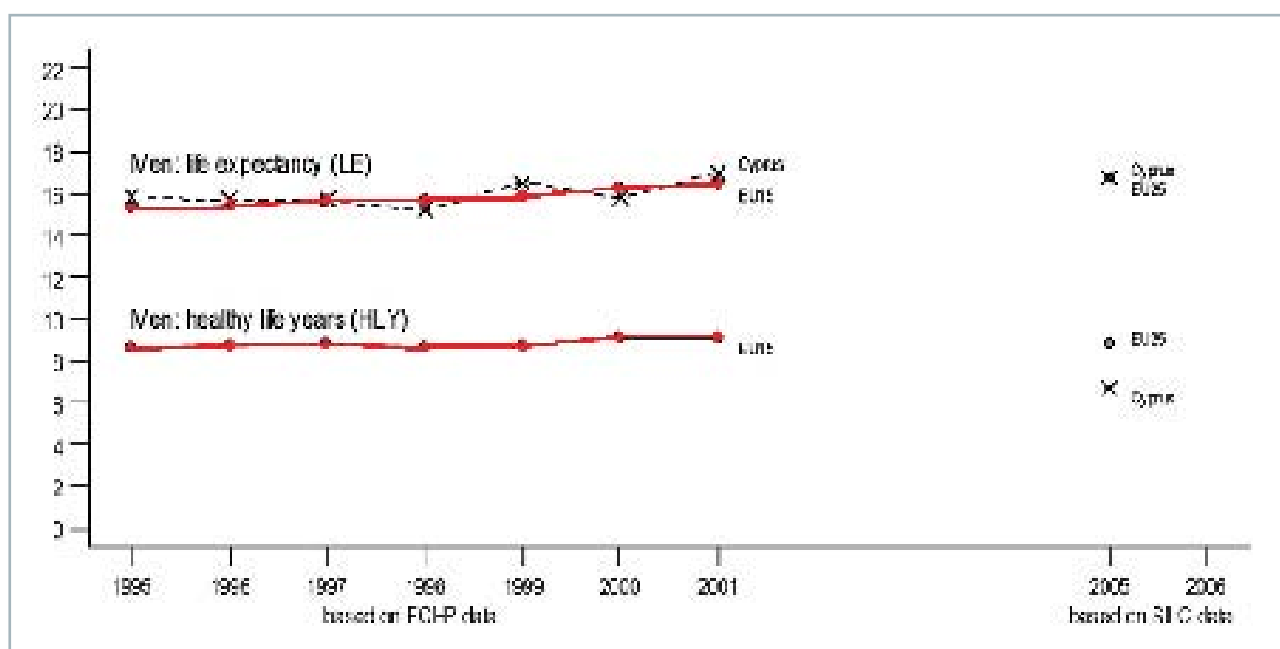
Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

## Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Cyprus and the European Union (EU15 and EU25) based on ECHP (1995–2001) and SILC (2005)





<b>Cyprus</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Women: LE</b>	18.5	18.6	18.2	17.9	18.3	18.4	19.4	-	-	-	19.1	
<b>Women: HLY</b>	-	-	-	-	-	-	-	-	-	-	4.8	
<b>%HLY/LE</b>	-	-	-	-	-	-	-	-	-	-	25%	



<b>Cyprus</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Men: LE</b>	15.8	15.7	15.7	15.2	16.5	15.8	17.0	-	-	-	16.8	
<b>Men: HLY</b>	-	-	-	-	-	-	-	-	-	-	6.7	
<b>%HLY/LE</b>	-	-	-	-	-	-	-	-	-	-	40%	

### Key points:

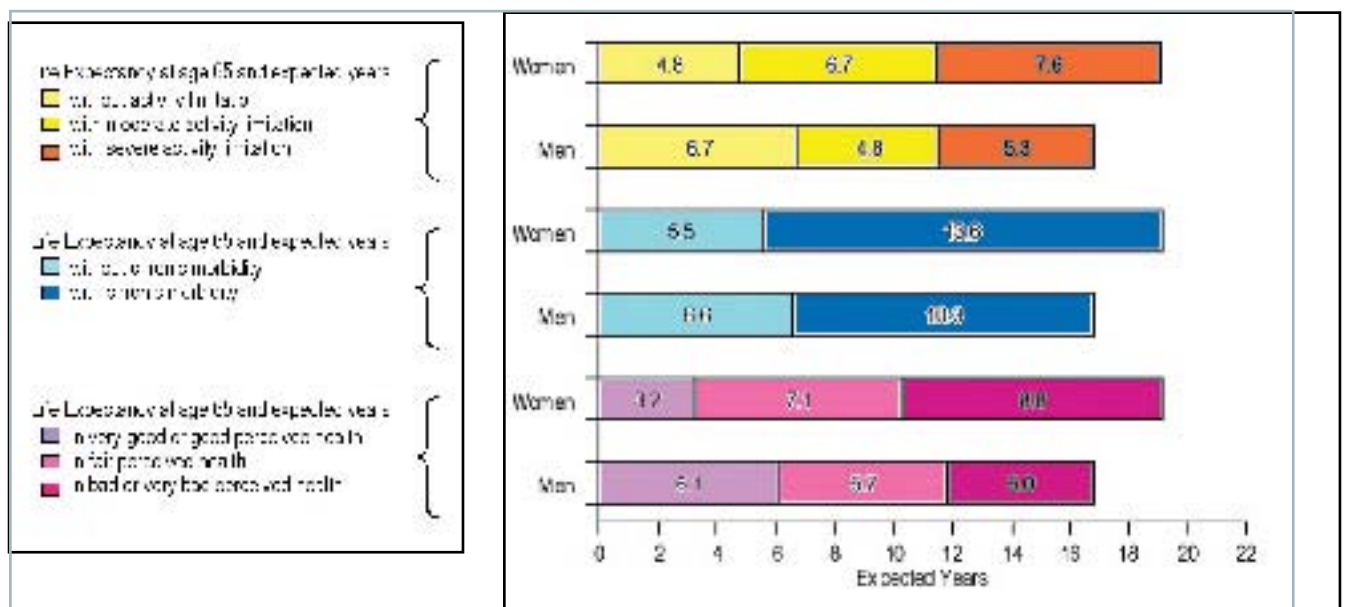
- Cypriot life expectancy (LE) at age 65 has increased by 0.6 years for women and 1.0 years for men over the 1995-2005 period: LE for men between 1995-2001 reached the EU25 average while LE for women was lower. By 2005 LE for men was close to the EU25 average while LE for women was below.
- Because Cyprus joined the European Union in 2004, health expectancy based on activity limitation (HLY) over the 1995-2001 period is not available.

- The new HLY series, initiated in 2005 with the SILC data, shows that women and men at age 65 can expect to spend 25% and 40% of their life without self-reported long-term activity limitations respectively. The HLY values for Cyprus are 5.1 years and 2.1 years below the EU25 average for women and men respectively. Cypriot men and women may be more likely to report health problems than the EU25 as a whole.





Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Cyprus (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Cyprus was 19.1 years for women and 16.8 years for men.
- Based on the SILC 2005, at age 65, women spent 25% of their remaining life (4.8 years) without activity limitation (corresponding to Healthy Life Years (HLY)), 35% (6.7 years) with moderate activity limitation and 40% (7.6 years) with severe activity limitation.\*
- Men of the same age spent 40% (6.7 years) of remaining life without activity limitation compared to 29% (4.8 year) with moderate activity limitation and 32% (5.3 years) with severe activity limitation.\*
- Although the total years lived by men were less than those for women, for all the health expectancies the years of life spent in positive health were greater for men than women.
- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Cyprus comprised 782 women and 630 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



Published results and other reports of health expectancies for Cyprus

Robine J-M, Le Roy S, Jagger C, EHEMU team.

Changes in life expectancy in the European Union since 1995: similarities and differences between the 25 EU countries. In: Institut des Sciences de la Santé, editor. Living longer but healthier lives: how to achieve health gains in the elderly in the European Union Europe Blanche XXVI, Budapest, 25-26 November 2005. Paris: ISS; 2006. p. 9-48.



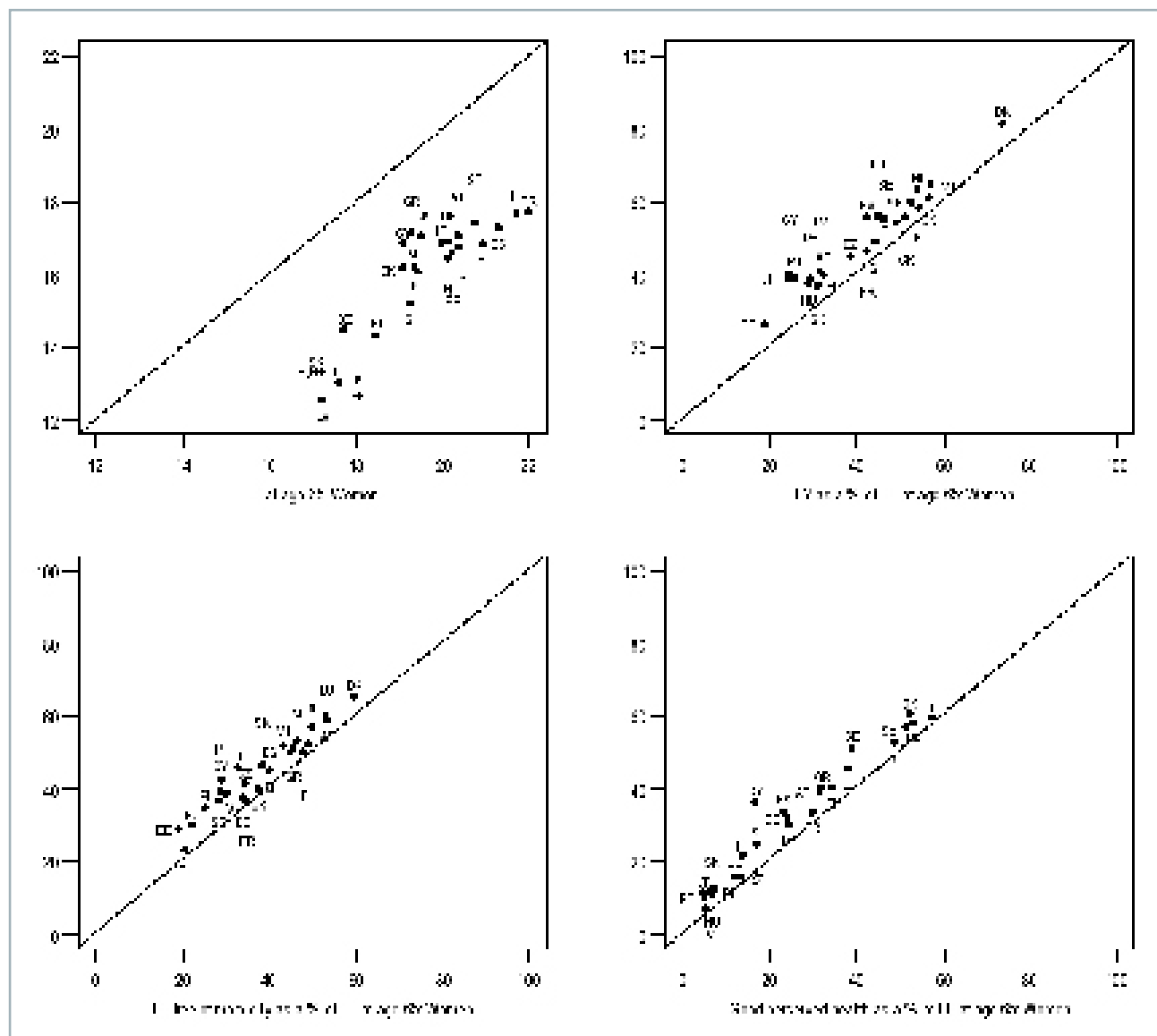


## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.

Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)







# EHEMU Country Reports

## June 2008

### HEALTH EXPECTANCY IN CZECH REPUBLIC





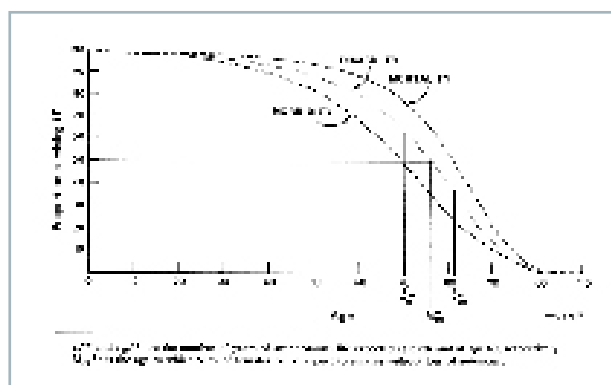
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The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

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There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

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## References

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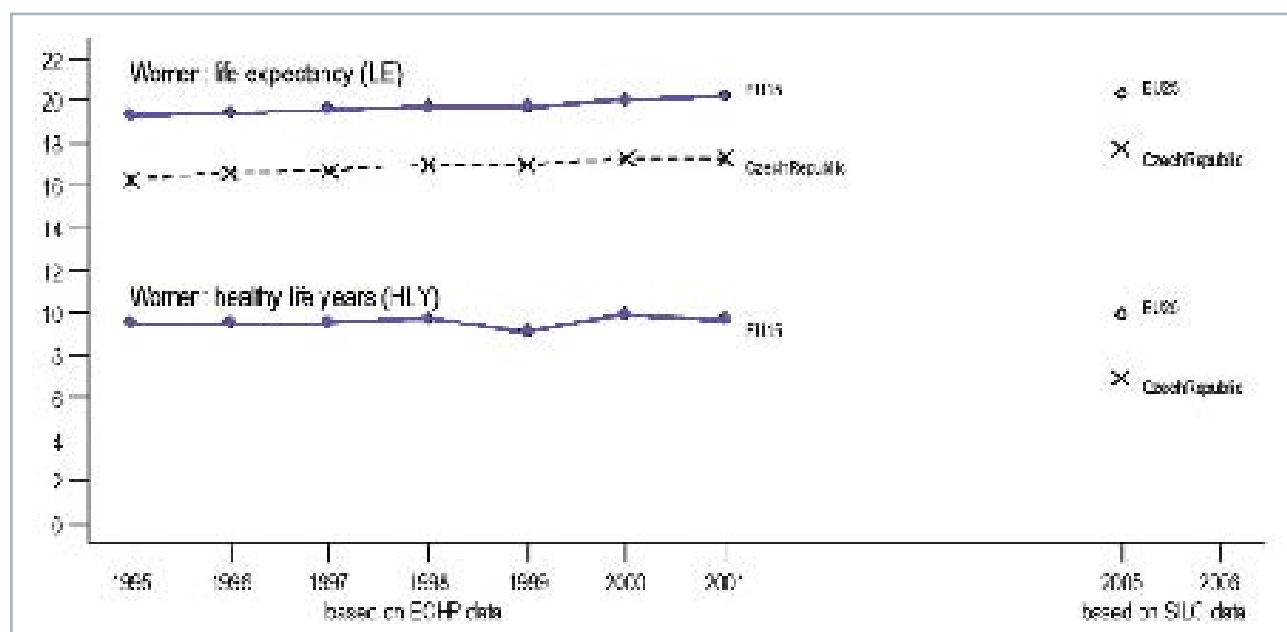
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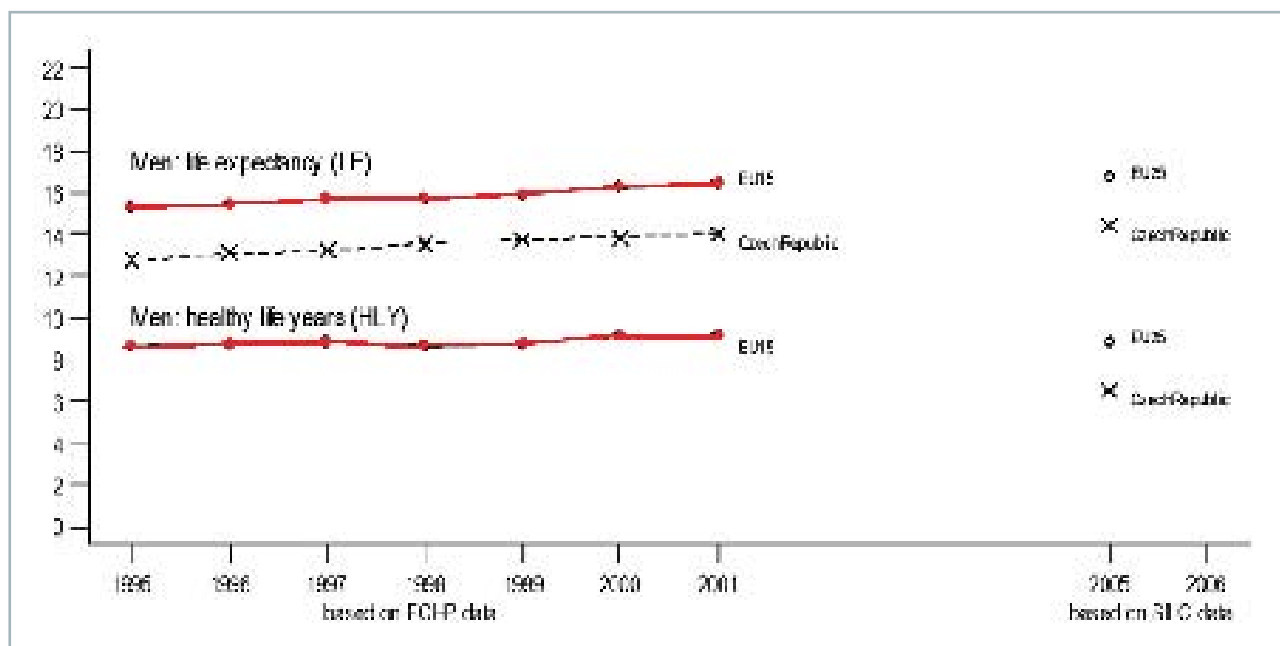
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Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for the Czech Republic and the European Union (EU15 and EU25) based on ECHP (1995–2001) and SILC (2005)



Czech Republic	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Women: LE	16.2	16.6	16.7	17.0	17.0	17.3	17.3	-	-	-	17.7	
Women: HLY	-	-	-	-	-	-	-	-	-	-	6.9	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	39%	

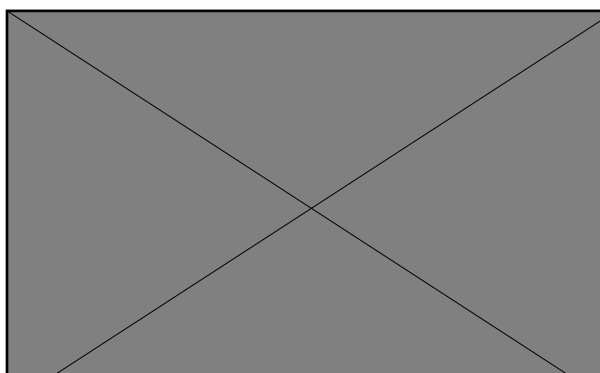


Czech Republic	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Men: LE	12.7	13.1	13.2	13.5	13.7	13.8	14.0	-	-	-	14.4	
Men: HLY	-	-	-	-	-	-	-	-	-	-	6.5	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	45%	

### Key points:

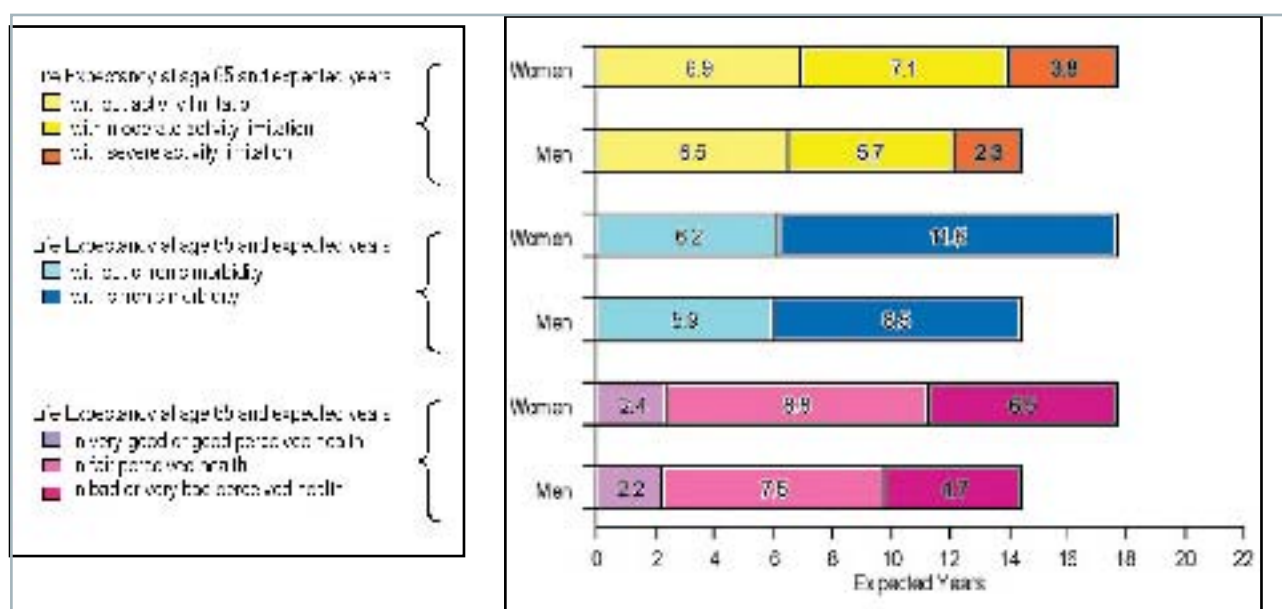
- Czech life expectancy (LE) at age 65 has increased by 1.5 years for women and 1.7 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was below the EU15 average and by 2005 LE for both sexes remained below the EU25 (14.4 years for men and 17.7 years for women).
- Because the Czech Republic joined the European Union in 2004, health expectancy based on activity limitation (HLY) over the 1995-2001 period is not available.

- The new HLY series, initiated in 2005 with the SILC data, shows that women and men at age 65 can expect to spend 39% and 45% of their life without self-reported long-term activity limitations respectively. The HLY values for the Czech Republic are 3 years and 2.3 years below the EU25 average for women and men respectively. Czech men and women may be more likely to report health problems than the EU25 as a whole.





Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for the Czech Republic (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in the Czech Republic was 17.7 years for women and 14.4 years for men.
- Based on the SILC 2005, at age 65, women spent 39% of remaining life (6.9 years) without activity limitation (corresponding to Healthy Life Years (HLY)), 40% (7.1 years) with moderate activity limitation and 21% (3.8 years) with severe activity limitation.\*
- Men of the same age spent 45% (6.5 years) of remaining life without activity limitation compared to 40% (5.7 years) with moderate activity limitation and 16% (2.3 years) with severe activity limitation.\*
- Although total years lived by men were less than those for women, for all the health expectancies the years of life spent in positive health were similar.
- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for the Czech Republic comprised 1036 women and 678 men aged 65+ years.

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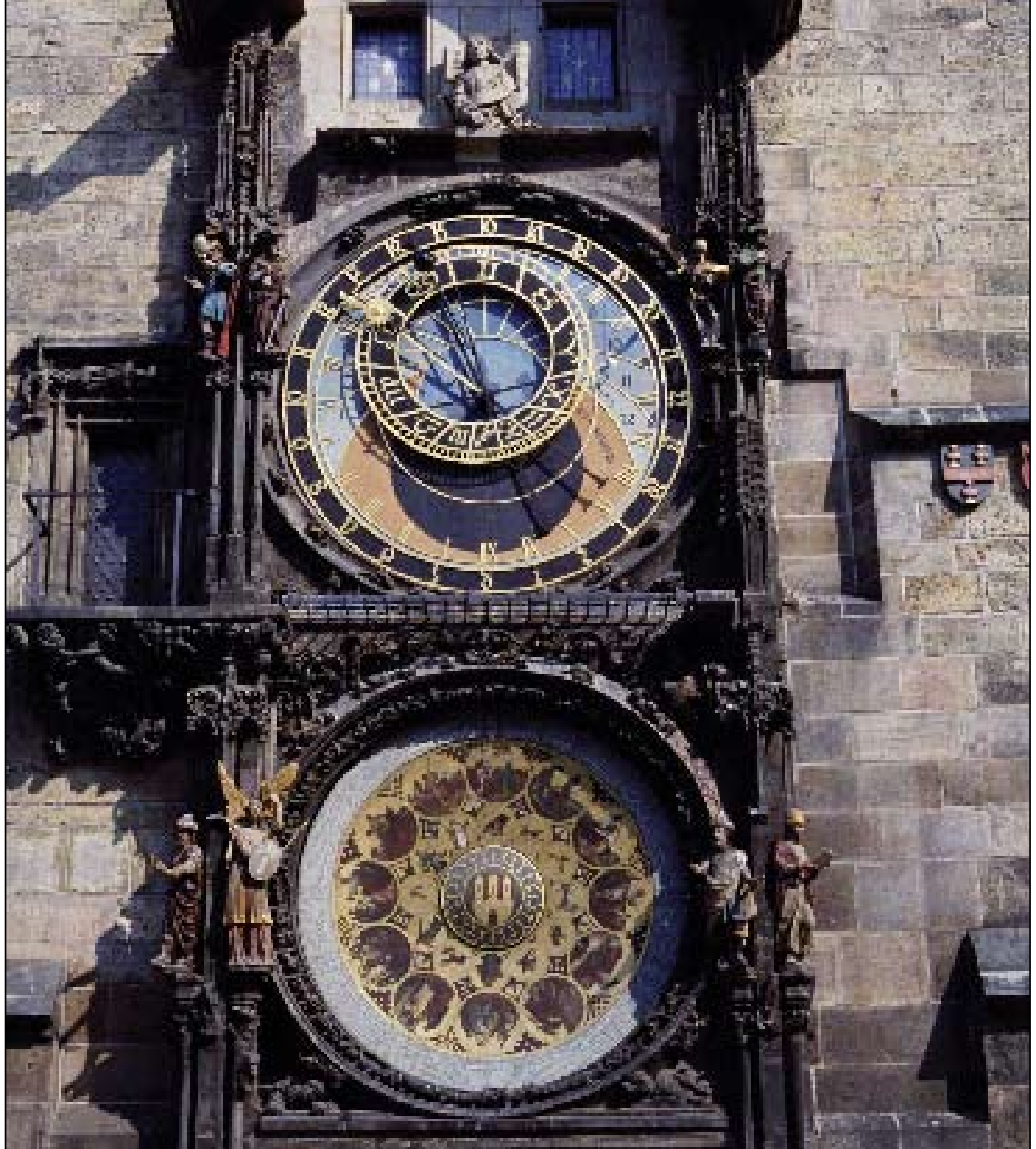
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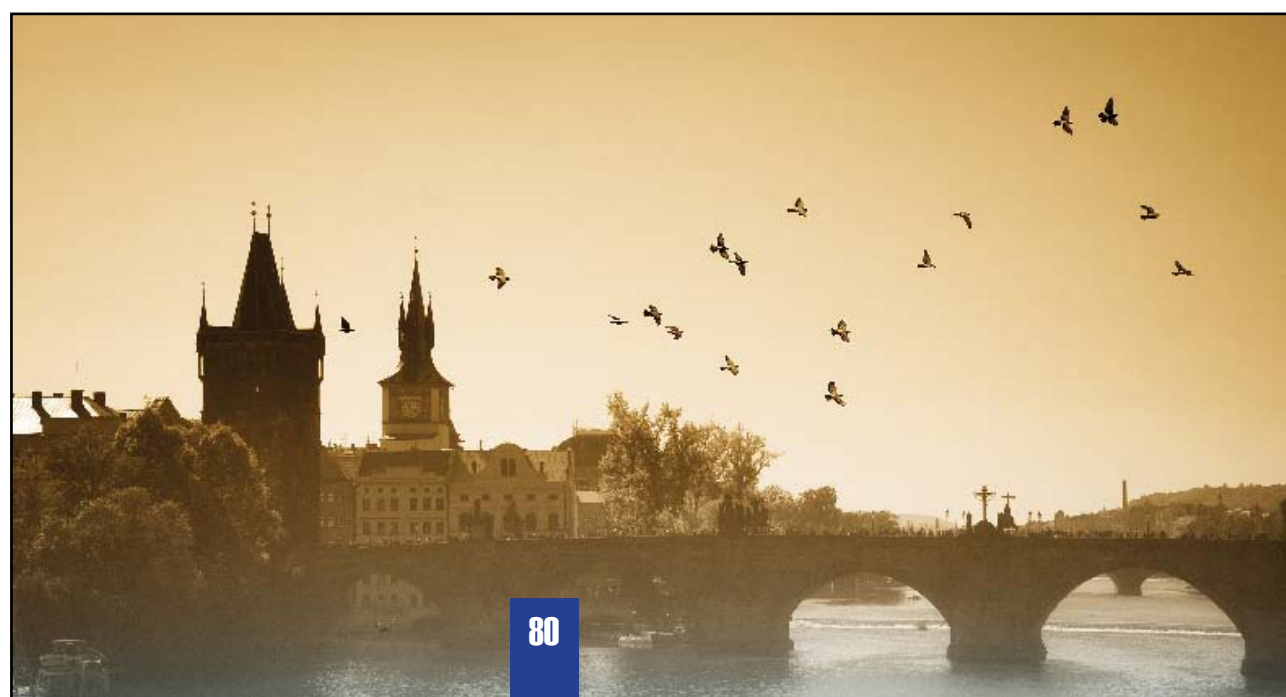
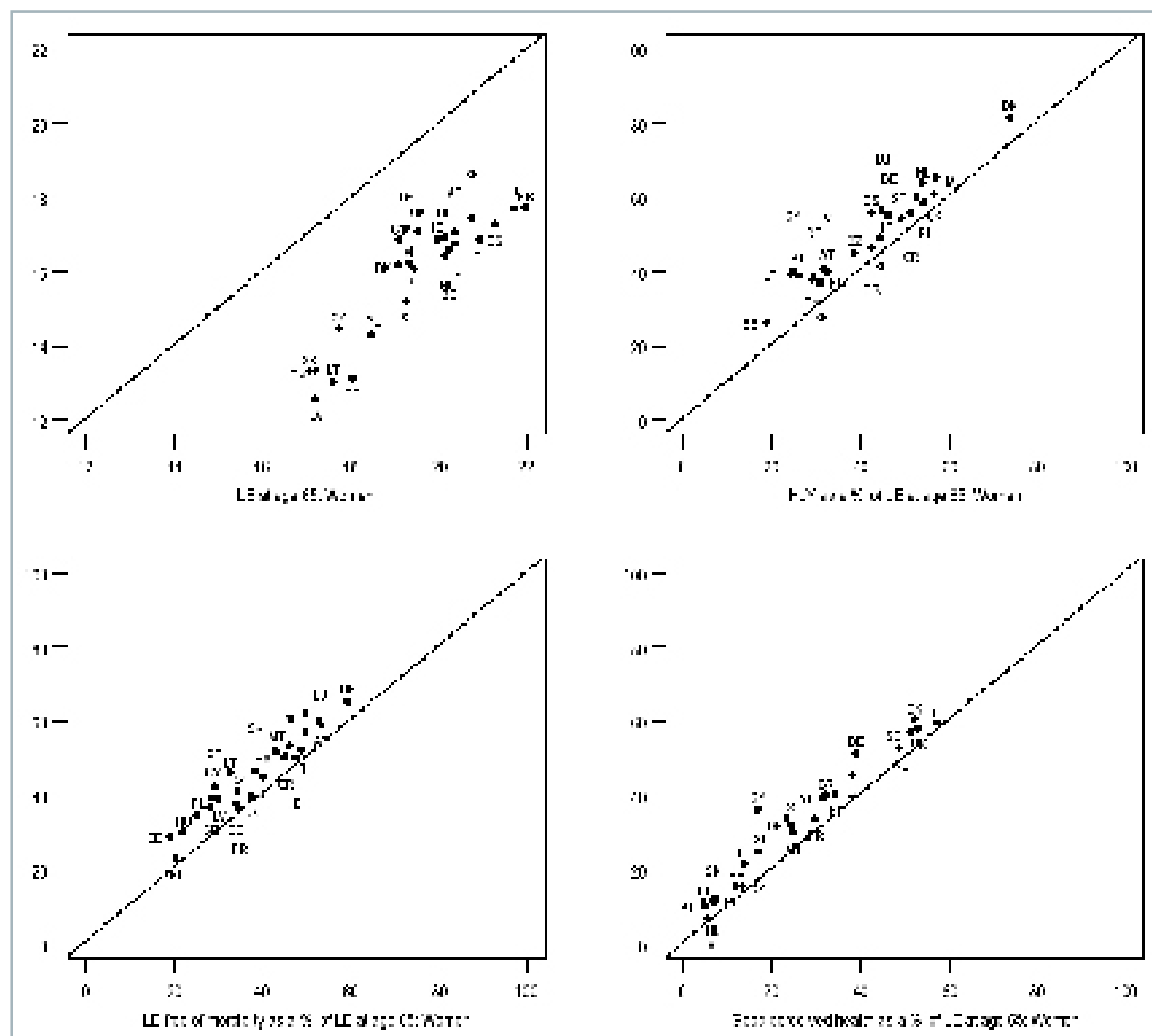


## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
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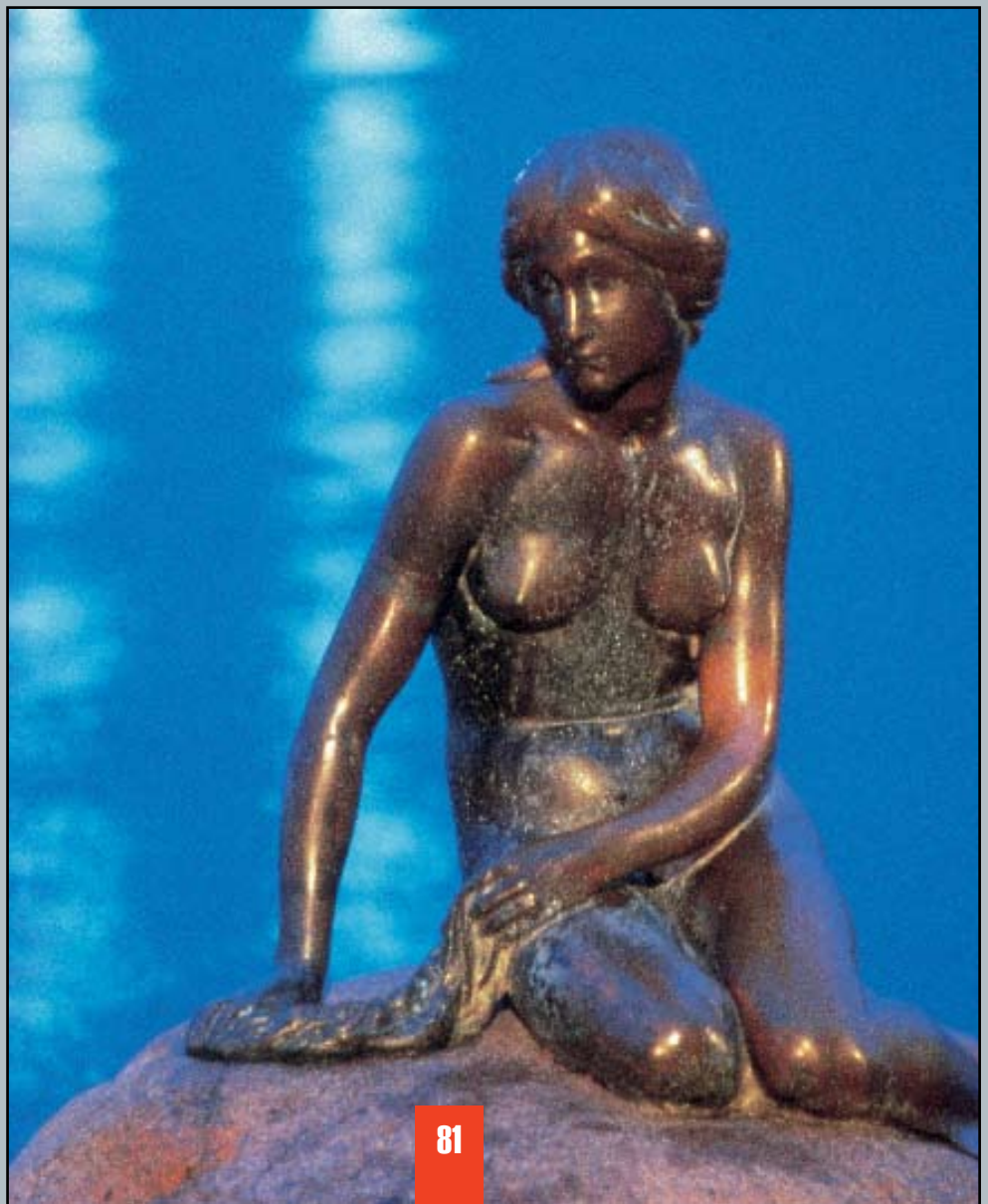




# EHEMU Country Reports

## June 2008

### HEALTH EXPECTANCY IN DENMARK





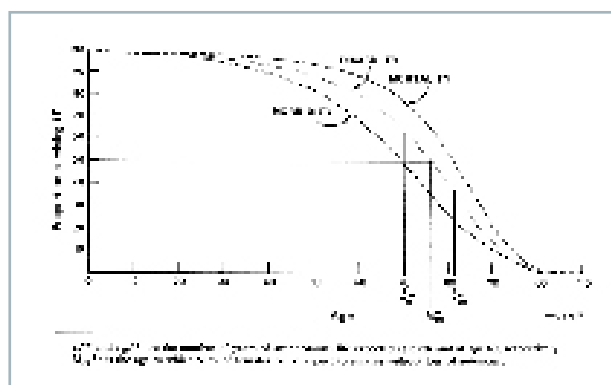
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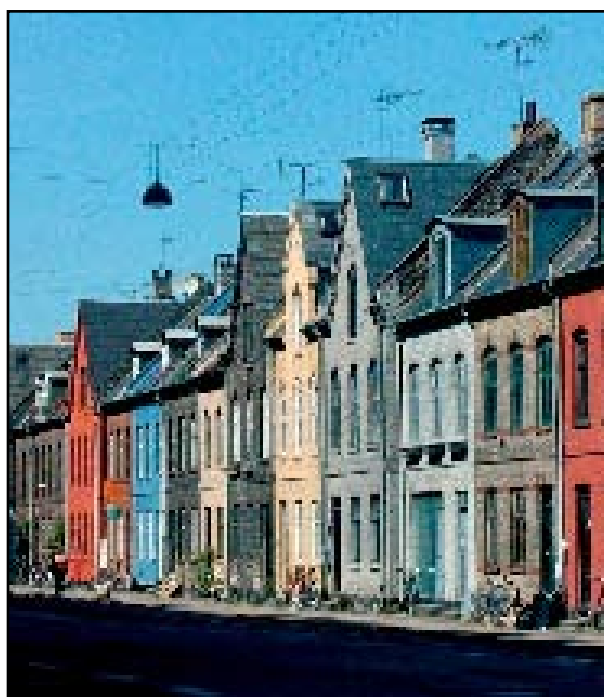
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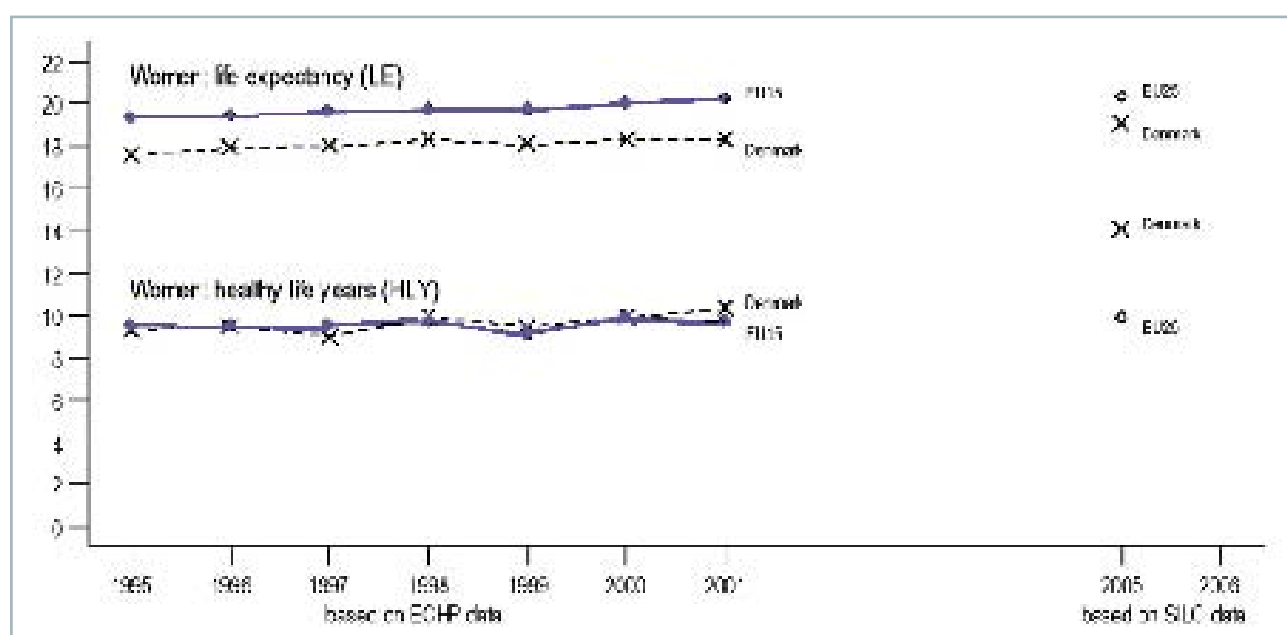
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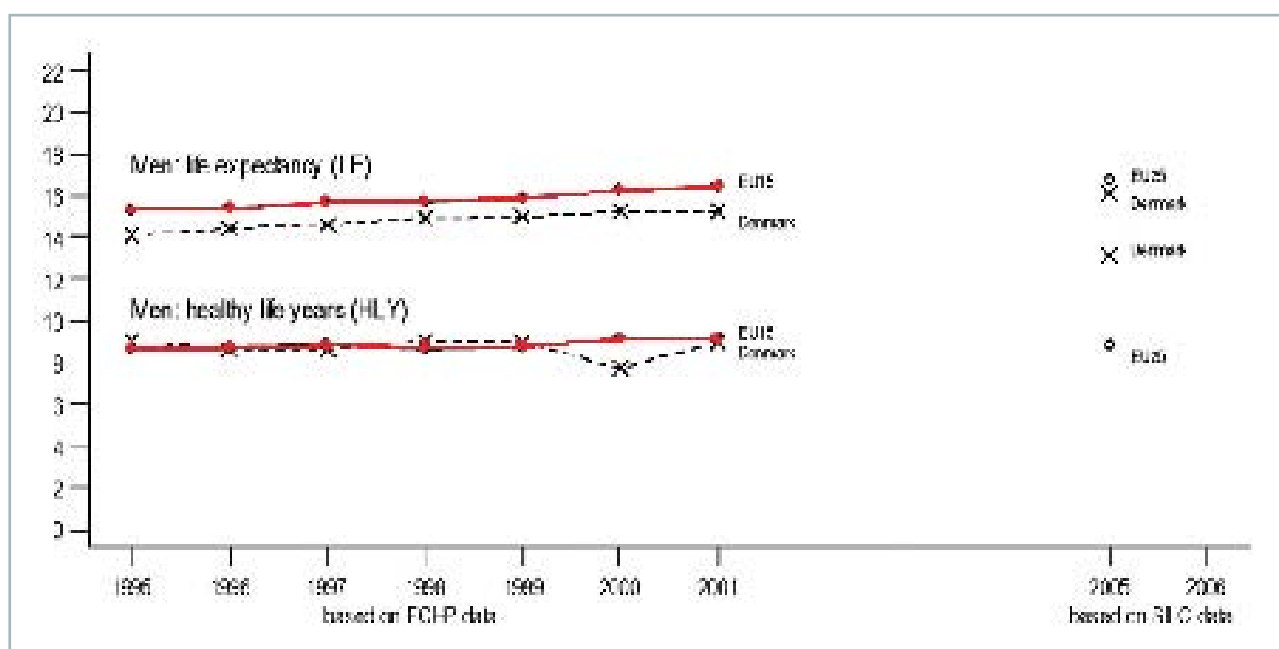
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Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Denmark and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



<b>Denmark</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Women: I.E.</b>	17.6	17.9	18.0	18.3	18.1	18.3	18.3	-	-	-	19.1	
<b>Women: HLY</b>	9.3	9.5	9.0	9.9	9.5	9.9	10.3	-	-	-	14.1	
<b>%HLY/I.E.</b>	53%	57%	55%	55%	55%	69%	71%	-	-	-	74%	



<b>Denmark</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Men: I.E.</b>	14.1	14.4	14.6	14.9	15.0	15.2	15.2	-	-	-	16.1	
<b>Men: HLY</b>	9.0	8.6	8.6	9.0	9.0	7.7	9.0	-	-	-	13.1	
<b>%HLY/I.E.</b>	64%	63%	60%	61%	59%	73%	73%	-	-	-	81%	

### Key points:

- Danish life expectancy (LE) at age 65 has increased by 1.5 years for women and 2 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was below the EU15 average. By 2005 LE for both sexes was below the EU25.
- Over the 1995-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data remained almost stable. The proportion of HLY (or years without self-reported limitations due to health condition or disability), within the total expected years, increased for both sexes, being close to 71% for women and 73% for

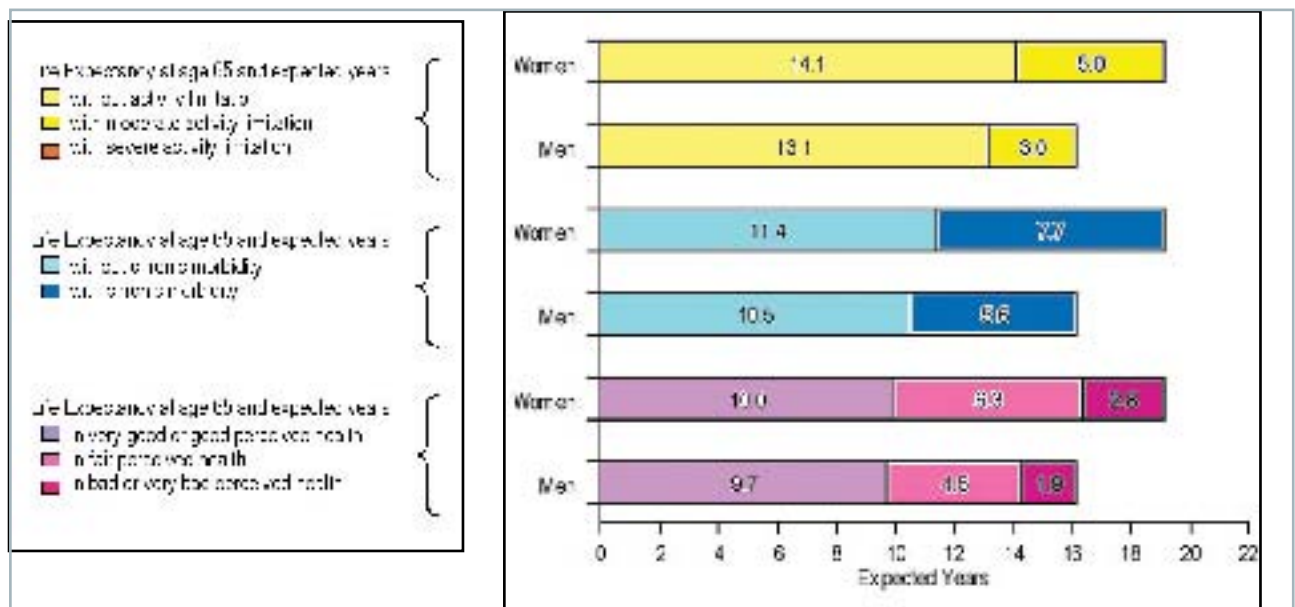
men in 2001. Between 1995 and 2001 HLY in Denmark was close to the EU15 average.

The new HLY series, initiated in 2005 with the SILC data, shows a higher value for Denmark than previously and higher than the EU average, being 4.2 years and 4.3 years above the EU25 average (and above

- the EU15 average) for women and men respectively. Women and men at age 65 can expect to spend 74% and 81% of their life without self-reported long-term activity limitations respectively. Danish men and women may be less likely to report health problems than previously and less likely than the EU25 as a whole.



Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Denmark (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Denmark was 19.1 years for women and 16.1 years for men.
- Based on the SILC 2005, at age 65, women spent 74% (14.1 years) of their remaining life without activity limitation (corresponding to Healthy Life Years (HLY)) and 26% (5.0 years) with activity limitation.\*
- Men of the same age spent 81% (13.1 years) of remaining life without activity limitation compared to 19% (3.0 years) with activity limitation.\*
- Although for all the health expectancies the years of life spent in positive health were greater for women than men, women spent a larger proportion of their life in ill health.

These results should be interpreted cautiously given the lack of the institutional population and the difference in response categories for activity limitation. The sample size for Denmark comprised 557 women and 465 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



#### Published results and other reports of health expectancies for Denmark

Bronnum-Hansen H, Juel K, Davidsen M, Sorensen J. Impact of selected risk factors on expected lifetime without long-standing, limiting illness in Denmark. *Preventive Medicine*. 2007 Mar 31;45(1):49-53.

Bronnum-Hansen H, Baadsgaard M. Increasing social inequality in life expectancy in Denmark. *Eur J Public Health*. 2007 Apr 30; Advance Access published online on April 30, 2007.

Bronnum-Hansen H, Juel K, Davidsen M. The burden of selected diseases among older people in Denmark. *J Aging Health*. 2006;18(4):491.

Bronnum-Hansen H, Davidsen M. Social differences in the burden of long-standing illness in Denmark. *Sozial-Und Praventivmedizin*. 2006;51(4):221-231.

Bronnum-Hansen H. Health expectancy in Denmark, 1987-2000. *Eur J Public Health*. 2005;15(1):20-25.

Bronnum-Hansen H, Juel K. Impact of smoking on the social gradient in health expectancy in Denmark. *J Epidemiol Commun Health*. 2004;58(7):604-610.

Bronnum-Hansen H, Juel K. Smoking expands expected lifetime with musculoskeletal disease regardless of educational level. *Eur J Epidemiol*. 2004;19:195-196.

Bronnum-Hansen H, Juel K. Smoking expands expected lifetime with musculoskeletal disease. *Eur J Epidemiol*. 2003;18:183-184.





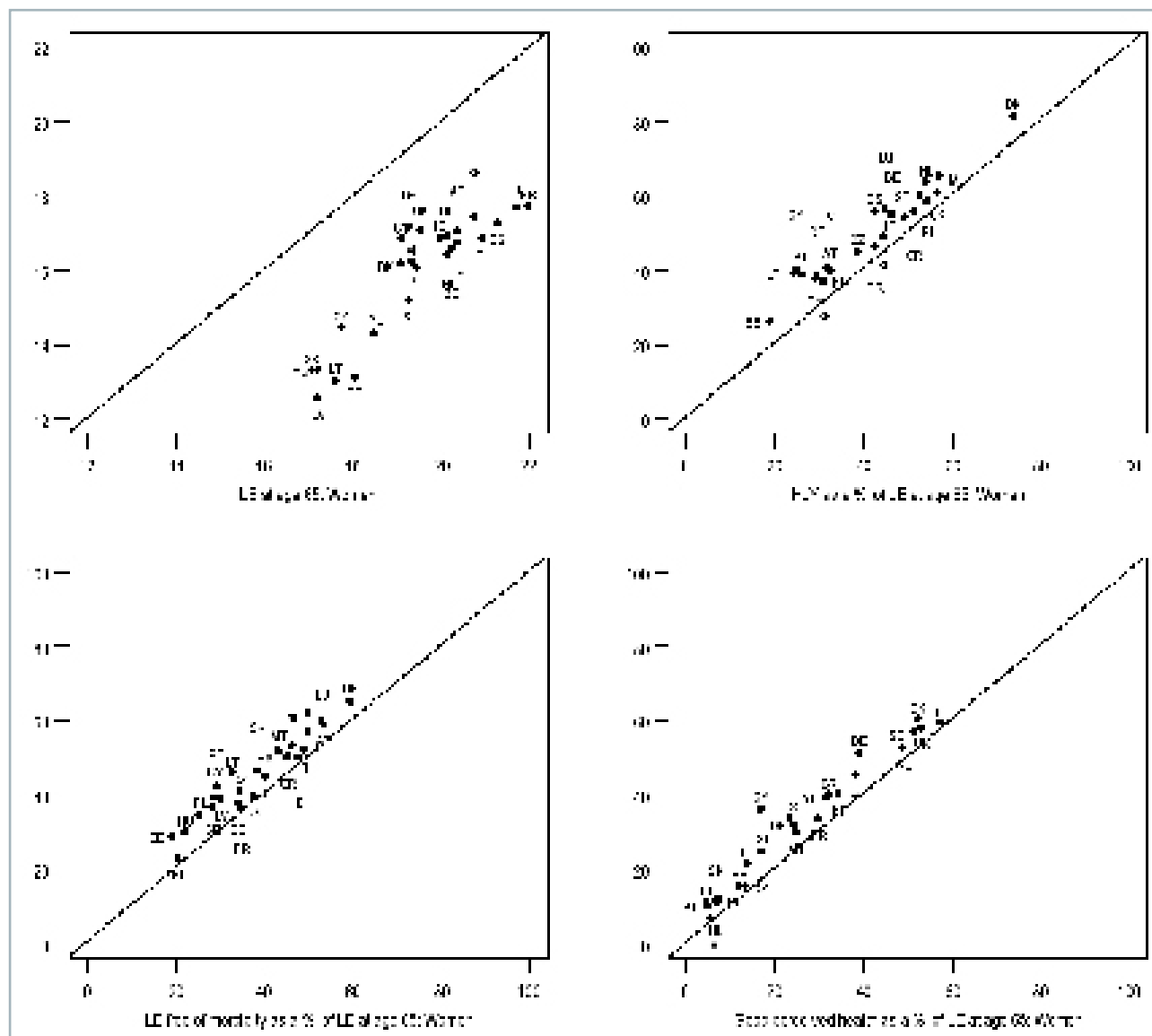
## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.



Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)

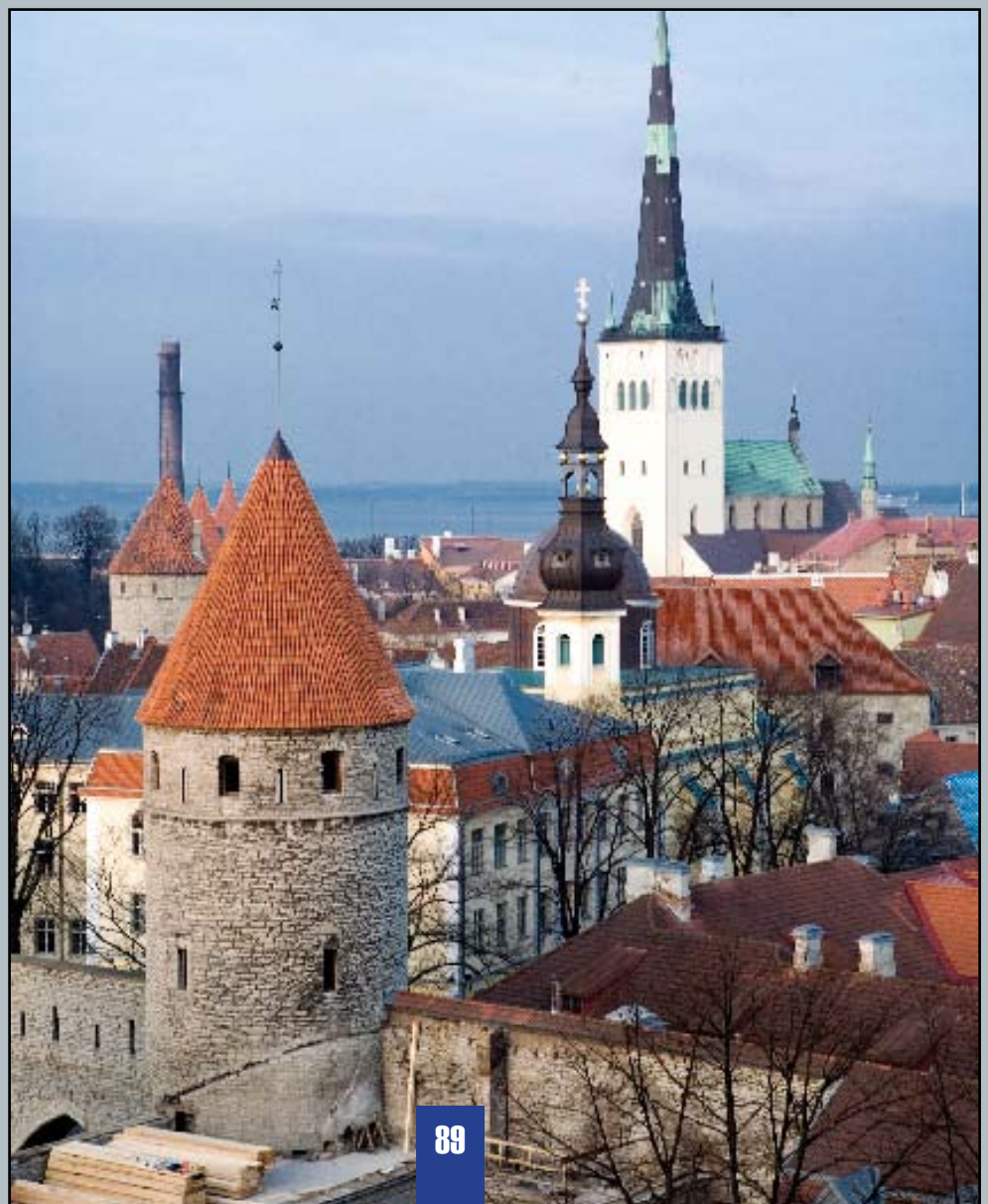




# EHEMU Country Reports

## June 2008

### HEALTH EXPECTANCY IN ESTONIA





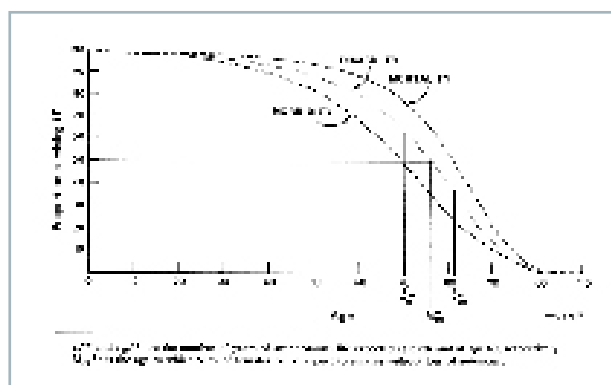
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

**The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.**



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

## How do we compare health expectancies?

Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe (Robine et al., 2003).

Health expectancies are most often calculated by the Sullivan method (Sullivan, 1971). However to make valid comparisons, the underlying health measure should be truly comparable.

To address this, the European Union has decided to include a small set of health expectancies among its European Community Health Indicators (ECHI) to provide synthetic measures of disability, chronic morbidity and perceived health. Therefore the Minimum European Health Module (MEHM), composed of 3 general questions covering these dimensions, has been introduced into the Statistics on Income and Living Conditions (SILC) to improve the comparability of health expectancies between countries. In addition life expectancy without long term activity limitation, based on the disability question, was selected in 2004 to be one of the structural indicators for assessing the EU strategic goals (Lisbon strategy) under the name of "Healthy Life Years" (HLY).

Further details on the MEHM, the European surveys and health expectancy calculation and interpretation can be found on [www.ehemu.eu](http://www.ehemu.eu).



## What is in this report?

This report is produced by the European Health Expectancy Monitoring Unit (EHEMU) as part of a country series. In each report we present:

- health expectancies based on activity limitation (HLY) for the country of interest and for the overall 25 European Union member states (EU25), using the SILC 2005 question on long term activity limitation. As the SILC has been only recently initiated, to document trends we provide previous HLY series based on the disability question of the 1995-2001 European Community Household Panel (ECHP)
- health expectancies based on the two additional dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2005
- a global analysis of health expectancies of European countries, based on the SILC 2005



## References

Robine JM, Jagger C, Mathers CD, Crimmins EM, Suzman RM, Eds.

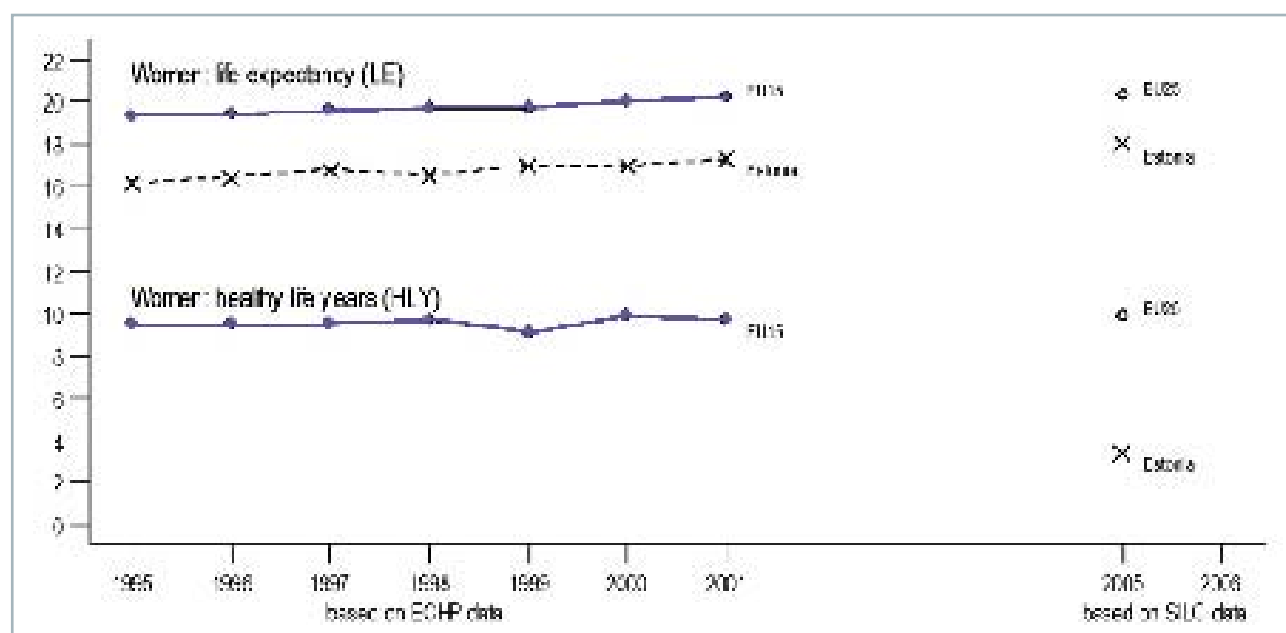
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World Health Organization.

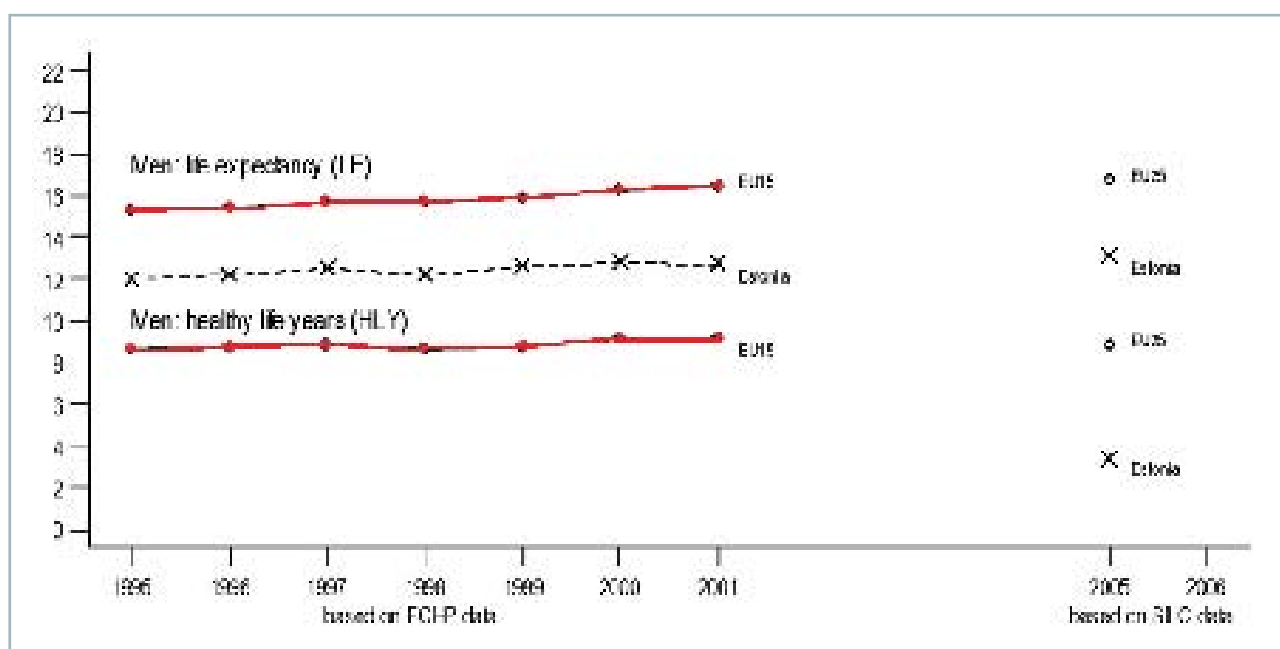
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Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Estonia and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



<b>Estonia</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Women: I.E.</b>	16.1	16.4	16.8	16.5	17.0	17.0	17.3	-	-	-	18.0	
<b>Women: HLY</b>	-	-	-	-	-	-	-	-	-	-	3.4	
<b>%HLY/I.E.</b>	-	-	-	-	-	-	-	-	-	-	19%	



<b>Estonia</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Men: I.E.</b>	12.0	12.2	12.5	12.2	12.6	12.8	12.7	-	-	-	13.1	
<b>Men: HLY</b>	-	-	-	-	-	-	-	-	-	-	3.4	
<b>%HLY/I.E.</b>	-	-	-	-	-	-	-	-	-	-	26%	

### Key points:

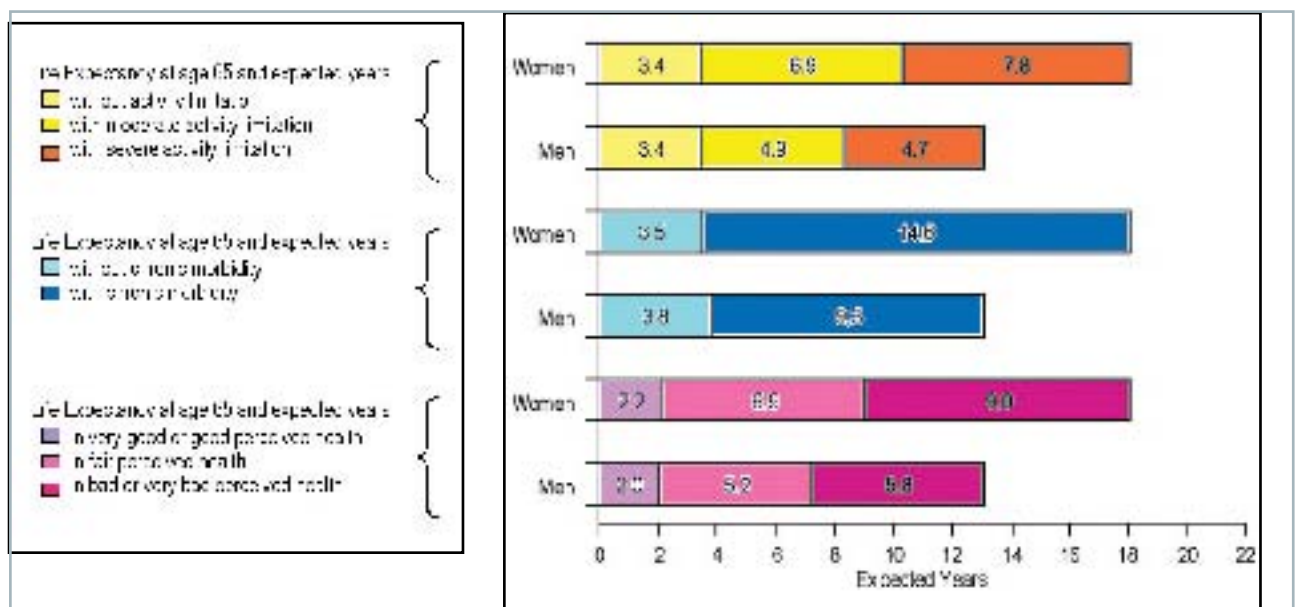
- Estonian life expectancy (LE) at age 65 has increased by 1.9 years for women and 1.1 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was below the EU15 average and by 2005 LE for both sexes remained below the EU25 average.
- Because Estonia joined the European Union in 2004, health expectancy based on activity limitation (HLY) over the 1995-2001 period is not available.

- The new HLY series, initiated in 2005 with the SILC data, shows that women and men at age 65 can expect to spend 19% and 26% of their life without self-reported long-term activity limitations respectively. The HLY values for Estonia are 6.5 and 5.4 years below the EU25 average for women and men respectively. Estonian men and women may be more likely to report health problems than the EU25 as a whole.





Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Estonia (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Estonia was 18.0 years for women and 13.1 years for men.
- Based on the SILC 2005, at age 65, women spent 19% (3.4 years) of their remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 38% (6.9 years) with moderate activity limitation and 43% (7.8 years) with severe activity limitation.\*
- Men of the same age spent 26% (3.4 years) of remaining life without activity limitation compared to 38% (4.9 years) with moderate activity limitation and 36% (4.7 years) with severe activity limitation.\*
- Although the total years lived by men were less than those for women, for all the health expectancies the years of life spent in positive health were similar.
- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Estonia comprised 1097 women and 659 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



Published results and other reports of health expectancies for Estonia

Naised ja mehed / Women and men. Tallinn: Statistics Estonia; 2006.

Robine J-M, Le Roy S, Jagger C, EHEMU team.

Changes in life expectancy in the European Union since 1995: similarities and differences between the 25 EU countries.

In: Institut des Sciences de la Santé, editor. Living longer but healthier lives: how to achieve health gains in the elderly in the European Union Europe Blanche XXVI, Budapest, 25-26 November 2005. Paris: ISS; 2006. p. 9-48.



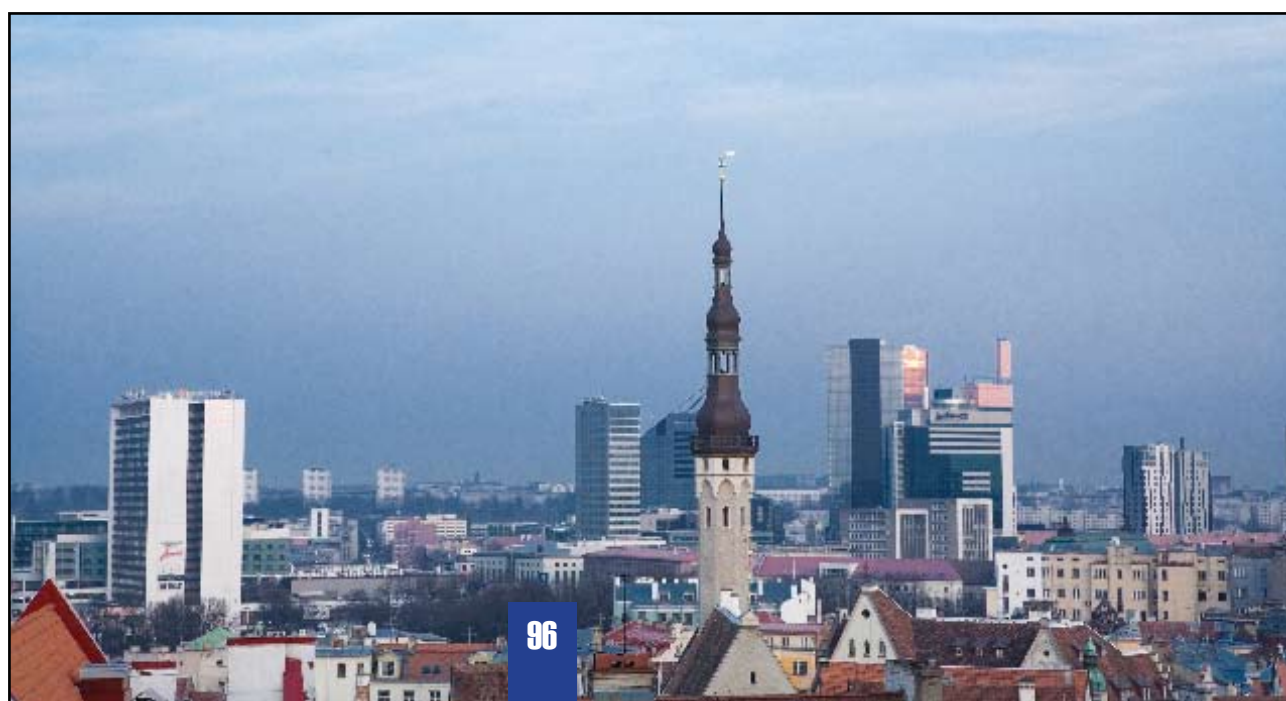
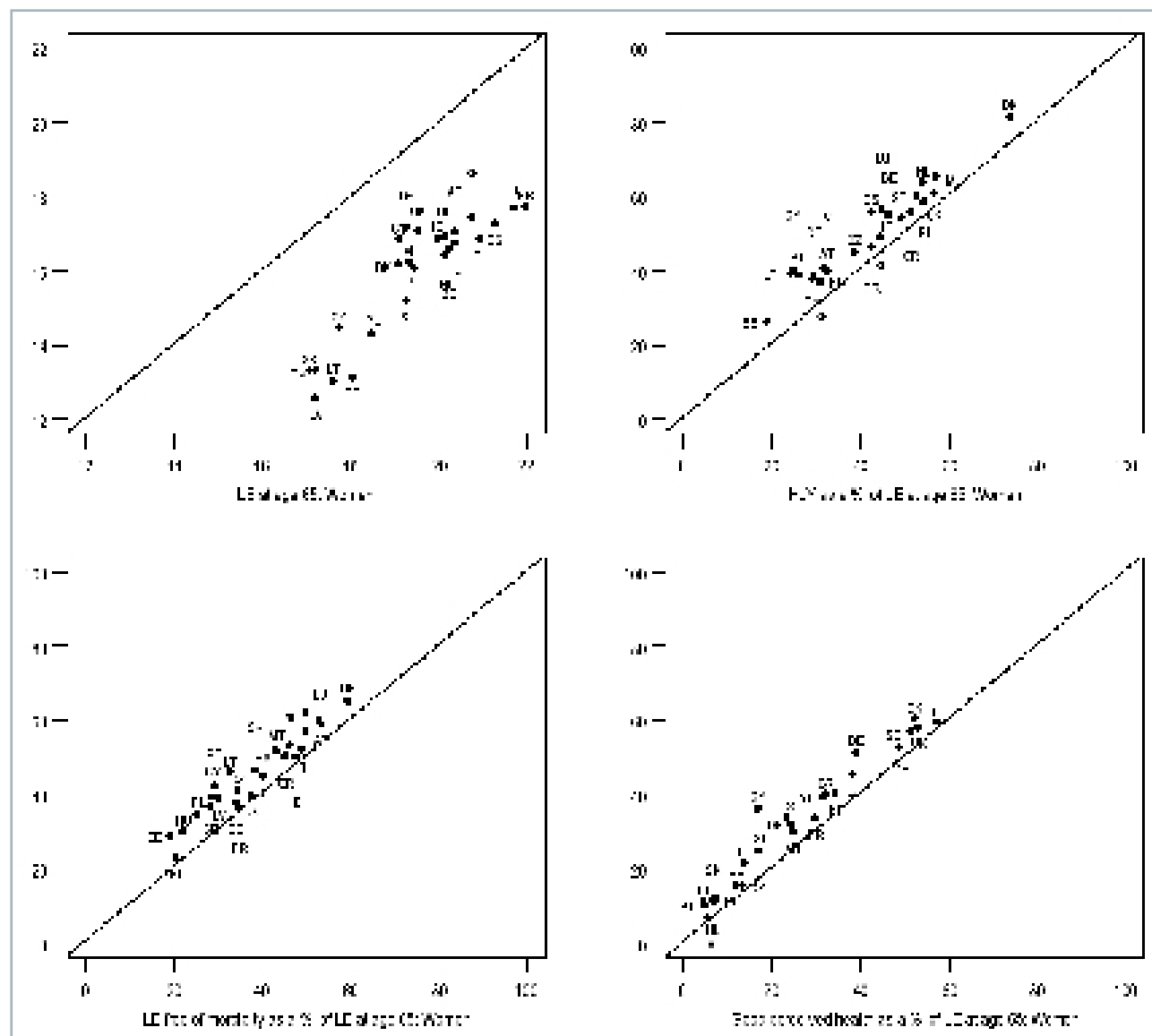


## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

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Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)





## EHEMU Country Reports June 2008

### HEALTH EXPECTANCY IN FINLAND





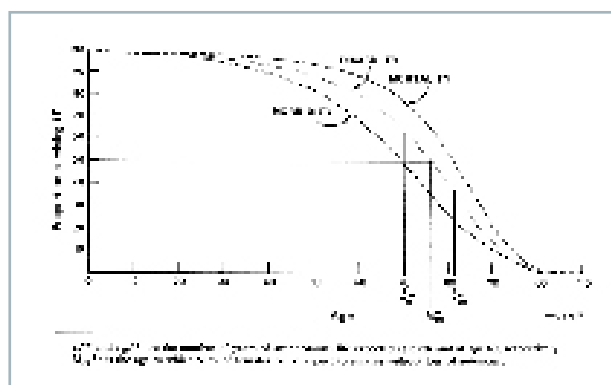
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## References

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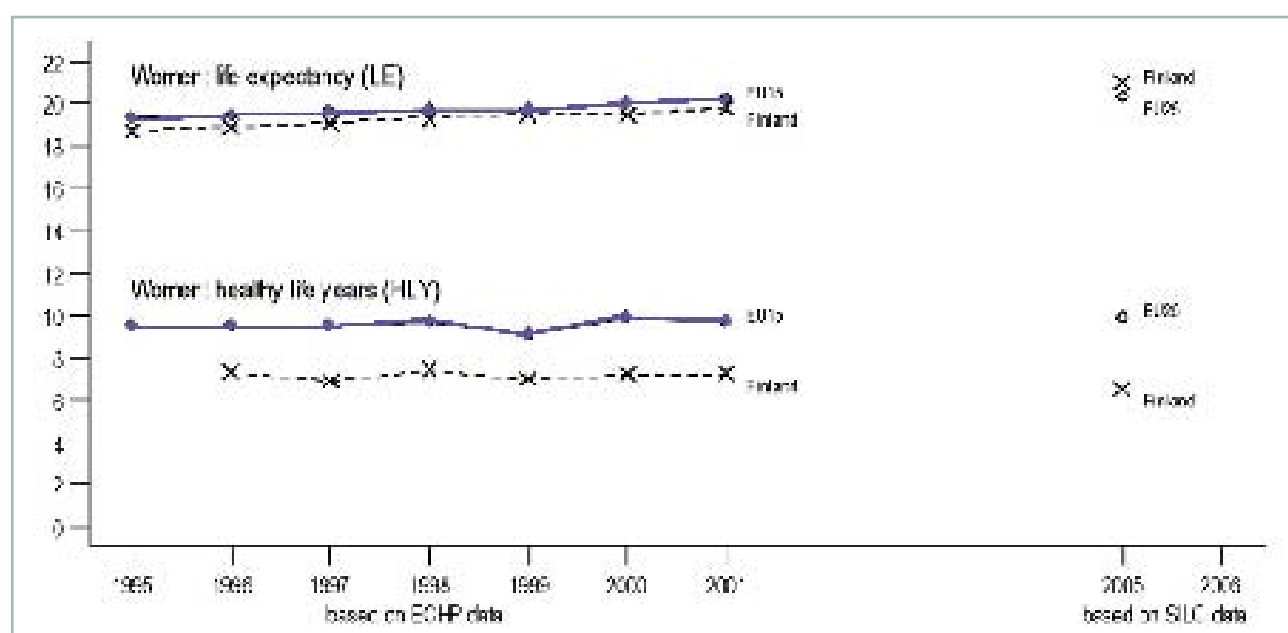
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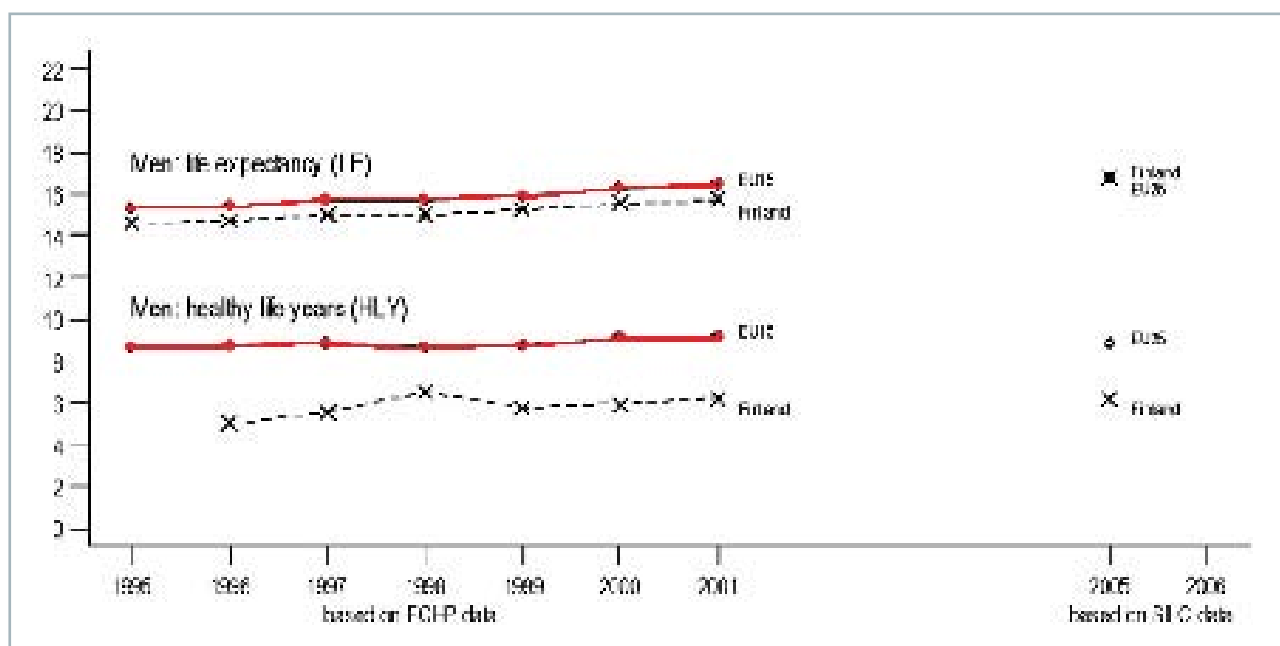
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## Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Finland and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



<b>Finland</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Women: I.E.</b>	18.7	18.9	19.1	19.3	19.5	19.5	19.8	-	-	-	21.0	
<b>Women: HLY</b>	-	7.3	6.9	7.4	7.0	7.2	7.2	-	-	-	6.5	
<b>%HLY/I.E.</b>	-	39%	36%	38%	36%	37%	36%	-	-	-	31%	



<b>Finland</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Men: I.E.</b>	14.6	14.7	15.0	15.0	15.2	15.5	15.7	-	-	-	16.8	
<b>Men: HLY</b>	-	5.0	5.5	6.5	5.7	5.9	6.2	-	-	-	6.2	
<b>%HLY/I.E.</b>	-	34%	37%	43%	38%	38%	40%	-	-	-	37%	

### Key points:

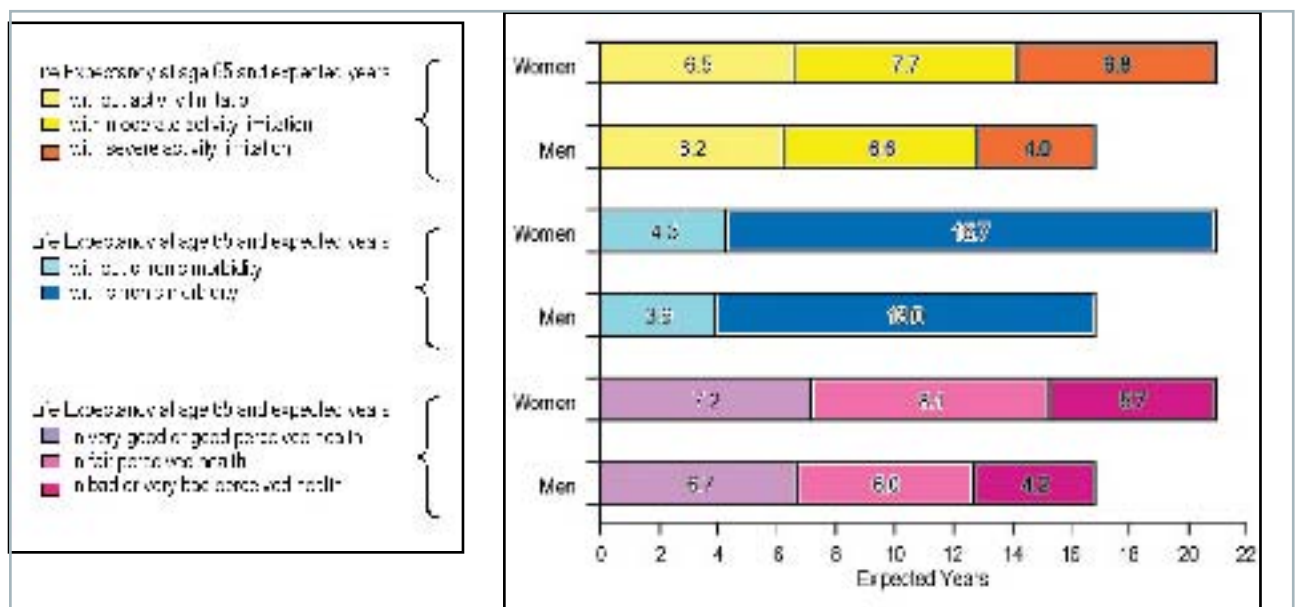
- Finnish life expectancy (LE) at age 65 has increased by 2.3 years for women and 2.2 years for men over the 1995-2005 period: it was below the EU15 average in 2001 but was above the EU25 average by 2005.
- Over the 1996-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data remained stable for women and increased for men. Therefore the proportion of HLY (or years without self-reported limitations due to health condition or disability), within the total expected years, slightly decreased for women and increased for men, being close to 36% for women and 40% for men in 2001. Between 1996 and 2001

HLY in Finland was below the EU15 average.

- The new HLY series, initiated in 2005 with the SILC data, shows a lower value for women in Finland compared to previously and below the EU average, being 3.4 years and 2.6 years below the EU25 average (and below the EU15 average) for women and men respectively. Women and men at age 65 can expect to spend 31% and 37% of their life without self-reported long-term activity limitations respectively. Compared to earlier trends, the SILC question may result in people reporting limitations of different severity than previously and Finnish women and men may be more likely to report less severe problems than before and today more likely than the EU25 as a whole.



Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Finland (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Finland was 21.0 years for women and 16.8 years for men.
- Based on the SILC 2005, at age 65, women spent 31% (6.5 years) of their remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 37% (7.7 years) with moderate activity limitation and 32% (6.8 years) with severe activity limitation.\*
- Men of the same age spent 37% (6.2 years) of remaining life without activity limitation compared to 39% (6.6 years) with moderate activity limitation and 24% (4.0 years) with severe activity limitation.\*

- Although for all the health expectancies the years of life spent in positive health were slightly greater for women than men, women spent a much larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Finland comprised 996 women and 770 men aged 65+ years.

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#### Published results and other reports of health expectancies for Finland

Lievre A, Jusot F, Barnay T, Sermet C, Brouard N, Robine J-M, et al. Healthy working life expectancies at age 50 in Europe: a new indicator. *J Nutr Health Aging*. 2007;11(6):508-514.

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Nurminen MM, Heathcote CR, Davis BA, Puza BD. Working life expectancies: the case of Finland. *J R Stat Soc A*. 2005;168(3):567-581.

Minicuci N, Noale M, Pluijm SMF, Zunzunegui MV, Blumstein T, Deeg DJH, et al. Disability-free life expectancy: a cross-national comparison of six longitudinal studies on aging. The CLESA project. *Eur J Ageing*. 2004;1(1):37-44.

Martikainen P, Valkonen T, Martelin T. Change in male and female life expectancy by social class: decomposition by age and cause of death in Finland 1971-1995. *J Epidemiol Commun Health*. 2001;55:494-499.

Patja K, Livavainen M, Vesala H, Oksanen H, Ruoppila I. Life expectancy of people with intellectual disability: a 35-year follow up study. *J Intellect Disab Res*. 2000;44(5):591-599.





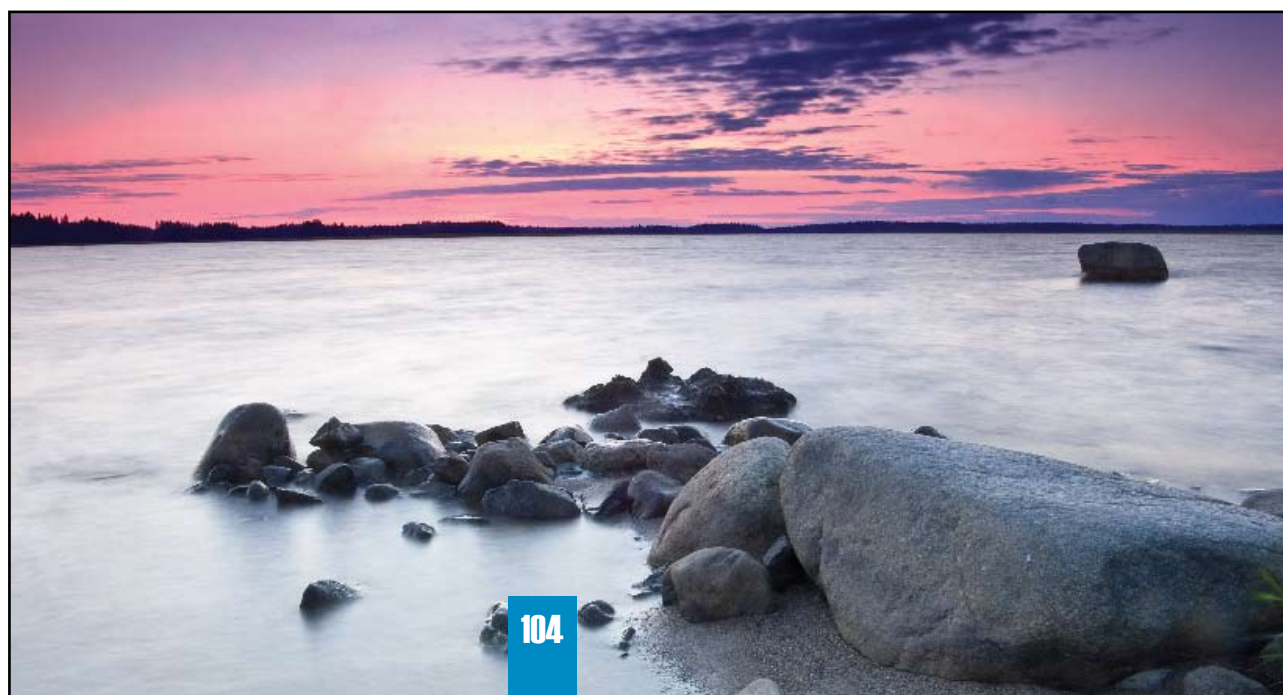
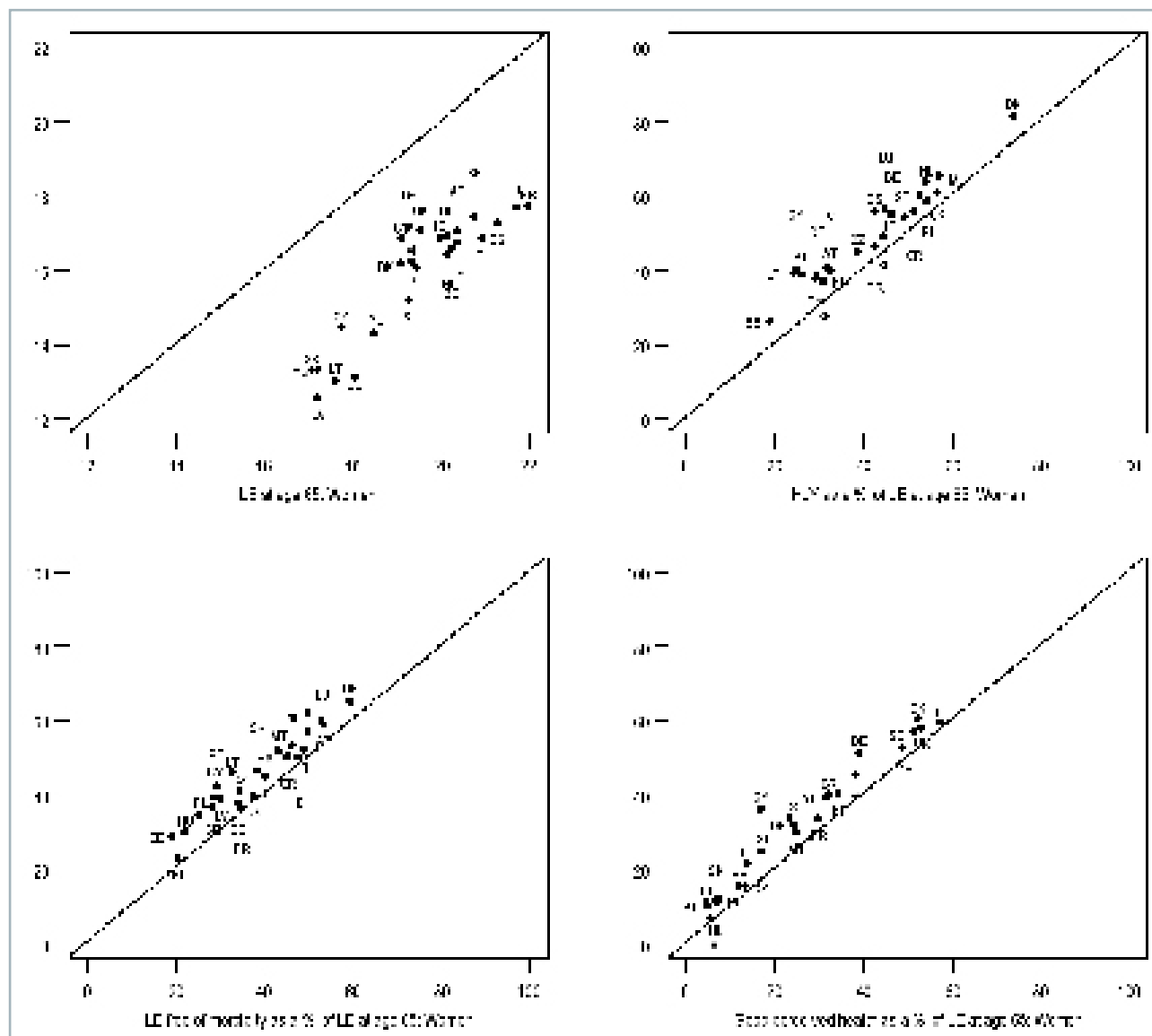
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# EHEMU Country Reports June 2008

## HEALTH EXPECTANCY IN FRANCE





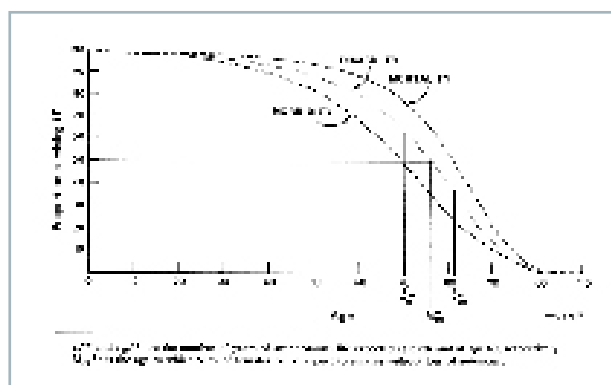
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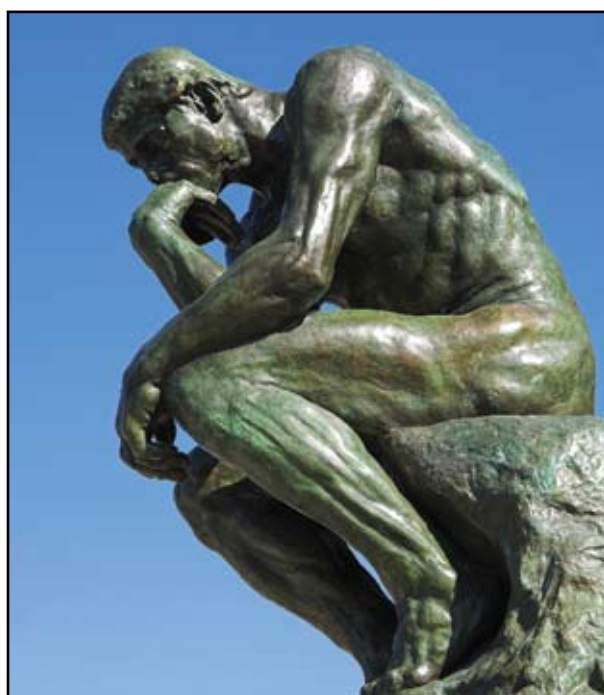
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## References

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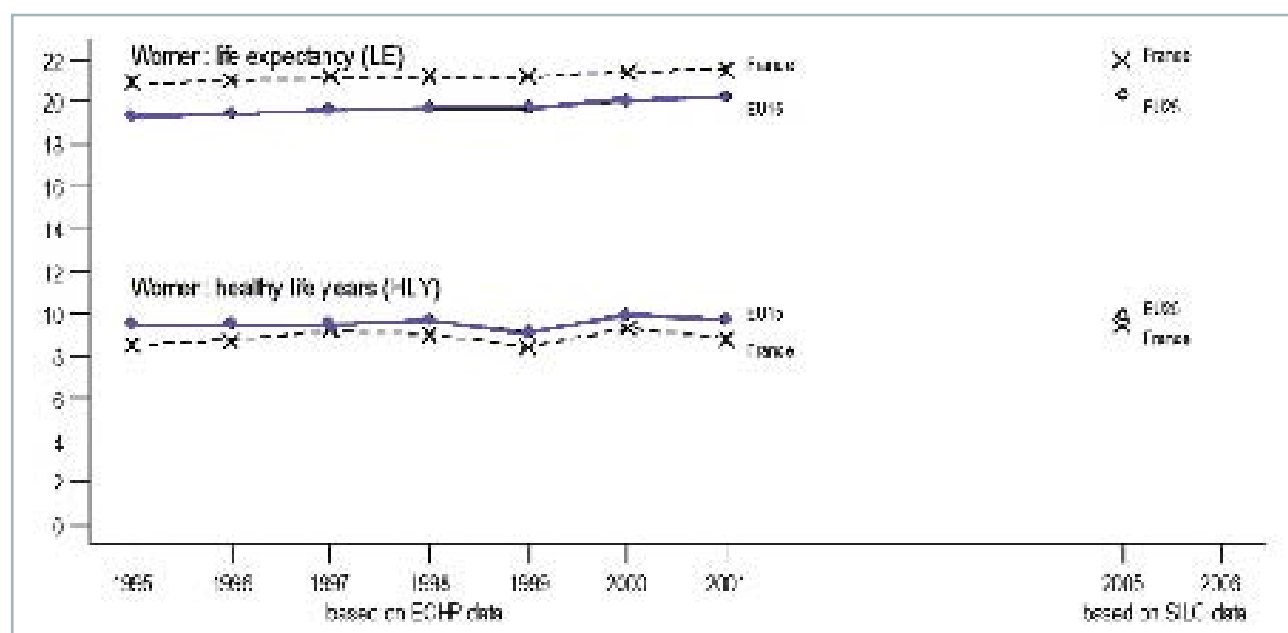
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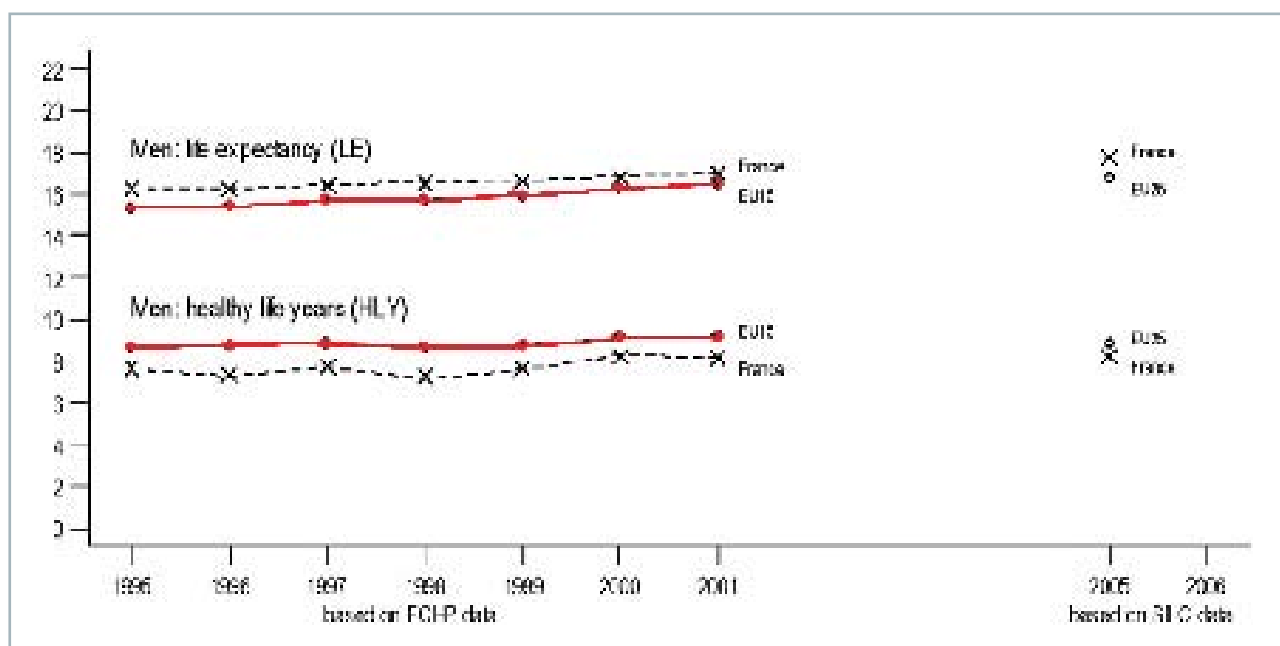
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## Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for France and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



France	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Women: I.E.	20.9	21.0	21.2	21.2	21.3	21.4	21.5	-	-	-	22.0	
Women: HLY	8.5	8.7	9.2	9.0	8.4	9.3	8.8	-	-	-	9.4	
%HLY/I.E.	41%	42%	44%	43%	40%	44%	41%	-	-	-	43%	



France	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Men: I.E.	16.2	16.2	16.4	16.5	16.6	16.8	17.0	-	-	-	17.7	
Men: HLY	7.6	7.3	7.7	7.2	7.6	8.2	8.1	-	-	-	8.2	
%HLY/I.E.	47%	45%	47%	44%	46%	49%	48%	-	-	-	47%	

## Key points:

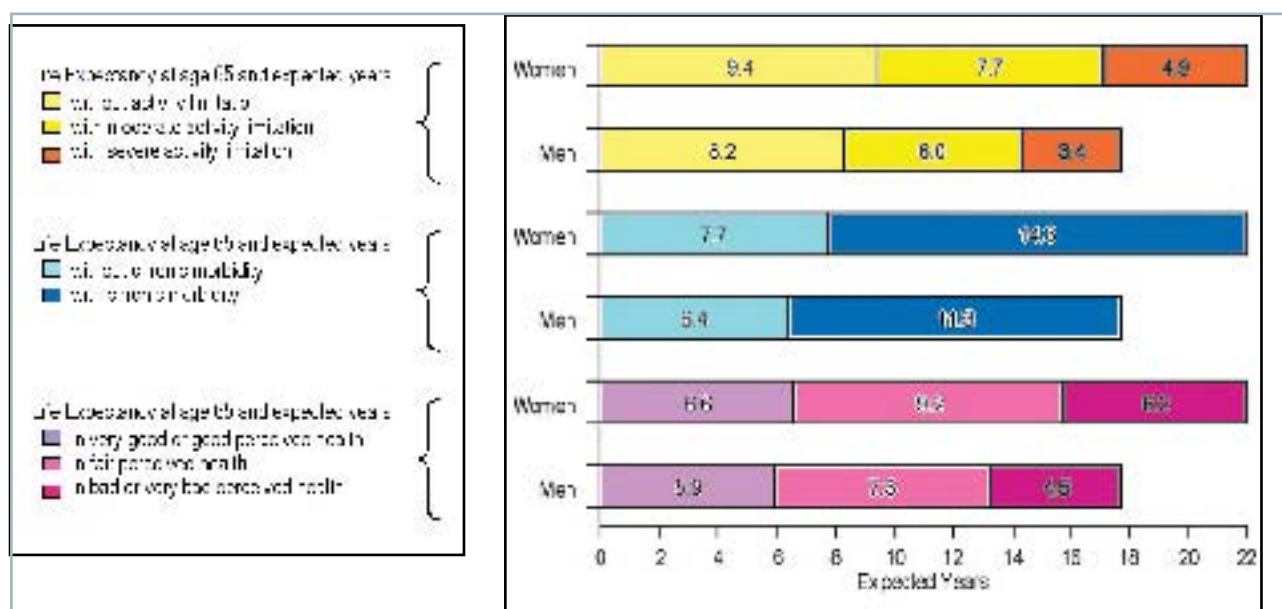
- French life expectancy (LE) at age 65 has increased by 1.1 years for women and 1.5 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was above the EU15 average and by 2005 LE for both sexes was above the EU25 average.
- Over the 1995-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data slightly increased. The proportion of HLY (or years without self-reported limitations due to health condition or disability), within the total expected years, remained almost stable for both sexes at around 41% of remaining

life for women and 48% for men. Between 1995 and 2001 HLY in France was below the EU15 average.

- The new HLY series, initiated in 2005 with the SILC data continues the earlier stable trend for France and is within 0.5 years of the EU25 average (and similar to the EU15 average). Women and men at age 65 can expect to spend 43% and 47% of their life without self-reported long-term activity limitations respectively. Compared to earlier trends, the SILC question may result in people reporting limitations of different severity than previously but French women and men appear to be reporting similarly to previously and to the EU25 as a whole.



Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for France (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in France was 22 years for women and 17.7 years for men.
- Based on the SILC 2005, at age 65, women spent 43% (9.4 years) of their remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 35% (7.7 years) with moderate activity limitation and 22% (4.9 years) with severe activity limitation.\*
- Men of the same age spent 47% (8.2 years) of their remaining life without activity limitation compared to 34% (6 years) with moderate activity limitation and 19% (3.4 years) with severe activity limitation.\*

- Although for all the health expectancies the years of life spent in positive health were greater for women than men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for France comprised 1920 women and 1522 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



#### Published results and other reports of health expectancies for France

Lievre A, Jusot F, Barnay T, Sermet C, Brouard N, Robine J-M, et al. Healthy working life expectancies at age 50 in Europe: a new indicator. *J Nutr Health Aging*. 2007;11(6):508-514.

Cambois E, Clavel A, Robine J-M. L'espérance de vie sans incapacité continue d'augmenter. *Solidarité Santé*. 2006(2): 7-21.

Pérès K, Jagger C, Lièvre A, Barberger-Gateau P. Disability-free life expectancy of older French people: gender and education differentials from the PAQUID cohort. *European Journal of Ageing* 2005;2(3):225-233.

Cambois E, Robine J-M, Hayward MD. Social inequalities in disability-free life expectancy in the French male population, 1980-1991. *Demography*. 2001;38(4):513-524.

Cambois E, Robine J-M. Apport des indicateurs d'espérance de vie sans incapacité à l'étude des inégalités sociales de santé. *Sante Publique*. 2001;13(2):137-149.





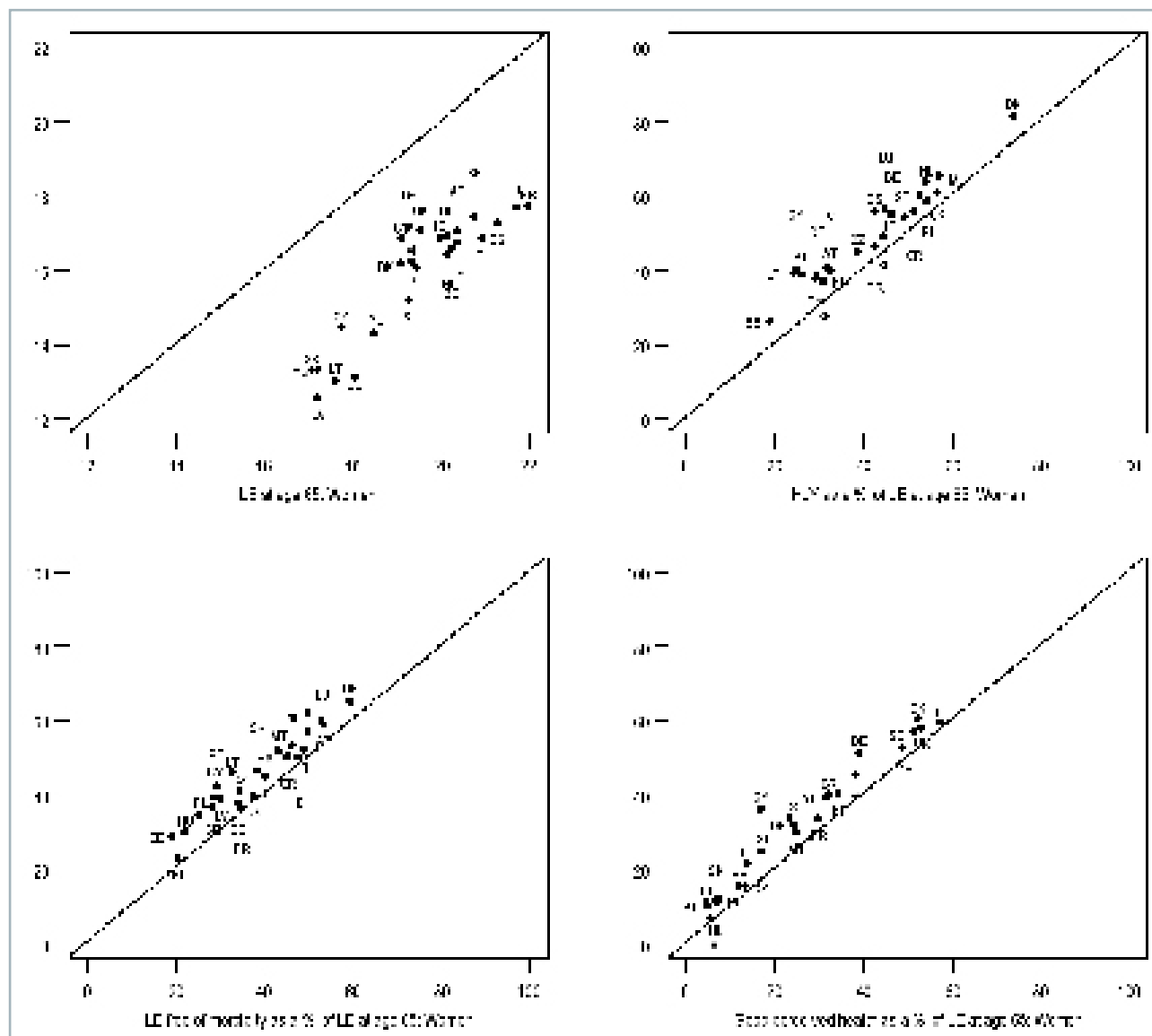
## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.



Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)





# EHEMU Country Reports

## June 2008

### HEALTH EXPECTANCY IN GERMANY





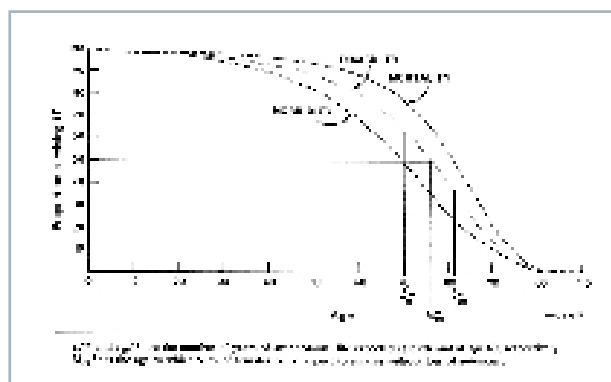
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

## How do we compare health expectancies?

Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe (Robine et al., 2003).

Health expectancies are most often calculated by the Sullivan method (Sullivan, 1971). However to make valid comparisons, the underlying health measure should be truly comparable.

To address this, the European Union has decided to include a small set of health expectancies among its European Community Health Indicators (ECHI) to provide synthetic measures of disability, chronic morbidity and perceived health. Therefore the Minimum European Health Module (MEHM), composed of 3 general questions covering these dimensions, has been introduced into the Statistics on Income and Living Conditions (SILC) to improve the comparability of health expectancies between countries. In addition life expectancy without long term activity limitation, based on the disability question, was selected in 2004 to be one of the structural indicators for assessing the EU strategic goals (Lisbon strategy) under the name of "Healthy Life Years" (HLY).

Further details on the MEHM, the European surveys and health expectancy calculation and interpretation can be found on [www.ehemu.eu](http://www.ehemu.eu).



## What is in this report?

This report is produced by the European Health Expectancy Monitoring Unit (EHEMU) as part of a country series. In each report we present:

- health expectancies based on activity limitation (HLY) for the country of interest and for the overall 25 European Union member states (EU25), using the SILC 2005 question on long term activity limitation. As the SILC has been only recently initiated, to document trends we provide previous HLY series based on the disability question of the 1995-2001 European Community Household Panel (ECHP)
- health expectancies based on the two additional dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2005
- a global analysis of health expectancies of European countries, based on the SILC 2005



## References

Robine JM, Jagger C, Mathers CD, Crimmins EM, Suzman RM, Eds.

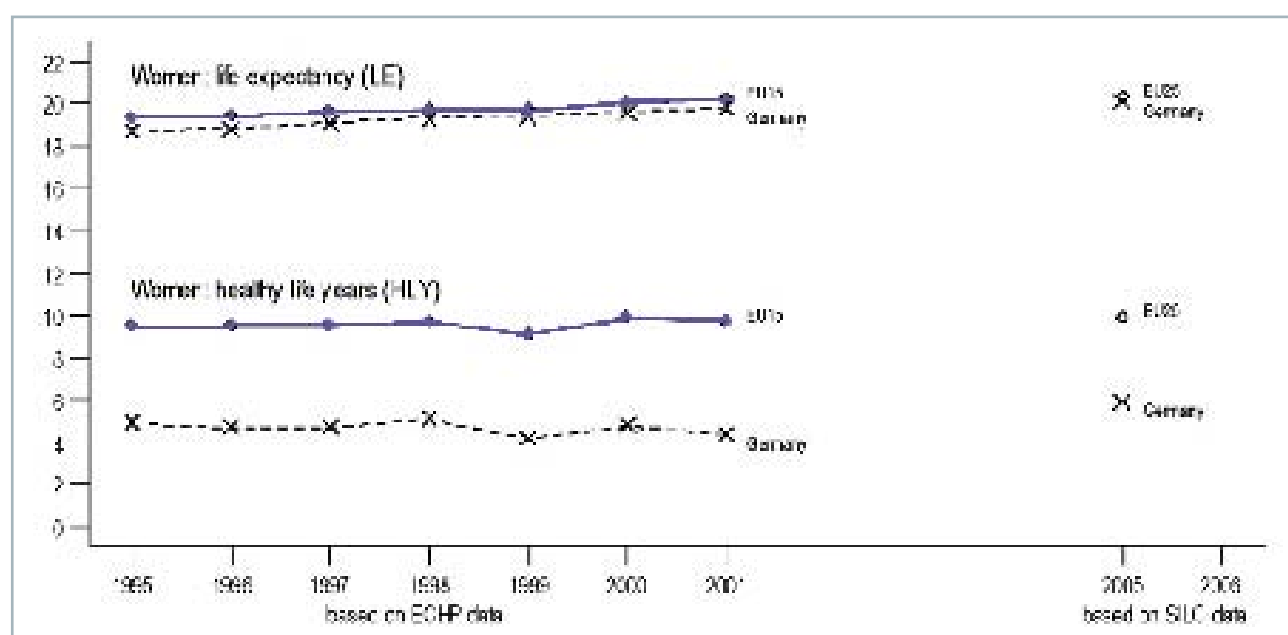
Determining health expectancies. Chichester UK: Wiley, 2003.

World Health Organization.

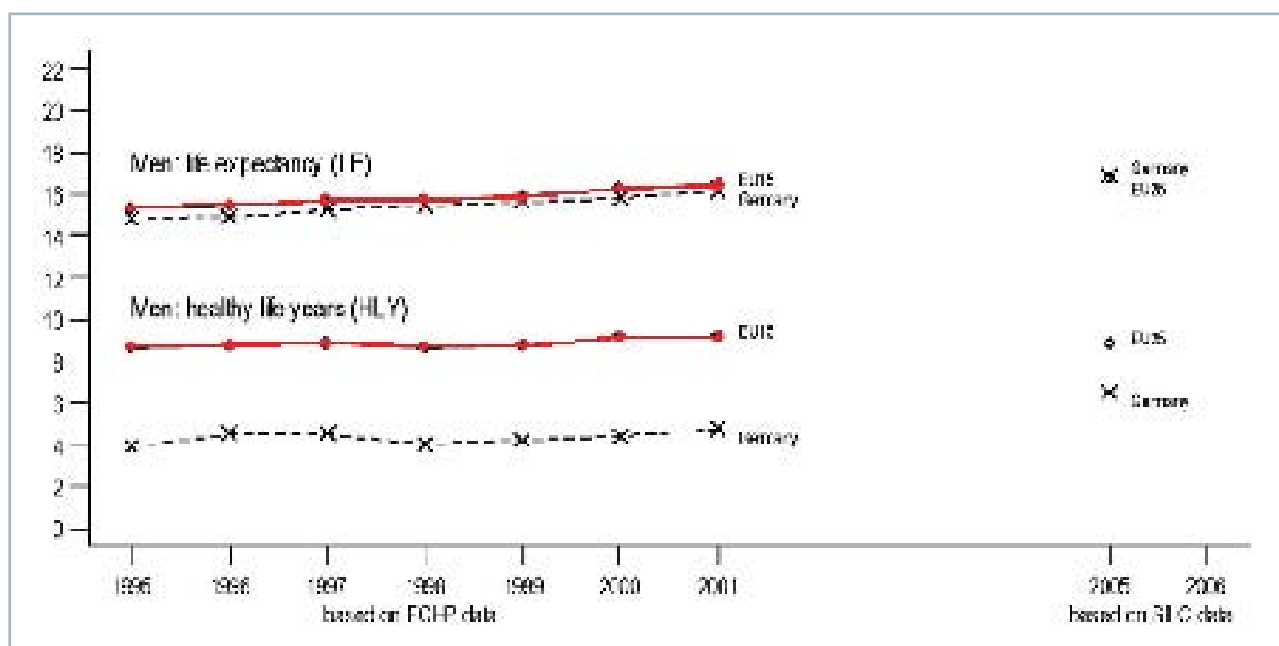
The uses of epidemiology in the study of the elderly: Report of a WHO Scientific Group on the Epidemiology of Aging. Geneva: WHO, 1984 (Technical Report Series 706).

Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Germany and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



<b>Germany</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Women: I.E.</b>	18.7	18.8	19.1	19.3	19.4	19.6	19.8	-	-	-	20.1	
<b>Women: HLY</b>	4.9	4.7	4.7	5.1	4.2	4.8	4.4	-	-	-	5.9	
<b>%HLY/I.E.</b>	27%	25%	25%	27%	22%	24%	22%	-	-	-	29%	



<b>Germany</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Men: I.E.</b>	14.8	14.9	15.2	15.4	15.6	15.8	16.1	-	-	-	16.9	
<b>Men: HLY</b>	3.9	4.1	4.5	4.0	4.2	4.1	4.7	-	-	-	6.5	
<b>%HLY/I.E.</b>	27%	30%	30%	26%	27%	28%	29%	-	-	-	38%	

### Key points:

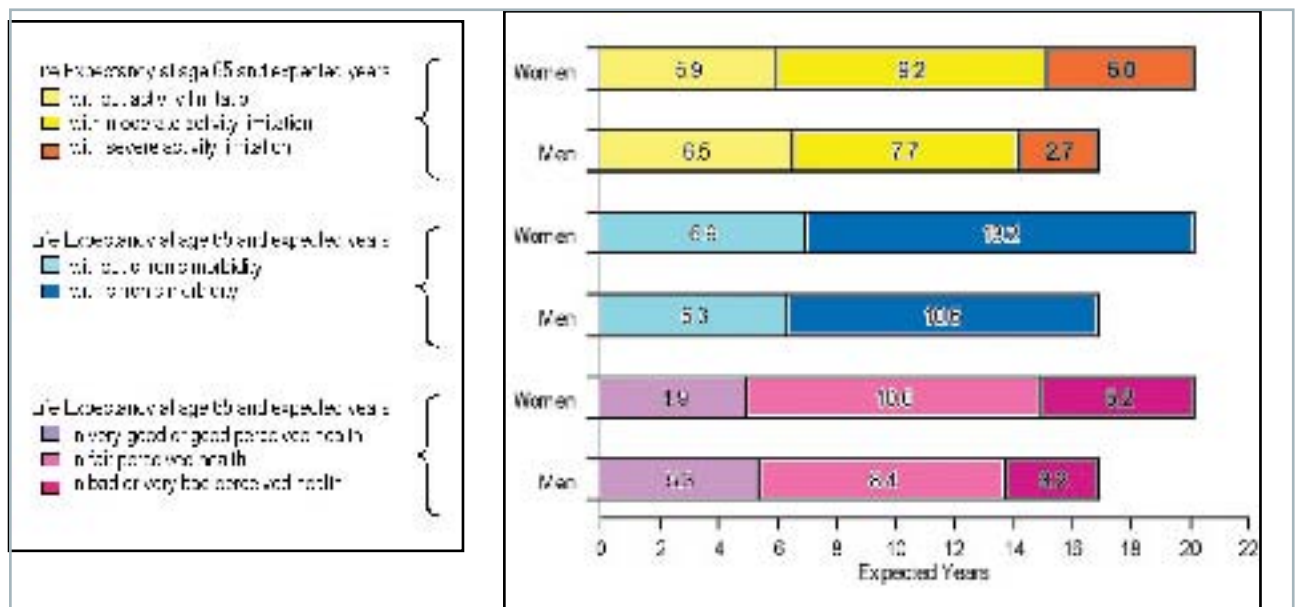
- German life expectancy (LE) at age 65 has increased by 1.4 years for women and 2.1 years for men over the 1995-2005 period: it had almost reached the EU15 average by 2001 and was close to the EU25 average by 2005.
- Over the 1995-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data decreased slightly for women and increased slightly for men. The proportion of HLY (or years without self-reported limitations due to health condition or disability), within the total expected years, decreased for women and remained almost stable for men, being close to 22% for women and 29% for men in 2001. Between 1995 and 2001 HLY in Germany was below the EU15 average.

- The new HLY series, initiated in 2005 with the SILC data, shows a higher value for Germany than previously but remaining below the EU average, being 4 years and 2.3 years below the EU25 average (and below the EU15 average) for women and men respectively. Women and men at age 65 can expect to spend 29% and 38% of their life without self-reported long-term activity limitations respectively. Compared to earlier trends, the SILC question may result in people reporting limitations of different severity than previously and German women and men may be less likely to report minor problems than previously but more likely than the EU25 as a whole.

These results should be interpreted cautiously because the German data used between 1995 and 2001 came from a national survey: The German Socio-Economic Panel (GSOEP) and not from the European survey (ECHP).



Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Germany (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Germany was 20.1 years for women and 16.9 years for men.
- Based on the SILC 2005, at age 65, women spent 29% (5.9 years) of their remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 46% (9.2 years) with moderate activity limitation and 25% (5.0 years) with severe activity limitation.\*
- Men of the same age spent 38% (6.5 years) of remaining life without activity limitation compared to 46% (7.7 years) with moderate activity limitation and 16% (2.7 years) with severe activity limitation.\*
- Although total years lived by men were less than those for women, for all the health expectancies the years of life spent in positive health were similar.
- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Germany comprised 2612 women and 2272 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



#### Published results and other reports of health expectancies for Germany

Lievre A, Jusot F, Barnay T, Sermet C, Brouard N, Robine J-M, et al. Healthy working life expectancies at age 50 in Europe: a new indicator. *J Nutr Health Aging*. 2007;11(6):508-514.

Unger R. Trends in active life expectancy in Germany between 1984 and 2003 - A cohort analysis with different health indicators. *Journal of Public Health*. 2006;14(3):155-163.

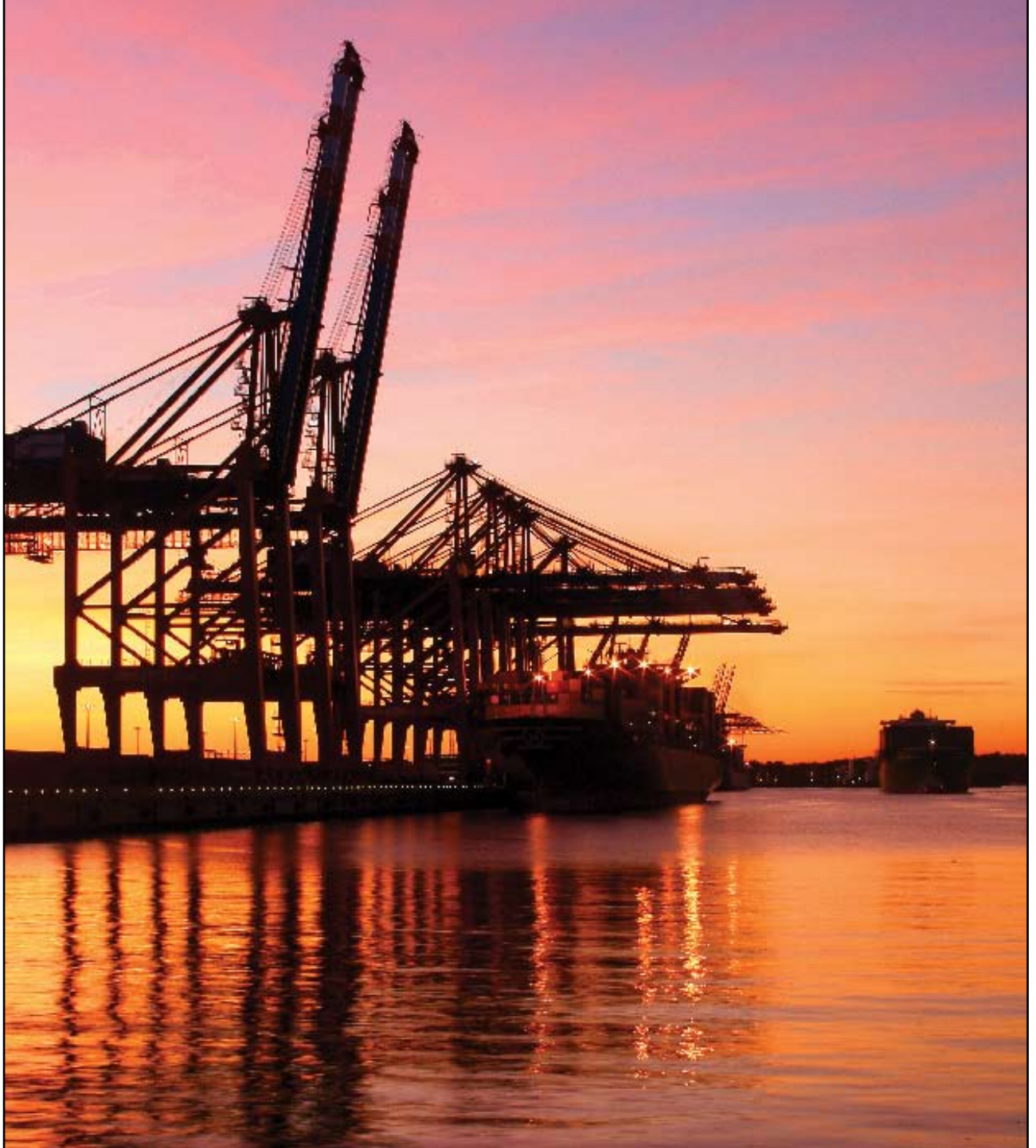
Lange C, Thelen J, Wirz J. Lebenserwartung bei Gesundheit / [Healthy Life Expectancy].  
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Wiesner G, Bittner EK. Lebenserwartung, vorzeitig verlorene Lebensjahre und vermeidbare Sterblichkeit im Ost-West-Vergleich / [Life expectancy, potential years of life lost (PYLL), and avoidable mortality in an East/West comparison]. *Bundesgesundheitsblatt, Gesundheitsforschung, Gesundheitsschutz*. 2004;47(3):266-278.

Klein T, Unger R. Aktive Lebenserwartung in Deutschland und in den USA. Kohortenbezogene Analysen auf Basis des Sozio-ökonomischen Panel [Active life expectancy in Germany and in the United States. A cohort analysis based on the «German Socio-Economic Panel» (GSOEP) and the «Panel Study of Income Dynamics» (PSID)]. *Z Gerontol Geriat*. 2002;35(6):528-539.





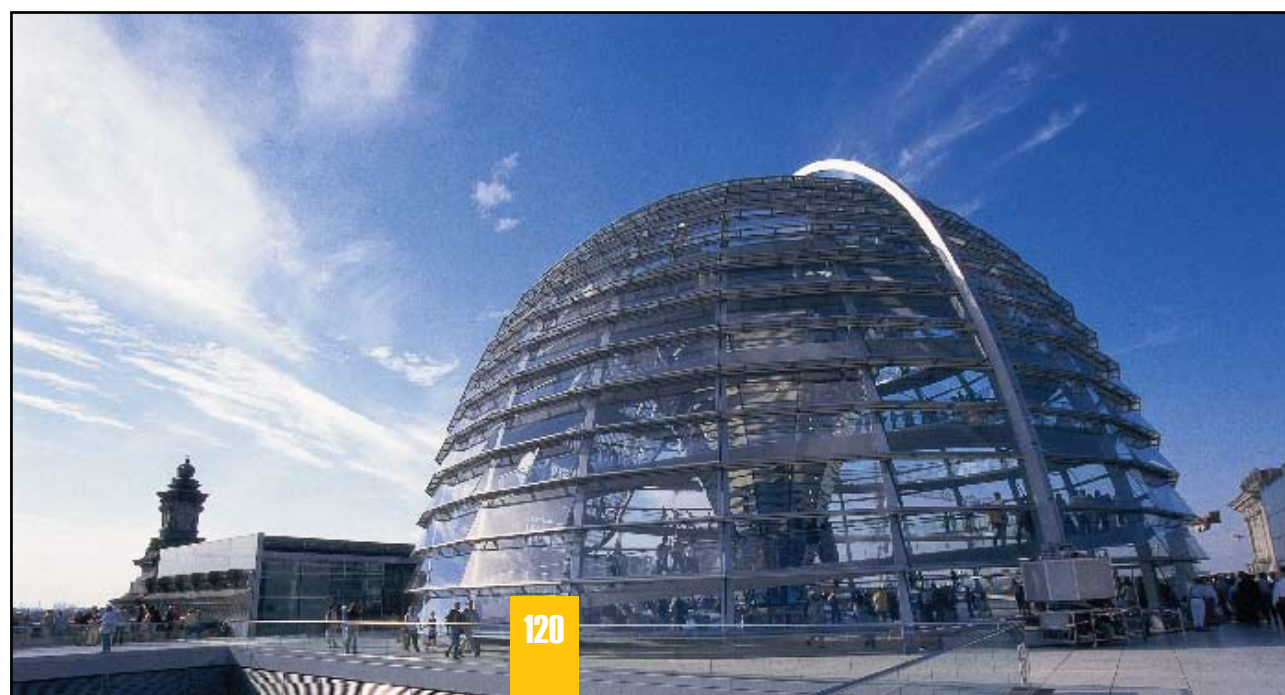
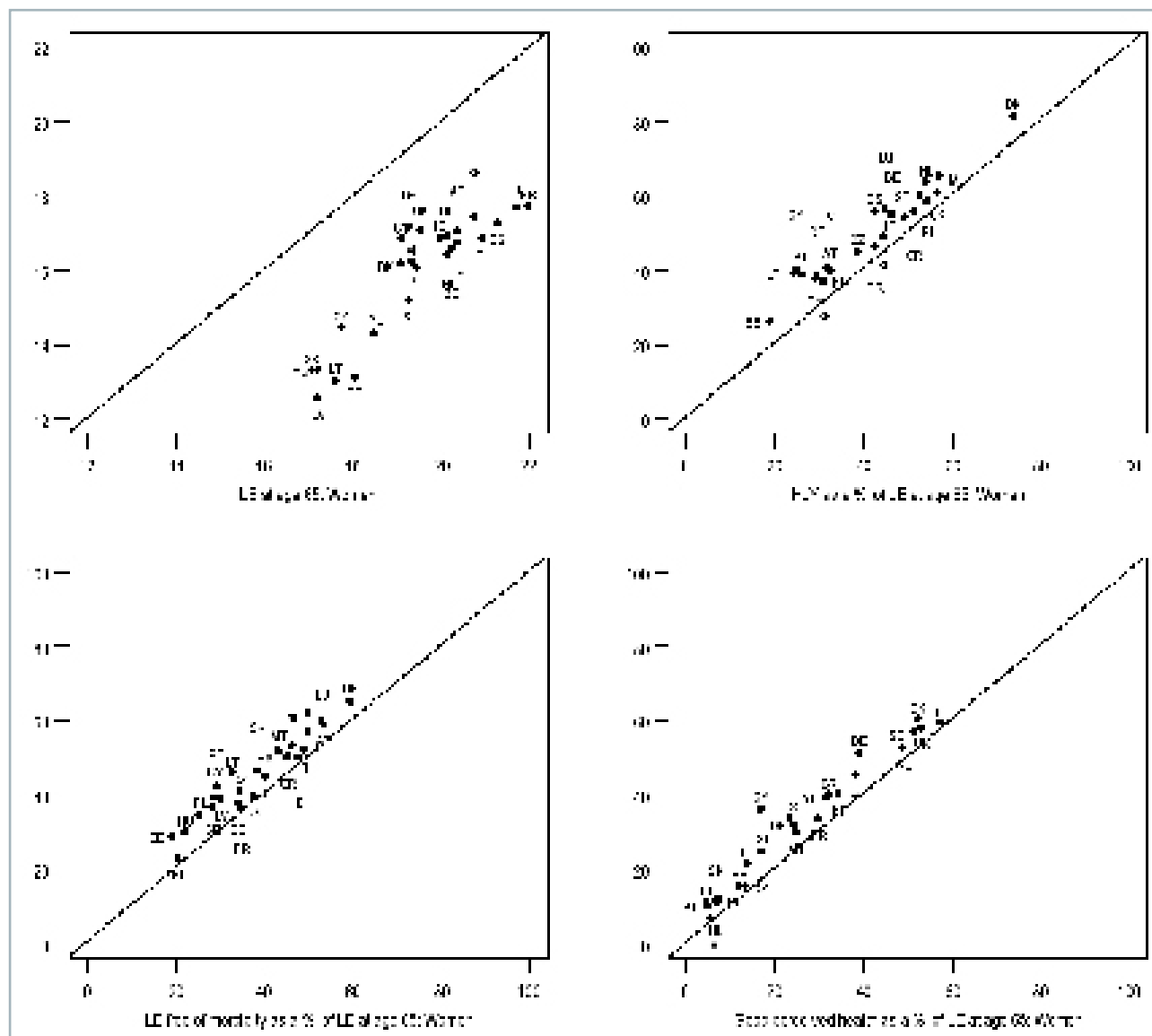
### European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.



Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)





## EHEMU Country Reports June 2008

### HEALTH EXPECTANCY IN GREECE





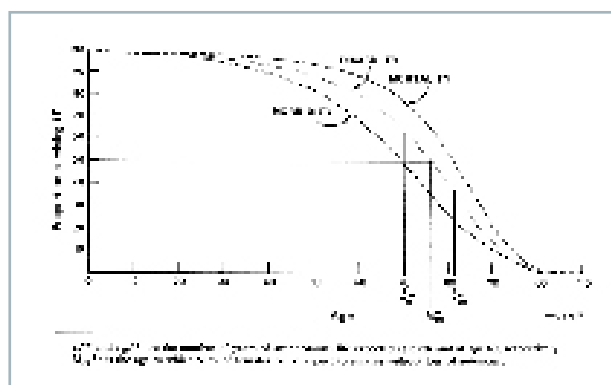
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

**The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.**



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

## How do we compare health expectancies?

Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe (Robine et al., 2003).

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Further details on the MEHM, the European surveys and health expectancy calculation and interpretation can be found on [www.ehemu.eu](http://www.ehemu.eu).



## What is in this report?

This report is produced by the European Health Expectancy Monitoring Unit (EHEMU) as part of a country series. In each report we present:

- health expectancies based on activity limitation (HLY) for the country of interest and for the overall 25 European Union member states (EU25), using the SILC 2005 question on long term activity limitation. As the SILC has been only recently initiated, to document trends we provide previous HLY series based on the disability question of the 1995-2001 European Community Household Panel (ECHP)
- health expectancies based on the two additional dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2005
- a global analysis of health expectancies of European countries, based on the SILC 2005



## References

Robine JM, Jagger C, Mathers CD, Crimmins EM, Suzman RM, Eds.

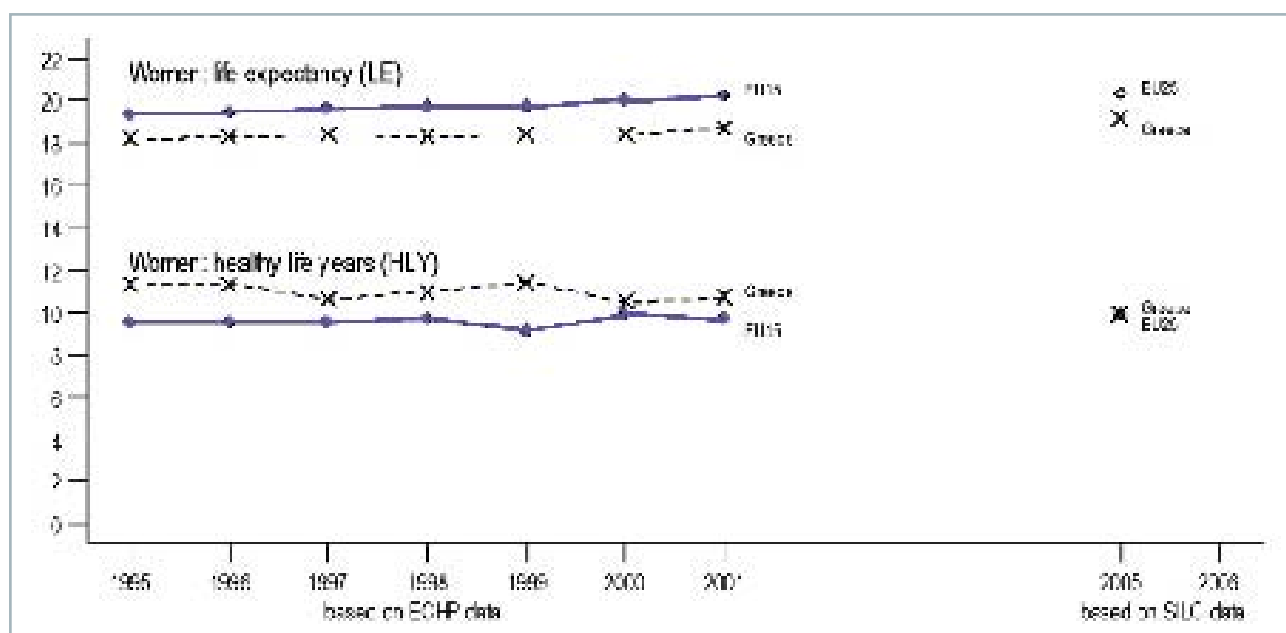
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World Health Organization.

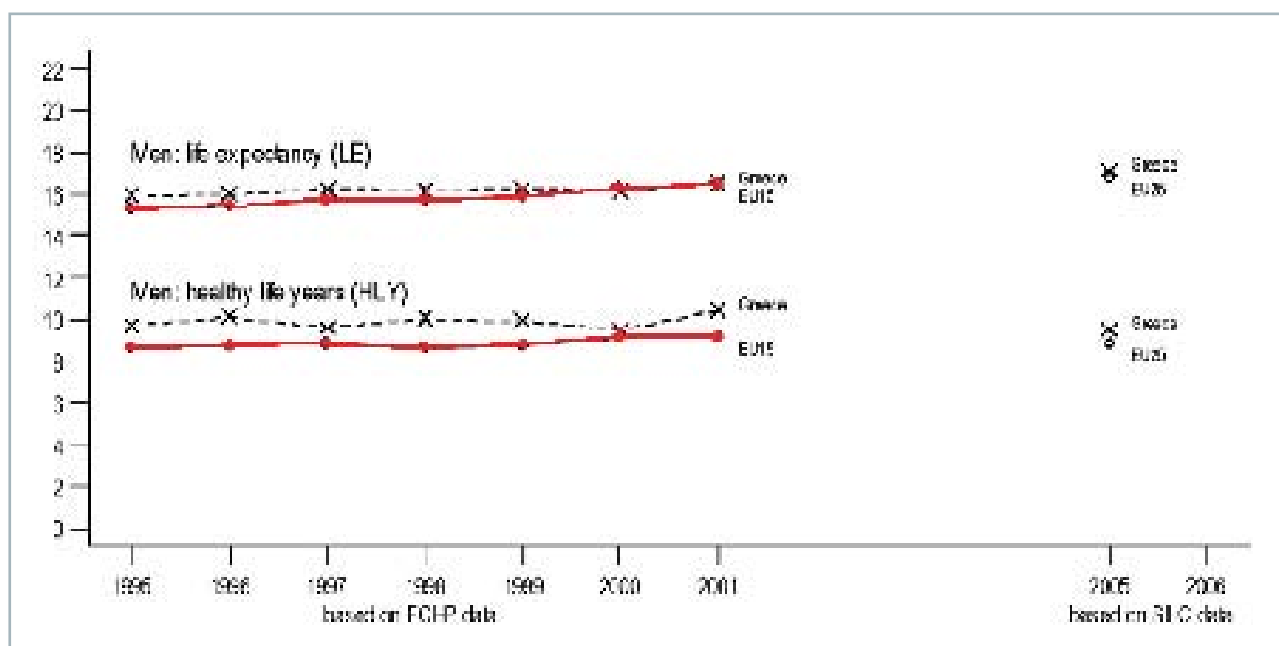
The uses of epidemiology in the study of the elderly: Report of a WHO Scientific Group on the Epidemiology of Aging. Geneva: WHO, 1984 (Technical Report Series 706).

Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

## Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Greece and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



<b>Greece</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Women: I.E.</b>	18.2	18.3	18.4	18.3	18.4	18.4	18.7	-	-	-	19.2	
<b>Women: HLY</b>	11.3	11.3	10.6	10.9	11.4	10.5	10.7	-	-	-	9.9	
<b>%HLY/I.E.</b>	62%	62%	58%	60%	62%	57%	57%	-	-	-	52%	



<b>Greece</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Men: I.E.</b>	15.9	16.0	16.2	16.1	16.2	16.1	16.5	-	-	-	17.1	
<b>Men: HLY</b>	9.7	10.1	9.6	10.0	9.9	9.5	10.1	-	-	-	9.5	
<b>%HLY/I.E.</b>	61%	64%	60%	62%	61%	59%	63%	-	-	-	55%	

### Key points:

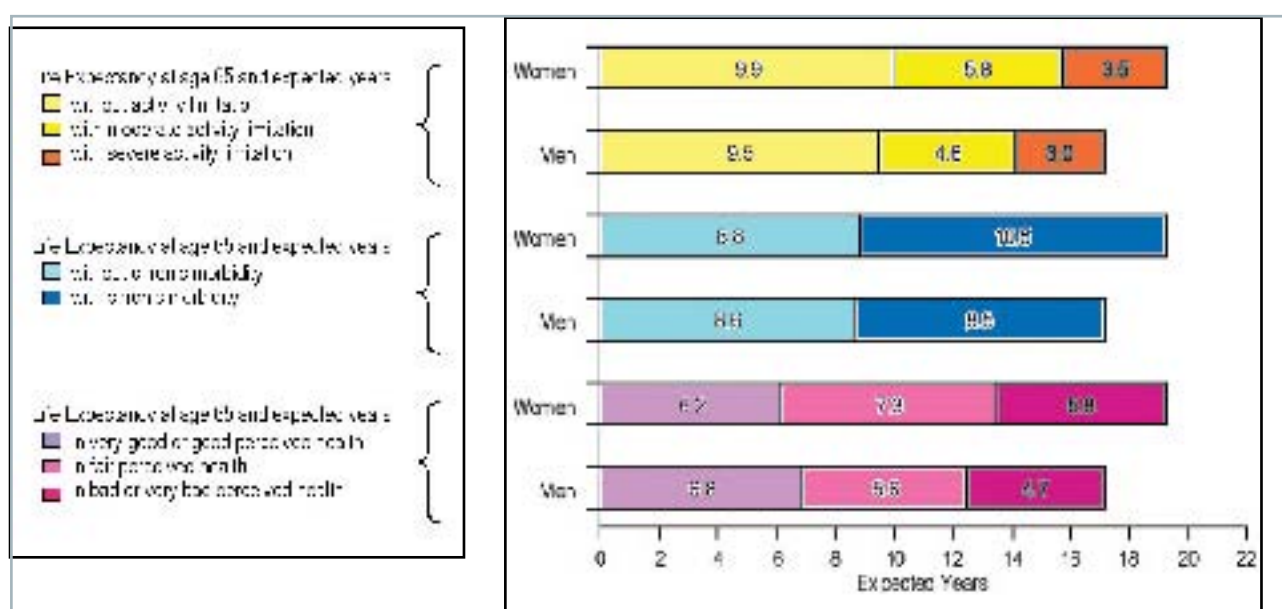
- Greek life expectancy (LE) at age 65 has increased by 1 year for women and 1.2 years for men over the 1995-2005 period: LE for men between 1995-2001 reached the EU15 average while LE for women was lower. By 2005, LE for women was below the EU25 average but it was above for men.
- Over the 1995-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data decreased for women and slightly increased for men. The proportion of HLY (or years without self-reported limitations due to health condition or disability), within the total expected years, decreased for women and remained

almost stable for men, being close to 57% for women and 63% for men in 2001. Between 1995 and 2001 HLY in Greece was above the EU15 average.

- The new HLY series, initiated in 2005 with the SILC data, shows a lower value for Greece than previously but higher than the EU average, being almost 1 year higher than the EU25 average for men and equal to the EU25 average for women. Women and men at age 65 can expect to spend 52% and 56% of their life without self-reported long-term activity limitations respectively. Compared to earlier trends, the SILC question may result in people reporting limitations of different severity than previously and Greek women and men may be reporting less severe problems than previously but still less than the EU25 average.



Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Greece (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Greece was 19.2 years for women and 17.1 years for men.
- Based on the SILC 2005, at age 65, women spent 52% (9.9 years) of their remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 30% (5.8 years) with moderate activity limitation and 19% (3.5 years) with severe activity limitation.\*
- Men of the same age spent 56% (9.5 years) of remaining life without activity limitation compared to 27% (4.6 years) with moderate activity limitation and 17% (3.0 years) with severe activity limitation.\*
- Although total years lived by men were less than those for women, for all the health expectancies the years of life spent in positive health were similar.
- Compared to men, women spent a larger proportion of their life in ill health.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Greece comprised 1693 women and 1395 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.

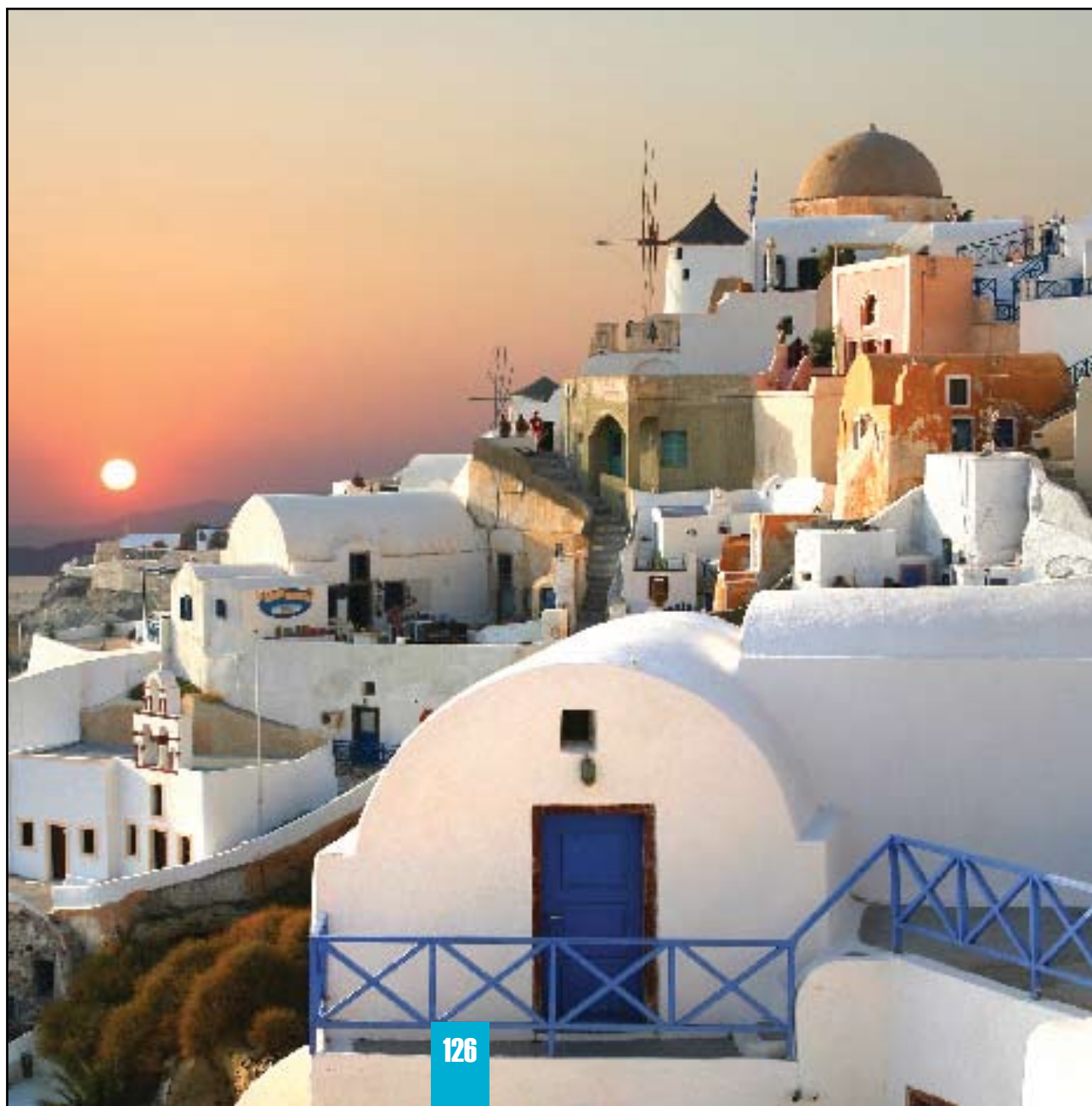


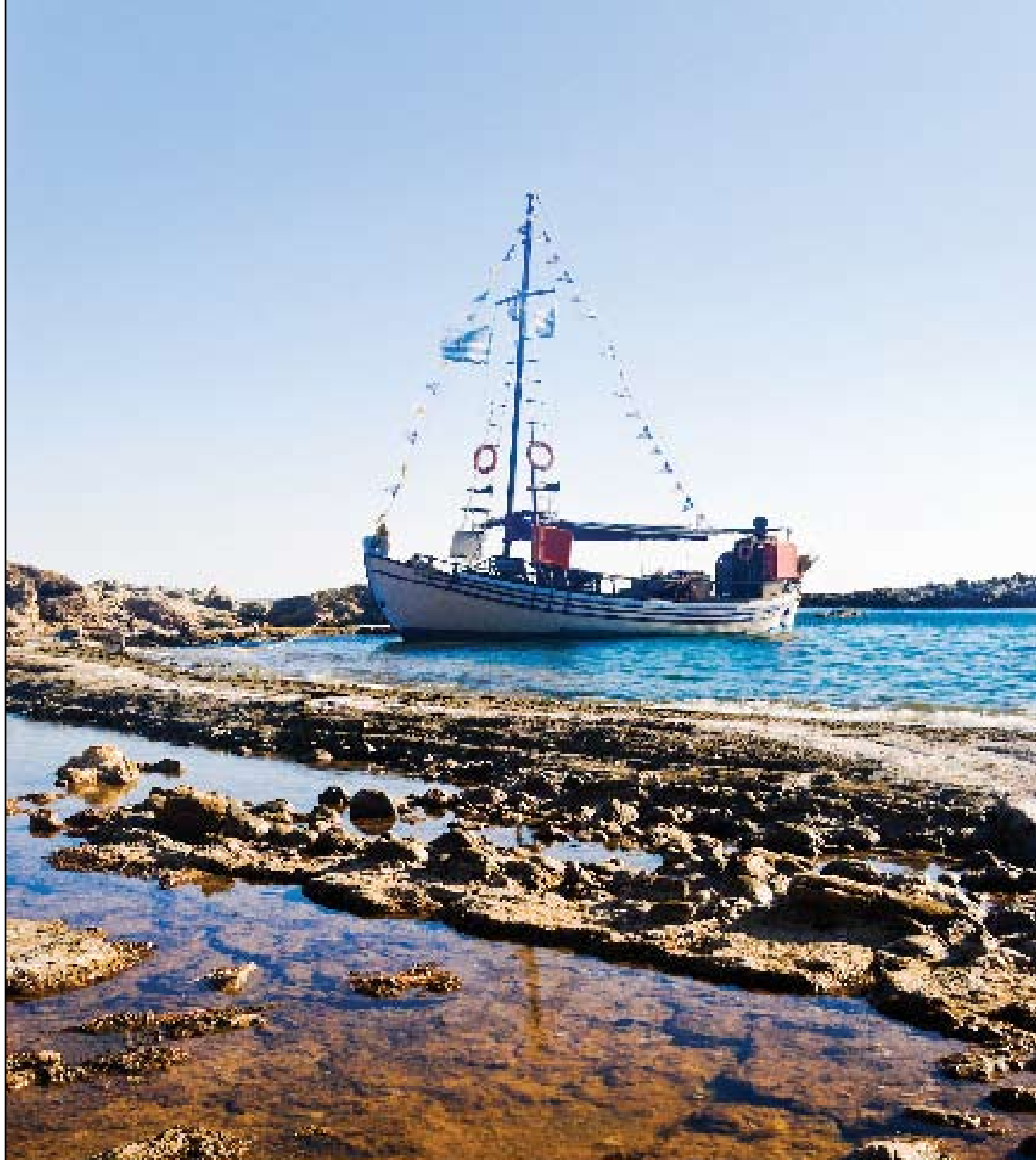
## Published results and other reports of health expectancies for Greece

Lievre A, Jusot F, Barnay T, Sermet C, Brouard N, Robine J-M, et al. Healthy working life expectancies at age 50 in Europe: a new indicator. *J Nutr Health Aging*. 2007;11(6):508-514.

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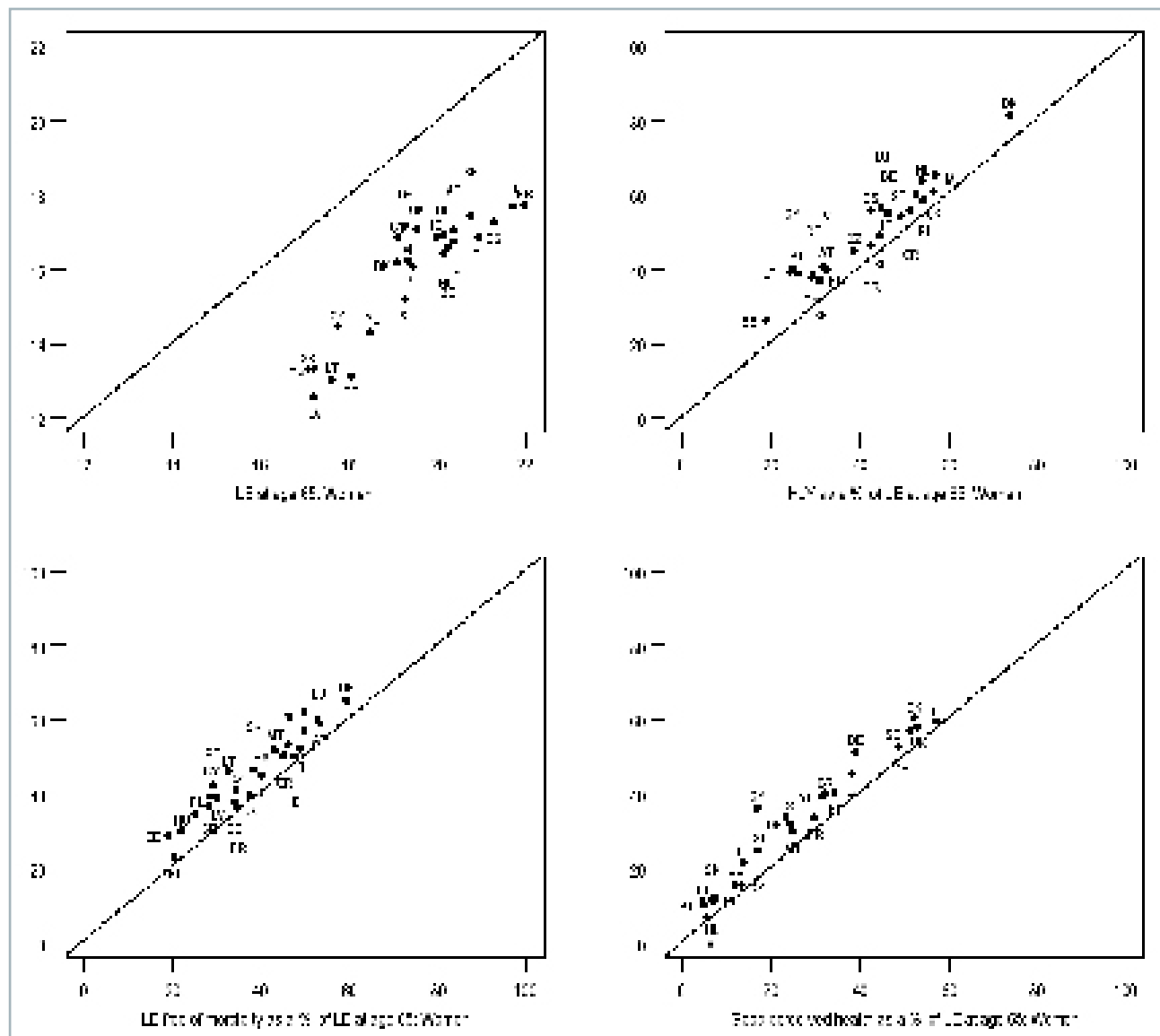


## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.

Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)

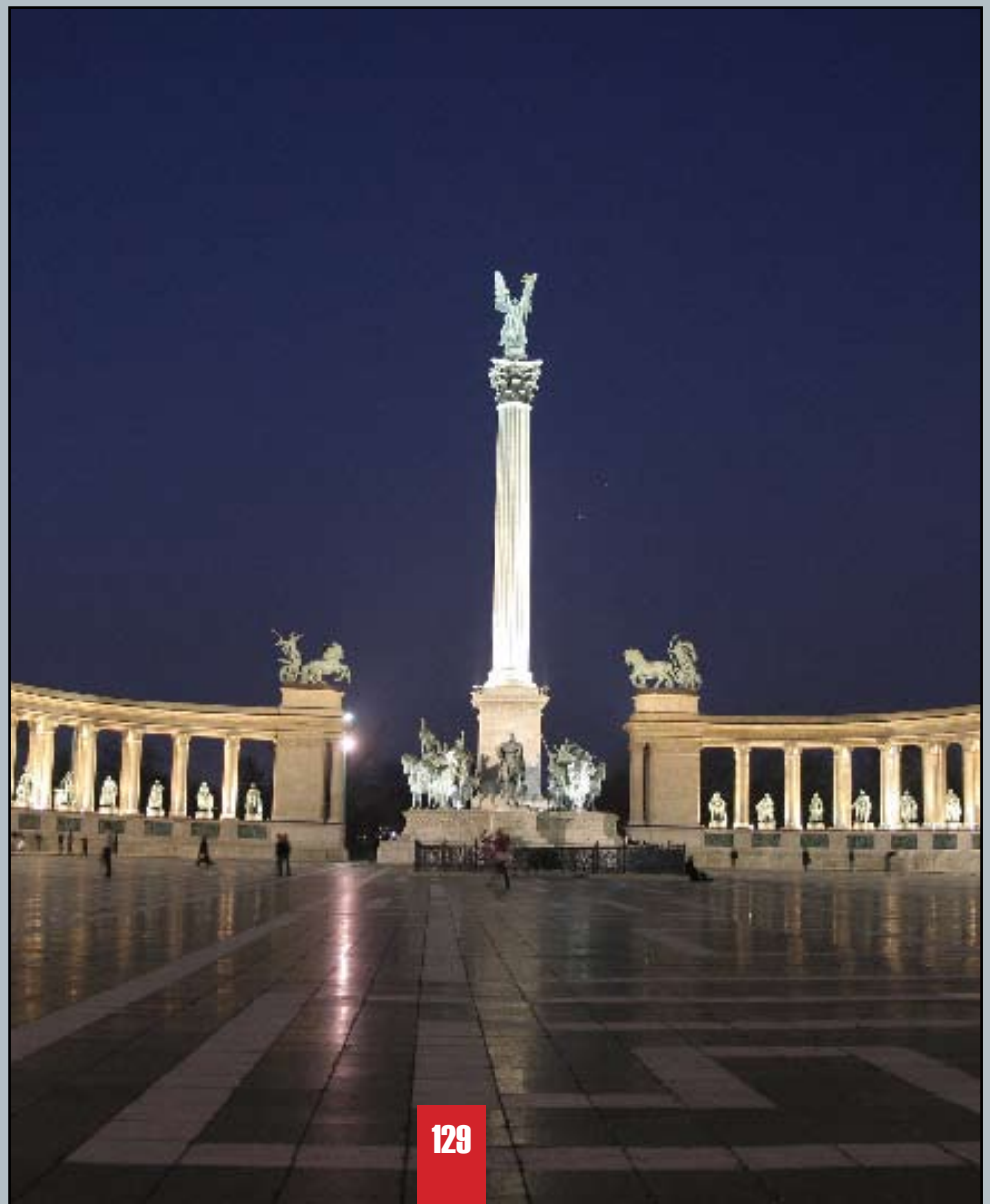




# EHEMU Country Reports

## June 2008

### HEALTH EXPECTANCY IN HUNGARY





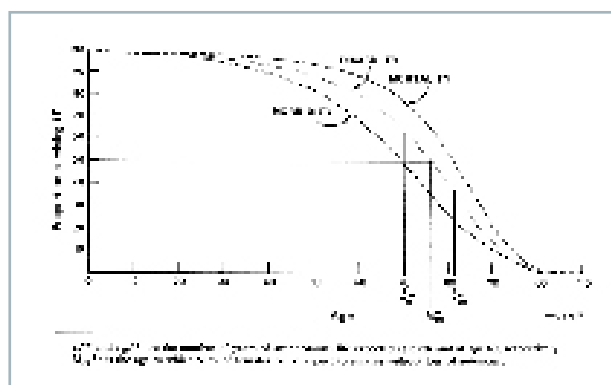
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

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**The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.**



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

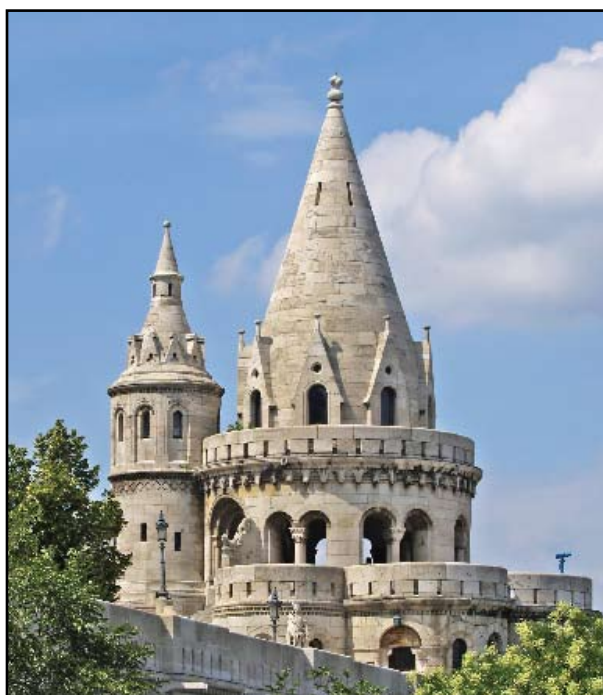
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Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe (Robine et al., 2003).

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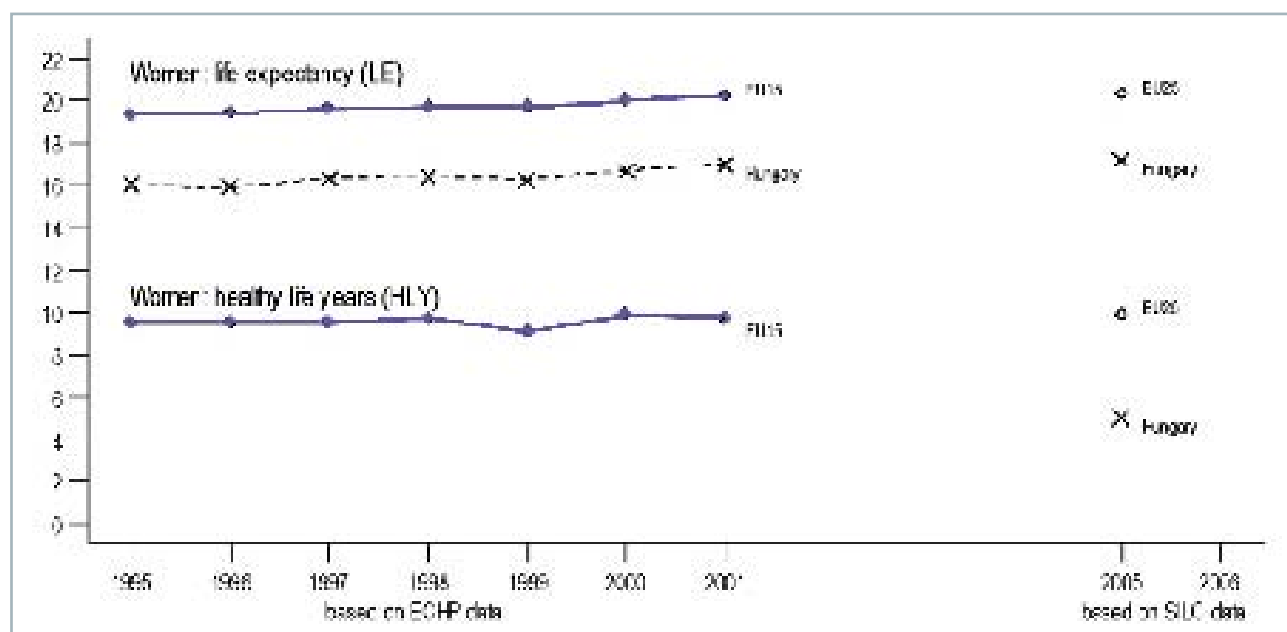
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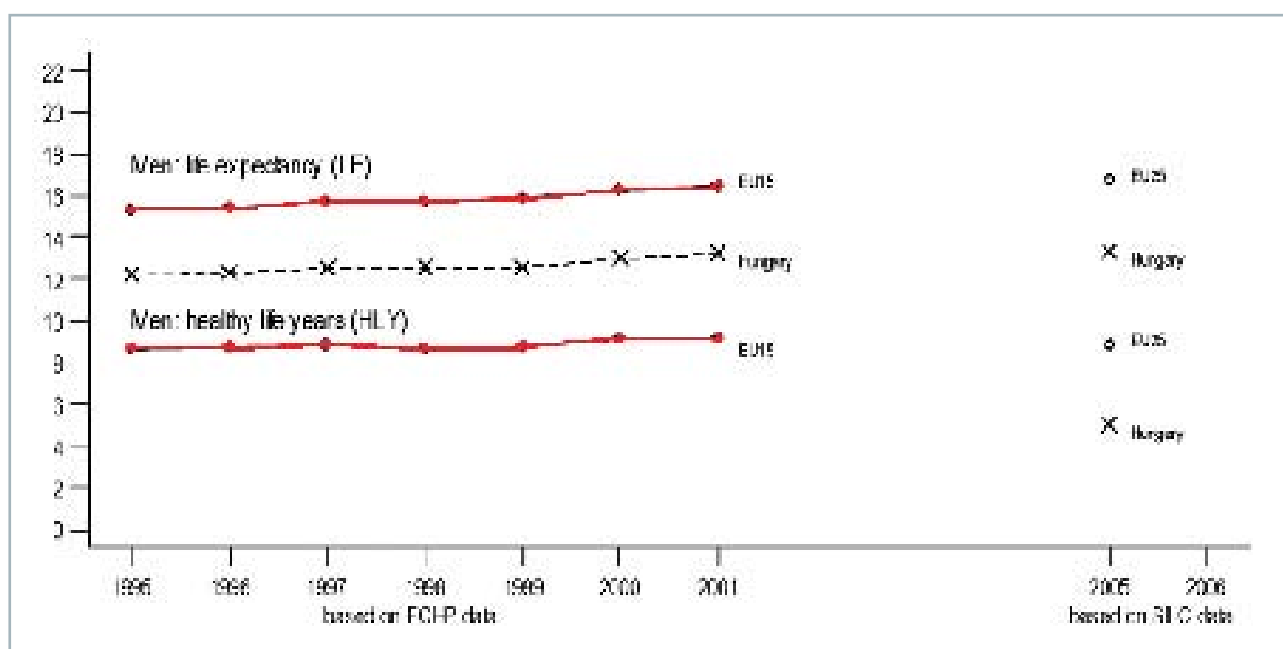
The uses of epidemiology in the study of the elderly: Report of a WHO Scientific Group on the Epidemiology of Aging. Geneva: WHO, 1984 (Technical Report Series 706).

Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Hungary and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



Hungary	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Women: LE	16.0	15.9	16.3	16.4	16.2	16.7	17.0	-	-	-	17.2	
Women: HLY	-	-	-	-	-	-	-	-	-	-	5.0	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	29%	



Hungary	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Men: LE	12.2	12.3	12.5	12.5	12.5	13.0	13.2	-	-	-	13.3	
Men: HLY	-	-	-	-	-	-	-	-	-	-	5.0	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	37%	

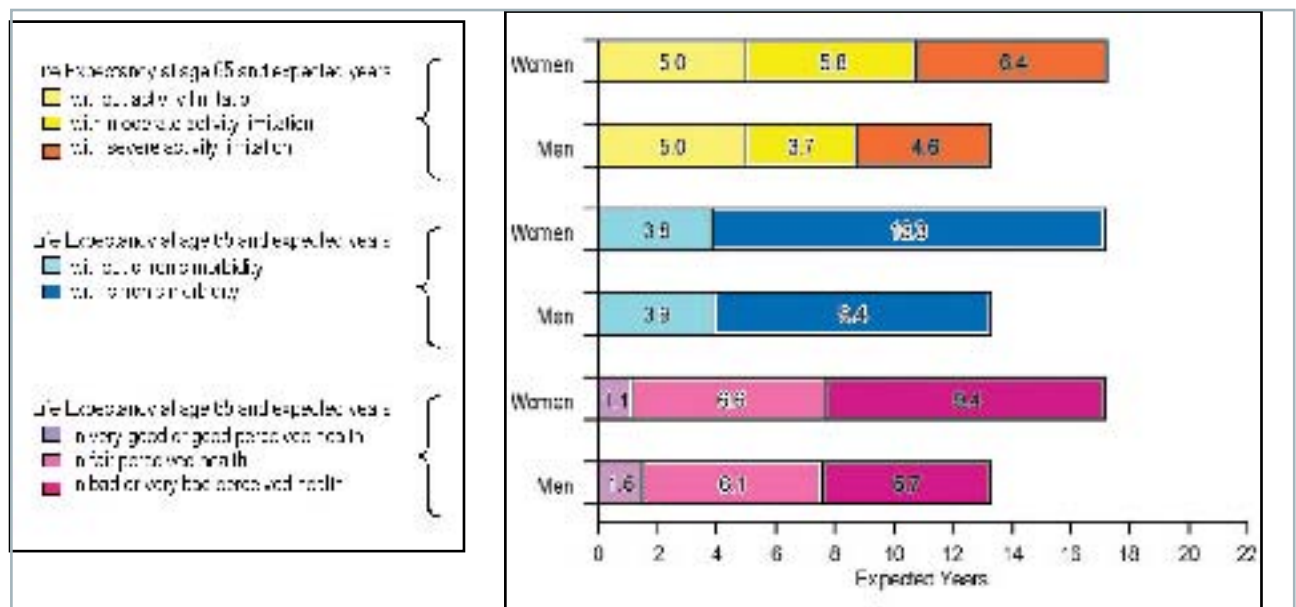
### Key points:

- Hungarian life expectancy (LE) at age 65 has increased by 1.2 years for women and 1.1 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was below the EU15 average and remained below the EU25 average in 2005.
- Because Hungary joined the European Union in 2004, the first series of health expectancy based on activity limitation (HLY) over the 1995-2001 period is not available.
- The new HLY series, initiated in 2005 with the SILC data, shows that women and men at age 65 can expect to spend 29% and 37% of their life without self-reported long-term activity limitations respectively. The HLY values for Hungary are 4.9 years and 3.8 years below the EU25 average for women and men respectively. Hungarian men and women may be more likely to report health problems than the EU25 as a whole.





Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Hungary (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Hungary was 17.2 years for women and 13.3 years for men.
- Based on the SILC 2005, at age 65, women spent 29% (5.0 years) of their remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 34% (5.8 years) with moderate activity limitation and 37% (6.4 years) with severe activity limitation.\*
- Men of the same age spent 37% (5.0 years) of remaining life without activity limitation compared to 28% (3.7 years) with moderate activity limitation and 35% (4.6 years) with severe activity limitation.\*
- Although total years lived by men were less than those for women, for all the health expectancies the years of life spent in positive health were similar.
- Compared to men, women spent a larger proportion of their life in ill health.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Hungary comprised 1973 women and 1111 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



Published results and other reports of health expectancies for Hungary

Farago M. Egészségesen várható élettartamok Magyarországon 2005: Egy összetett, kvalifikált mutató a népesség egészségi állapotának mérésére [Healthy life expectancy in Hungary 2005: a summary measure of population health].

Budapest: Hungarian Central Statistical Office; 2007.



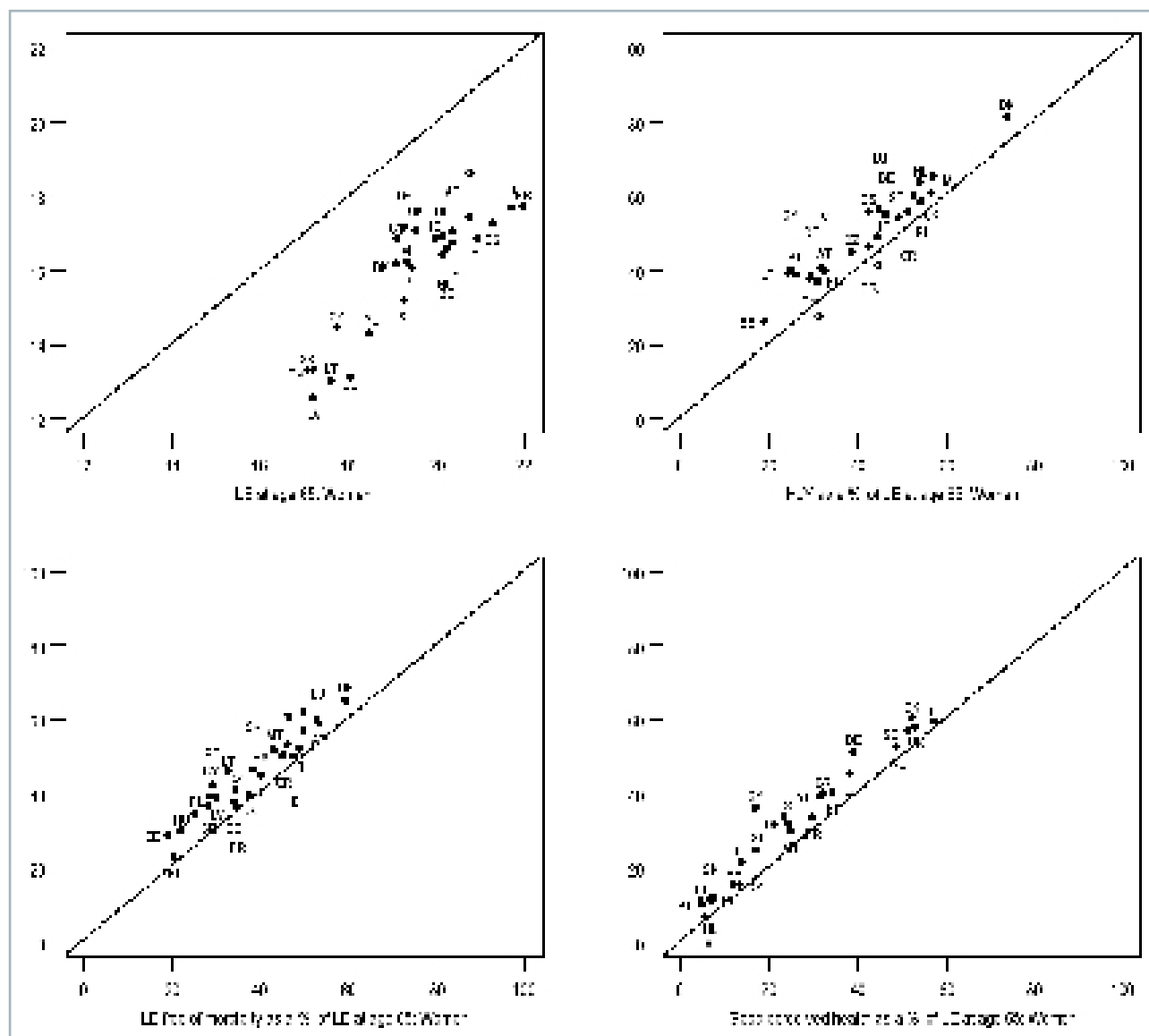


## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.

Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)







# EHEMU Country Reports June 2008

## HEALTH EXPECTANCY IN IRELAND





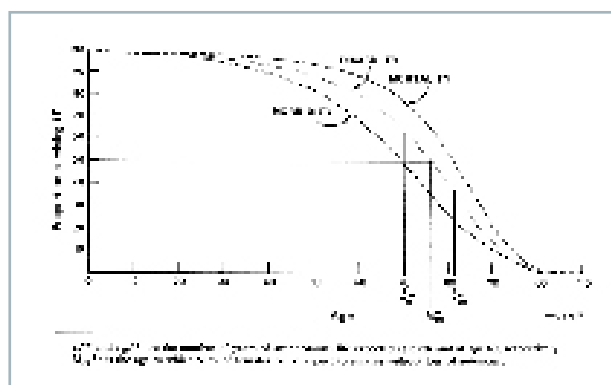
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

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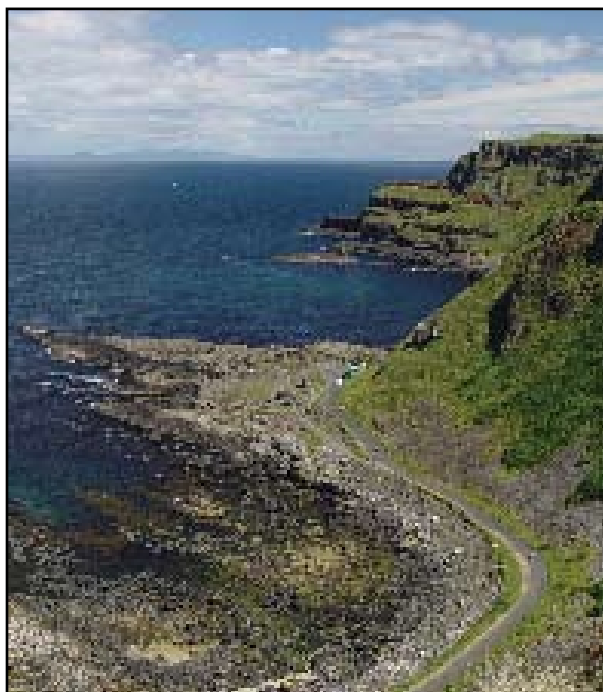
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Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe (Robine et al., 2003).

Health expectancies are most often calculated by the Sullivan method (Sullivan, 1971). However to make valid comparisons, the underlying health measure should be truly comparable.

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## References

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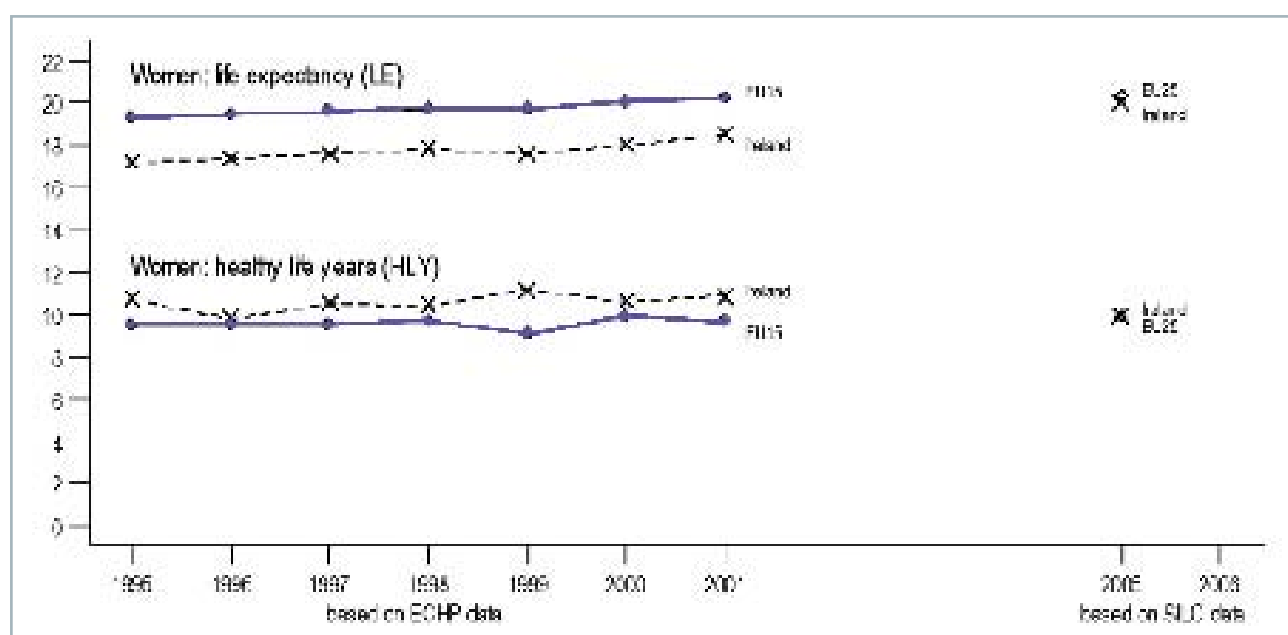
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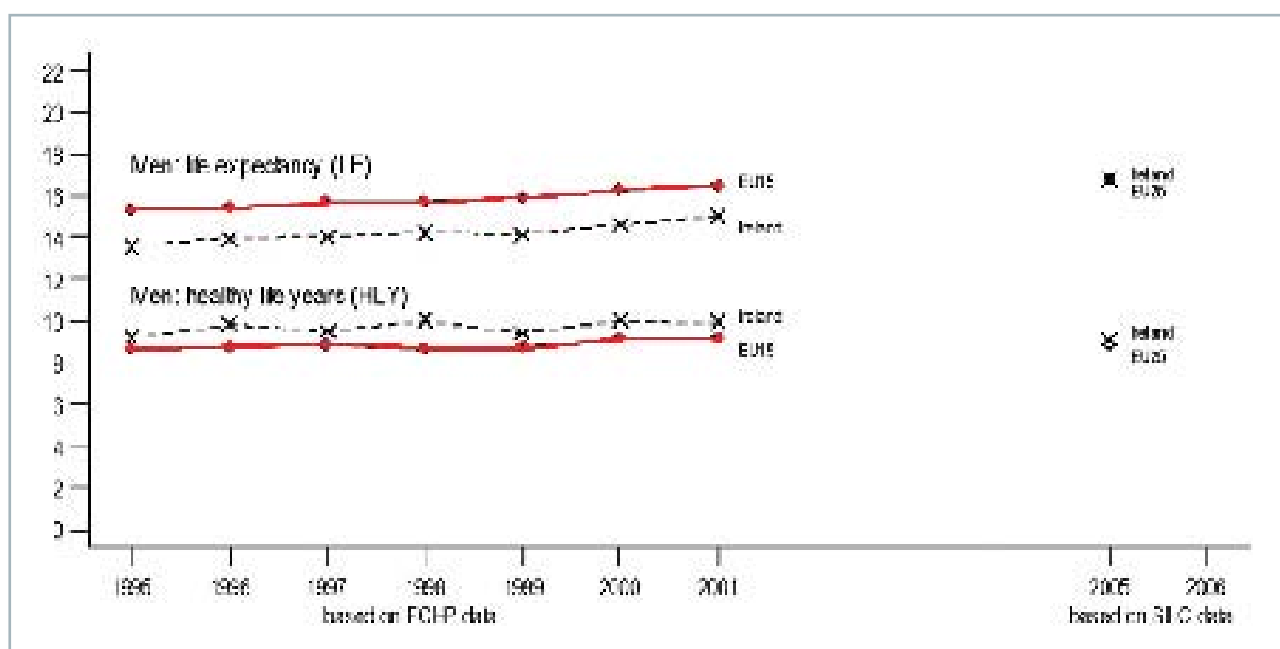
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Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

## Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Ireland and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



<b>Ireland</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Women: LE</b>	17.2	17.4	17.6	17.8	17.6	18.0	18.5	-	-	-	20.0	
<b>Women: HLY</b>	10.7	9.8	10.5	10.4	11.1	10.6	10.8				9.9	
<b>%HLY/LE</b>	62%	56%	60%	59%	63%	59%	58%	-	-	-	50%	



<b>Ireland</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Men: LE</b>	13.5	13.9	14.0	14.2	14.1	14.6	15.0	-	-	-	16.8	
<b>Men: HLY</b>	9.2	9.8	9.5	10.0	9.1	10.0	9.9	-	-	-	9.1	
<b>%HLY/LE</b>	68%	70%	68%	70%	67%	69%	66%	-	-	-	54%	

### Key points:

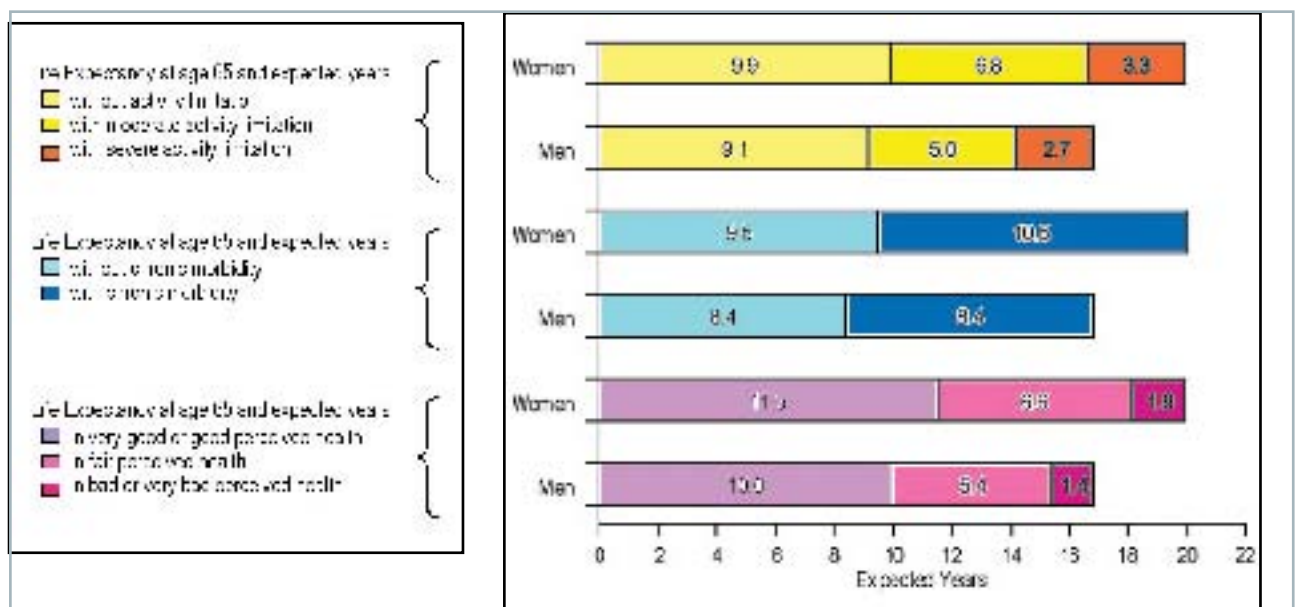
- Irish life expectancy (LE) at age 65 has increased by 2.8 years for women and 3.3 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was below the EU15 average, but by 2005 LE for both sexes was close to the EU25 average.
- Over the 1995-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data remained almost stable in Ireland and were above the EU15 average. The proportion of HLY (or years without self-reported limitations due to health condition or disability), within the total expected years, slightly decreased for both

sexes, being close to 58% for women and 66% for men in 2001.

- The new HLY series, initiated in 2005 with the SILC data, shows lower values for Ireland than previously although they are almost equal to the EU average. Women and men at age 65 can expect to spend 50% and 54% of their life without self-reported long-term activity limitations respectively. Compared to earlier trends, the SILC question may result in people reporting limitations of different severity than previously and Irish women and men may be more likely to report less severe problems than before.



Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Ireland (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Ireland was 20.0 years for women and 16.8 years for men.
- Based on the SILC 2005, at age 65, women spent 50% (9.9 years) of their remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 34% (6.8 years) with moderate activity limitation and 17% (3.3 years) with severe activity limitation.\*
- Men of the same age spent 54% (9.1 years) of their remaining life without activity limitation compared to 30% (5.0 years) with moderate activity limitation and 16% (2.7 years) with

severe activity limitation.\*

- Although for all the health expectancies the years of life spent in positive health were greater for women than men, women spent a larger proportion of their life in ill health.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Ireland comprised 1561 women and 1283 men aged 65+ years.

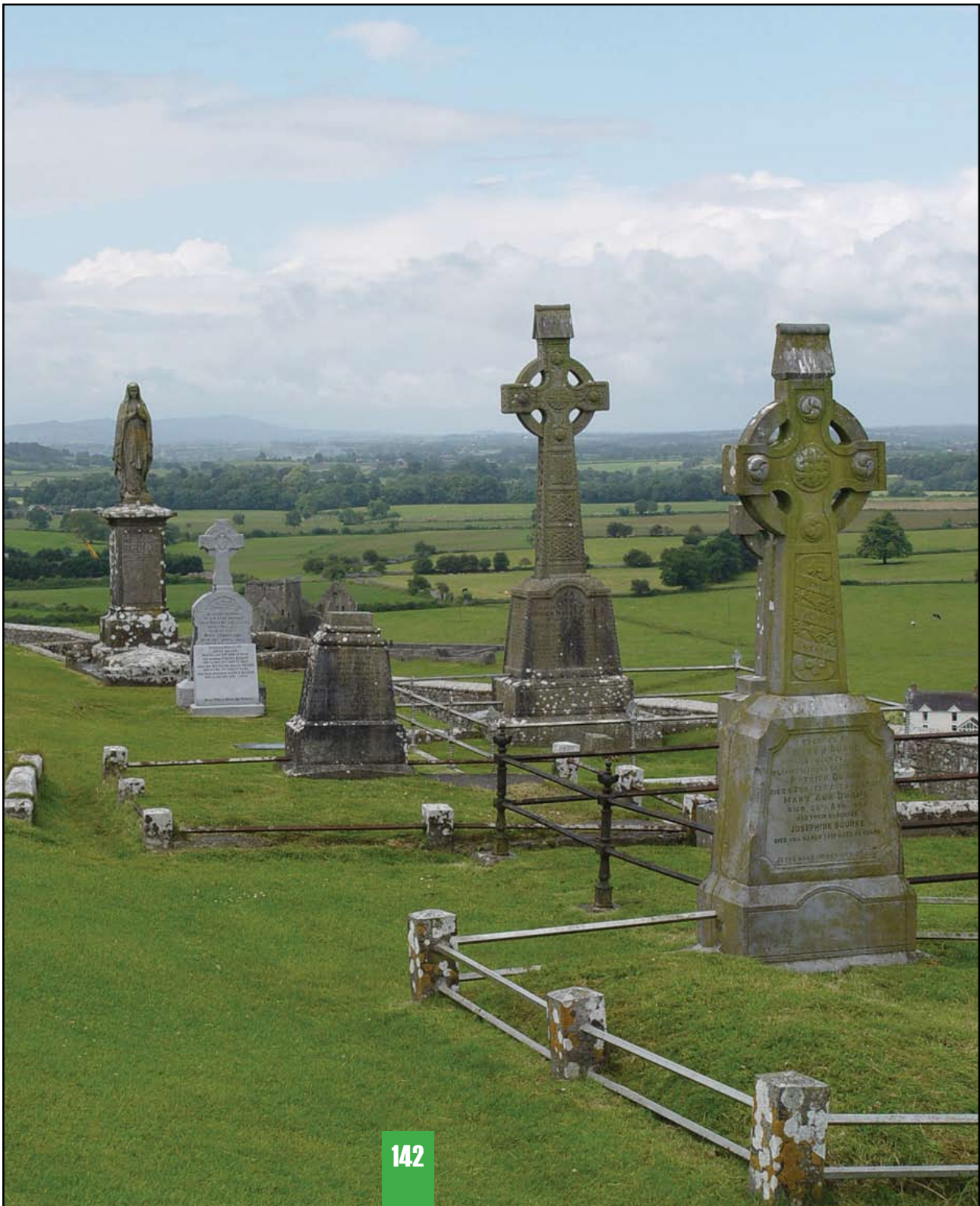
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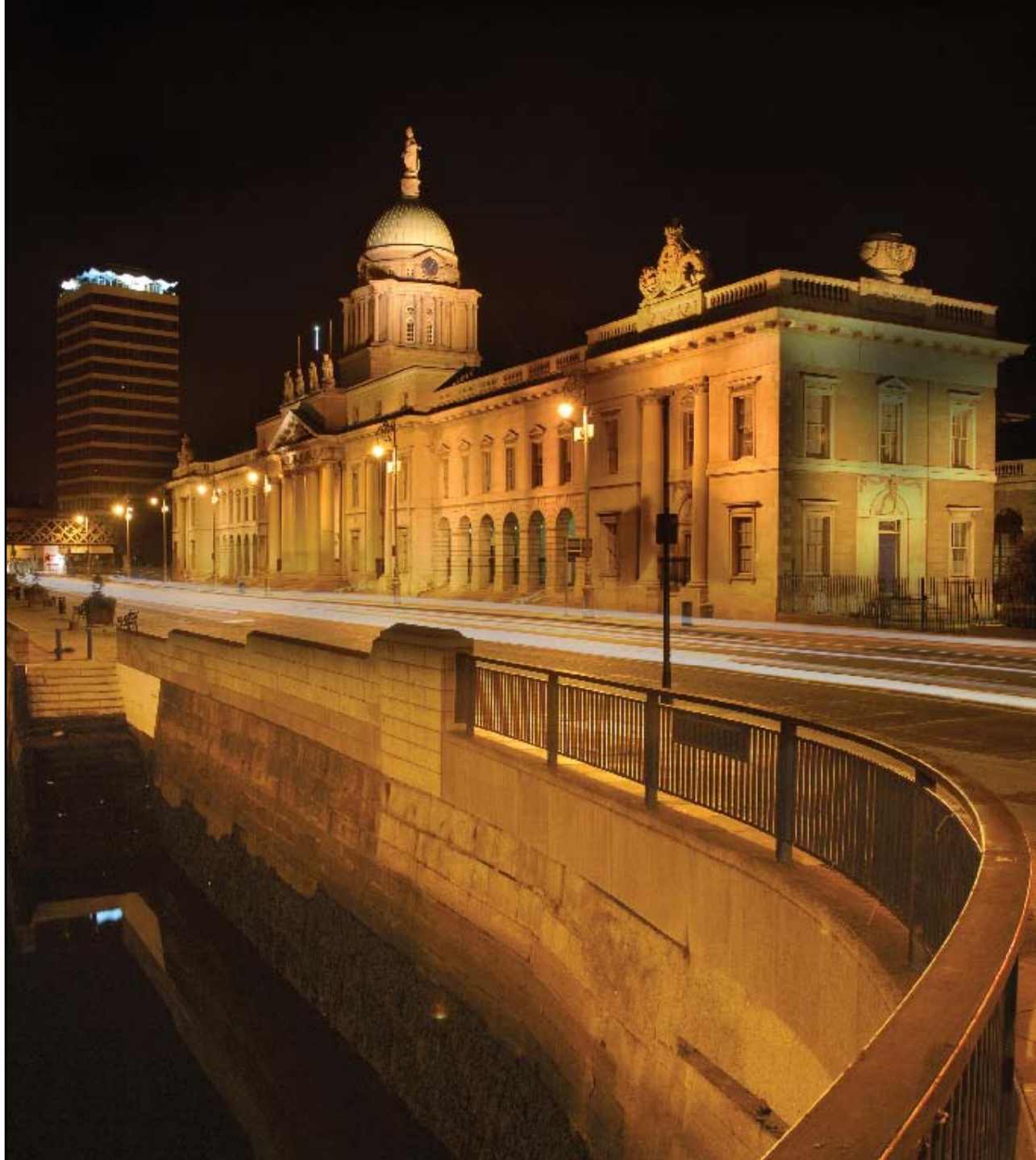


Published results and other reports of health expectancies for Ireland

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Breakwell C, Bajekal M. Health expectancies in the UK and its constituent countries, 2001. Health Stat Q. 2006;29(Spring):18-25.





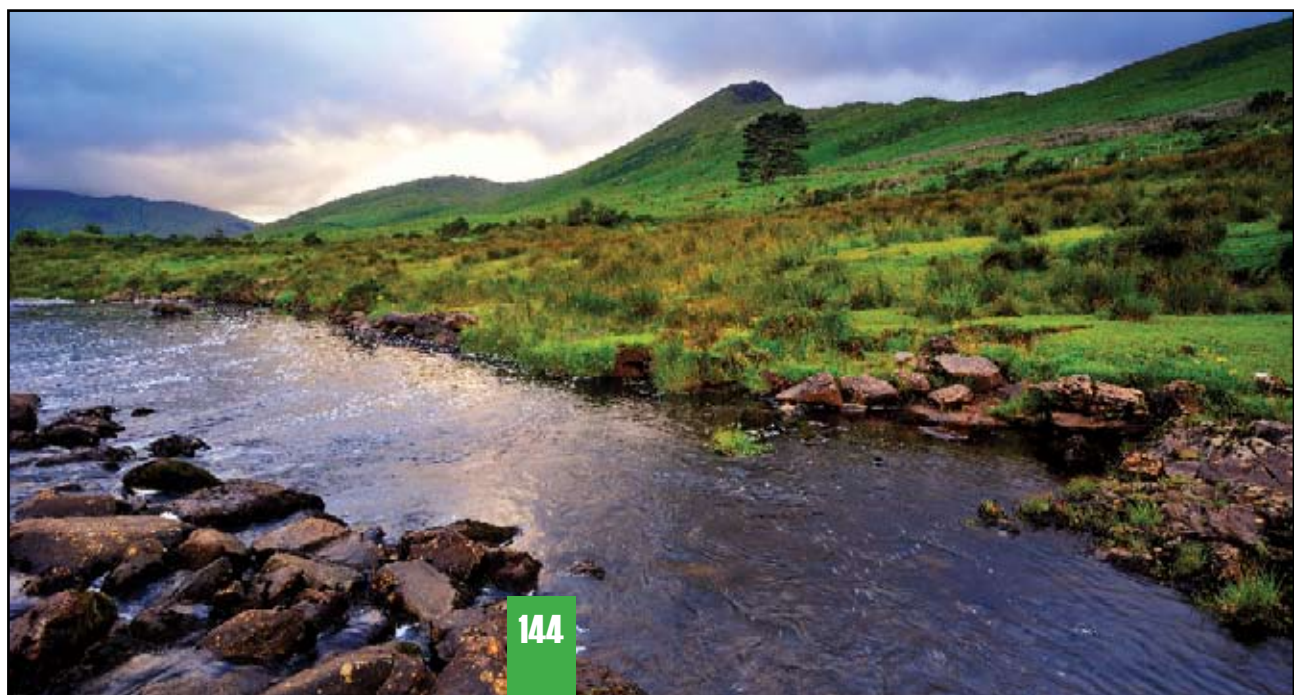
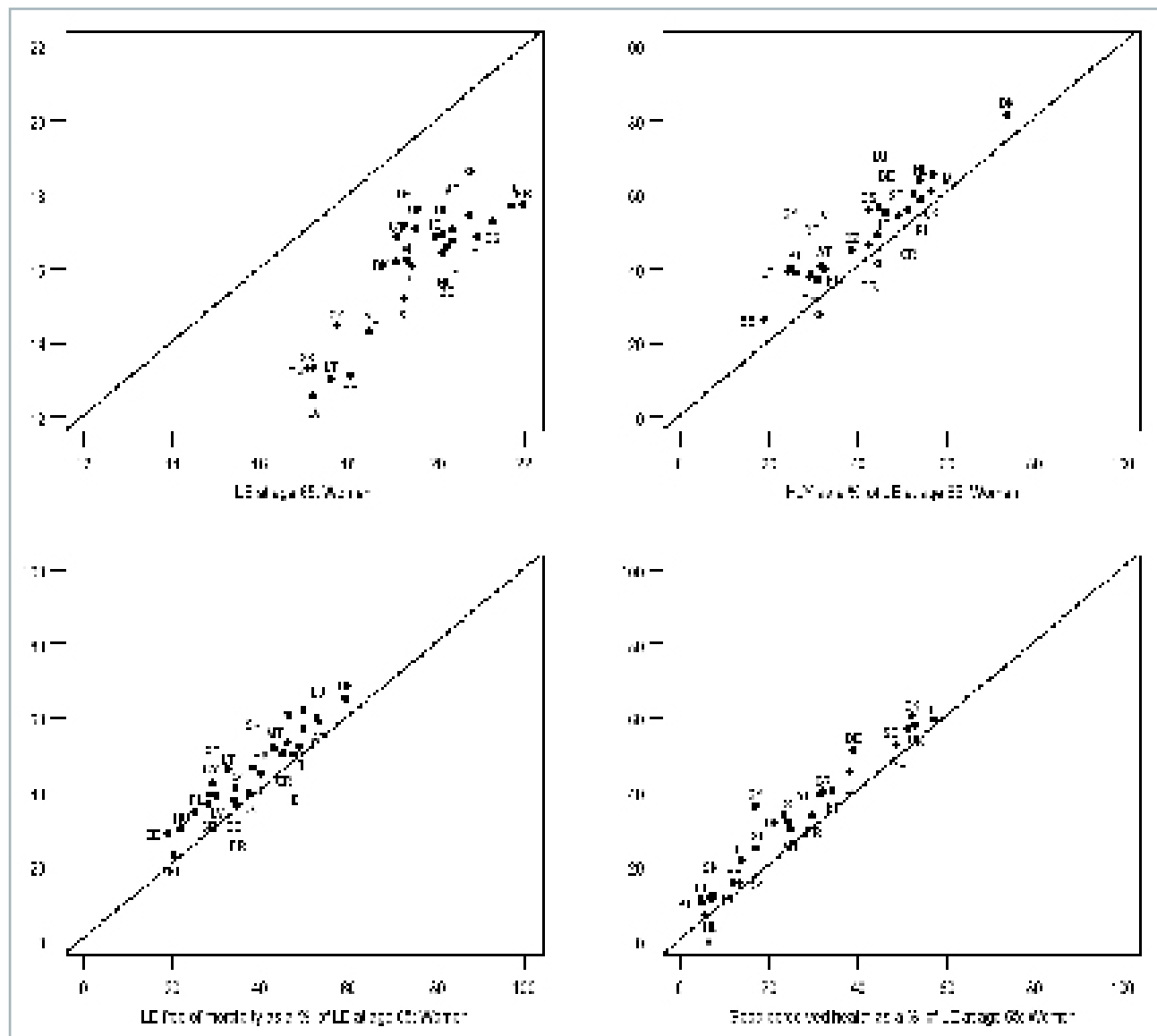
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The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.



Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)





## EHEMU Country Reports June 2008

### HEALTH EXPECTANCY IN ITALY





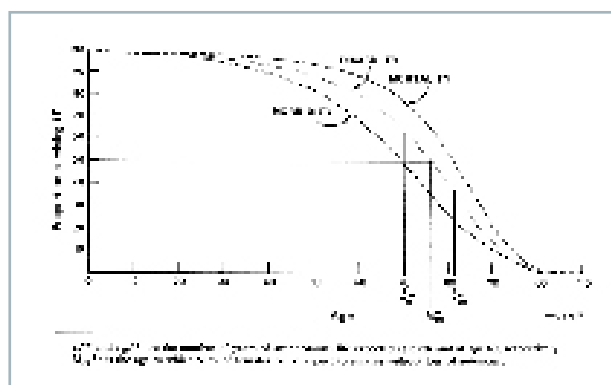
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## References

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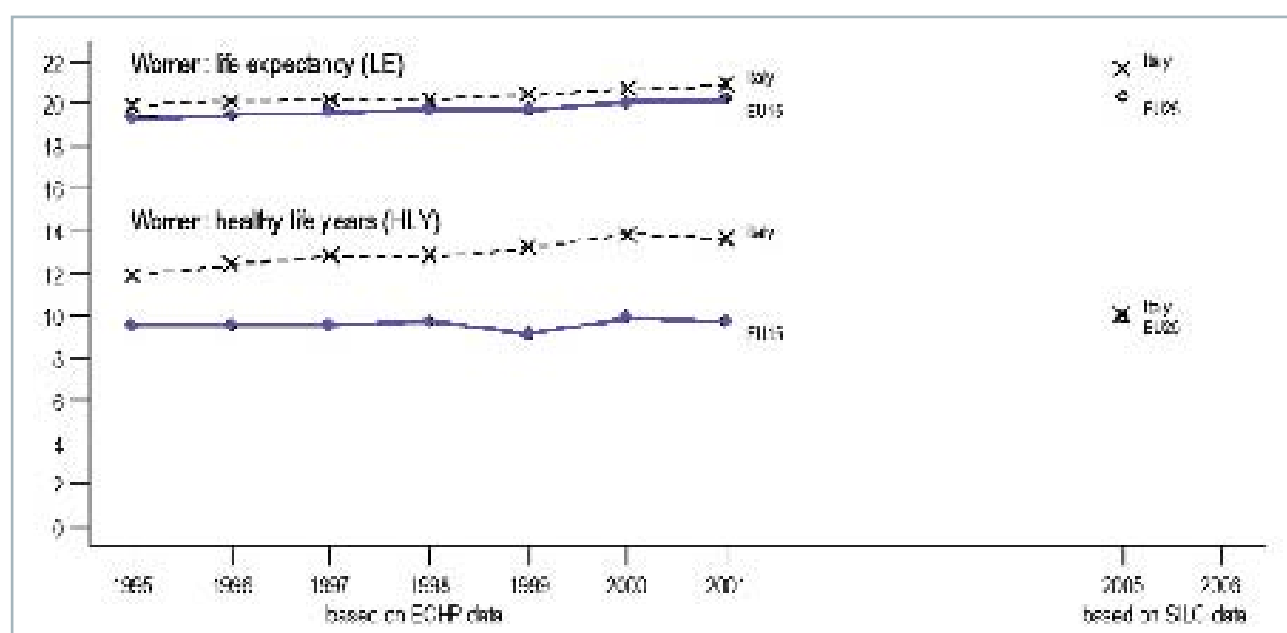
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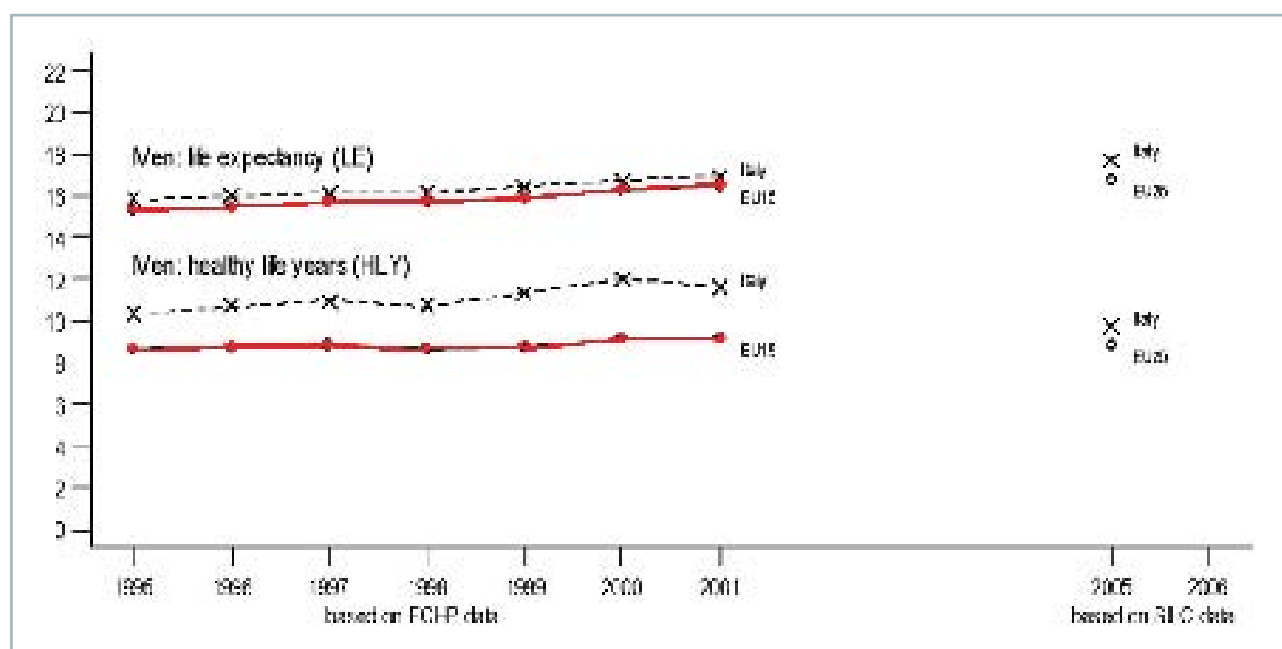
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Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

## Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Italy and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



Italy	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Women: I.E.	19.9	20.1	20.2	20.2	20.4	20.7	20.9	-	-	-	21.7	
Women: HLY	11.9	12.4	12.8	12.8	13.2	13.8	13.6	-	-	-	10.0	
%HLY/I.E.	60%	62%	64%	64%	65%	67%	65%	-	-	-	46%	



Italy	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Men: I.E.	15.8	16.0	16.1	16.1	16.4	16.7	16.9	-	-	-	17.7	
Men: HLY	10.3	10.7	10.9	10.7	11.3	12.0	11.6	-	-	-	9.8	
%HLY/I.E.	65%	67%	68%	66%	69%	72%	69%	-	-	-	55%	

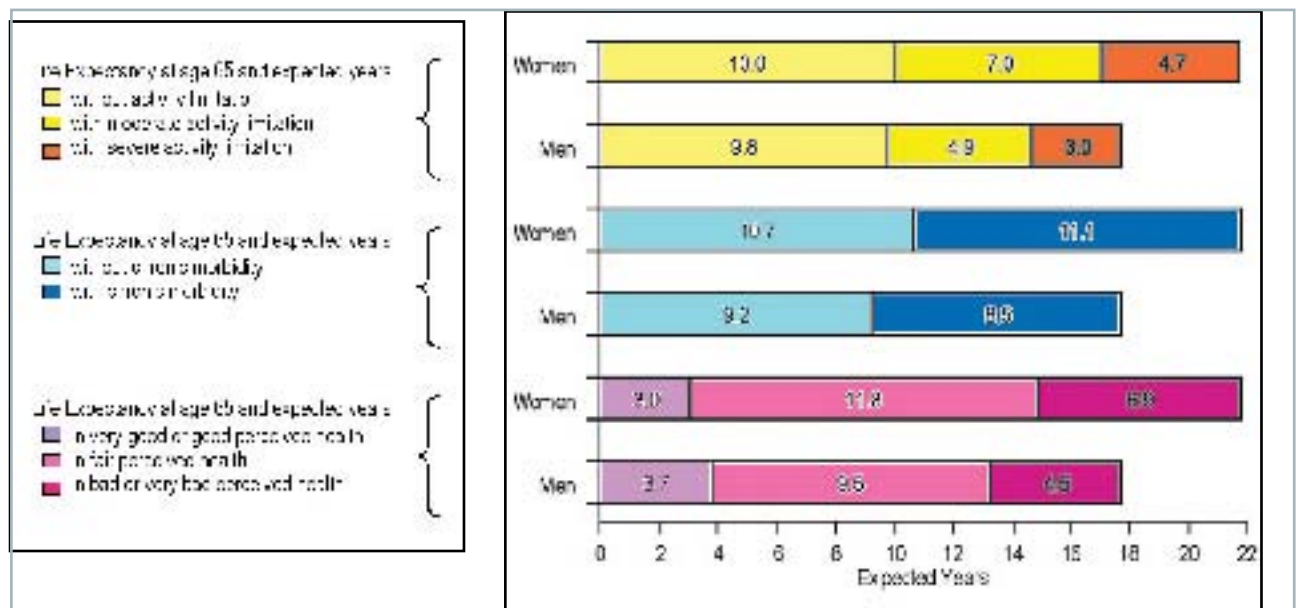
### Key points:

- Italian life expectancy (LE) at age 65 has increased by 1.8 years for women and 1.9 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was above the EU15 average and remained above the EU25 in 2005.
- Over the 1995-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data increased. The proportion of HLY (or years without self-reported limitations due to health condition or disability), within the total expected years, remained almost stable for both sexes, at around 65% for women and 69% for men. Between 1995 and 2001 HLY in Italy was above the EU15 average.

- The new HLY series, initiated in 2005 with the SILC data, shows a significantly lower value for Italy than previously but still above the EU average, being 1 year above the EU25 average (and above the EU15 average) for men and almost equal to the EU25 average (and above the EU15 average) for women. Women and men at age 65 can expect to spend 46% and 55% of their life without self-reported long-term activity limitations respectively. Compared to earlier trends, the SILC question may result in people reporting limitations of different severity than previously and Italian women and men may be more likely to report less severe problems than before.



Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Italy (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Italy was 21.7 years for women and 17.7 years for men.
- Based on the SILC 2005, at age 65, women spent 46% (10 years) of remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 32% (7 years) with moderate activity limitation and 22% (4.7 years) with severe activity limitation.\*
- Men of the same age spent 55% (9.8 years) of remaining life without activity limitation compared to 28% (4.9 years) with moderate activity limitation and 17% (3 years) with severe activity limitation.\*

- Although total years lived by men were less than those for women, the numbers of years lived in very good or good perceived health and the years lived without activity limitation were similar. However, the numbers of years lived without chronic morbidity were greater for women than men.
- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Italy comprised 6114 women and 4554 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



Published results and other reports of health expectancies for Italy

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Burgio A, Buratta V. New elderly, new data needs: the emergencies of statistical data on healthy aging. In: CEIES, editor. 18th CEIES seminar: Active Ageing Statistics; The Hague: European Commission, Eurostat; 2002. p. 63-69





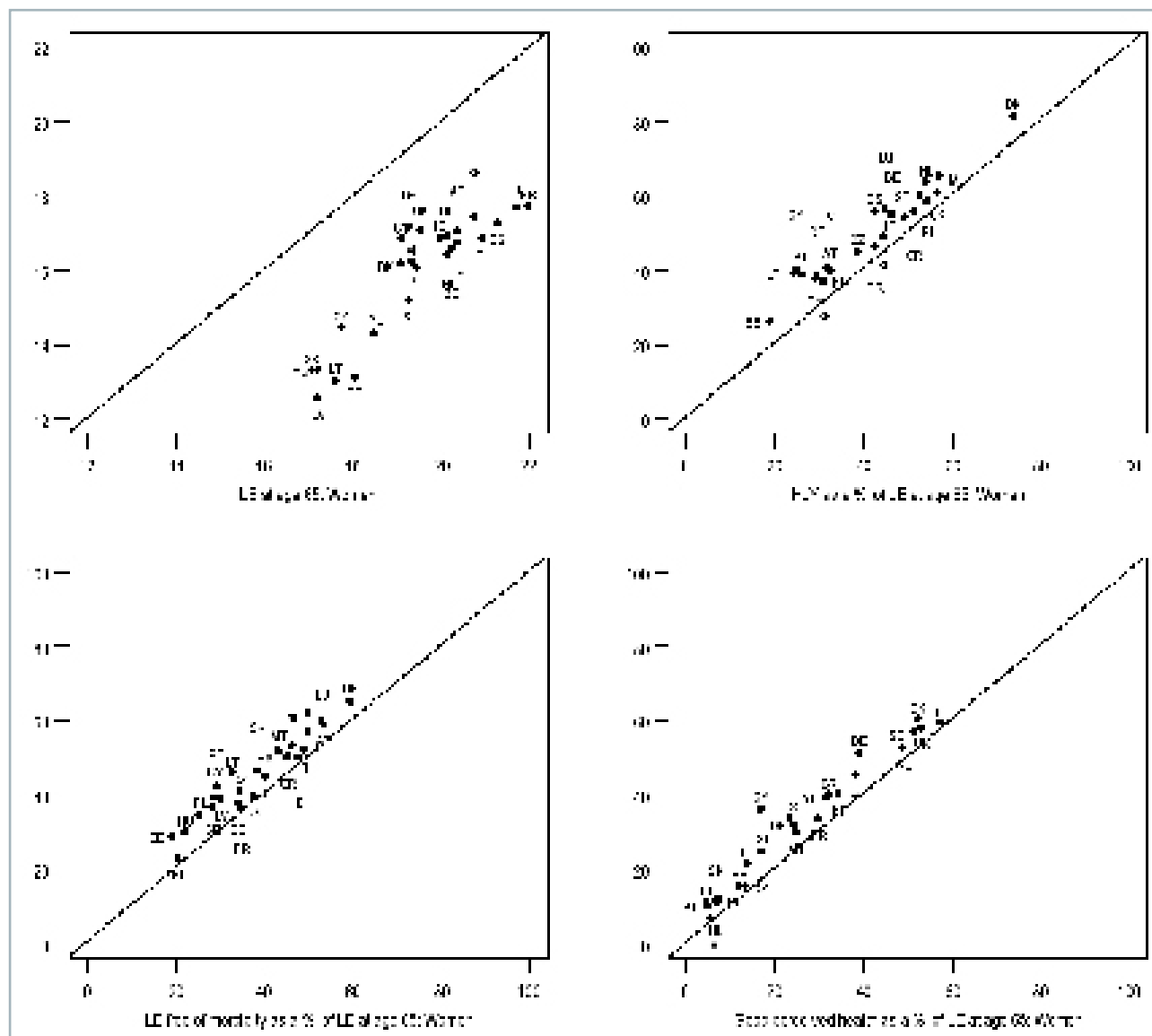
## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.



Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)

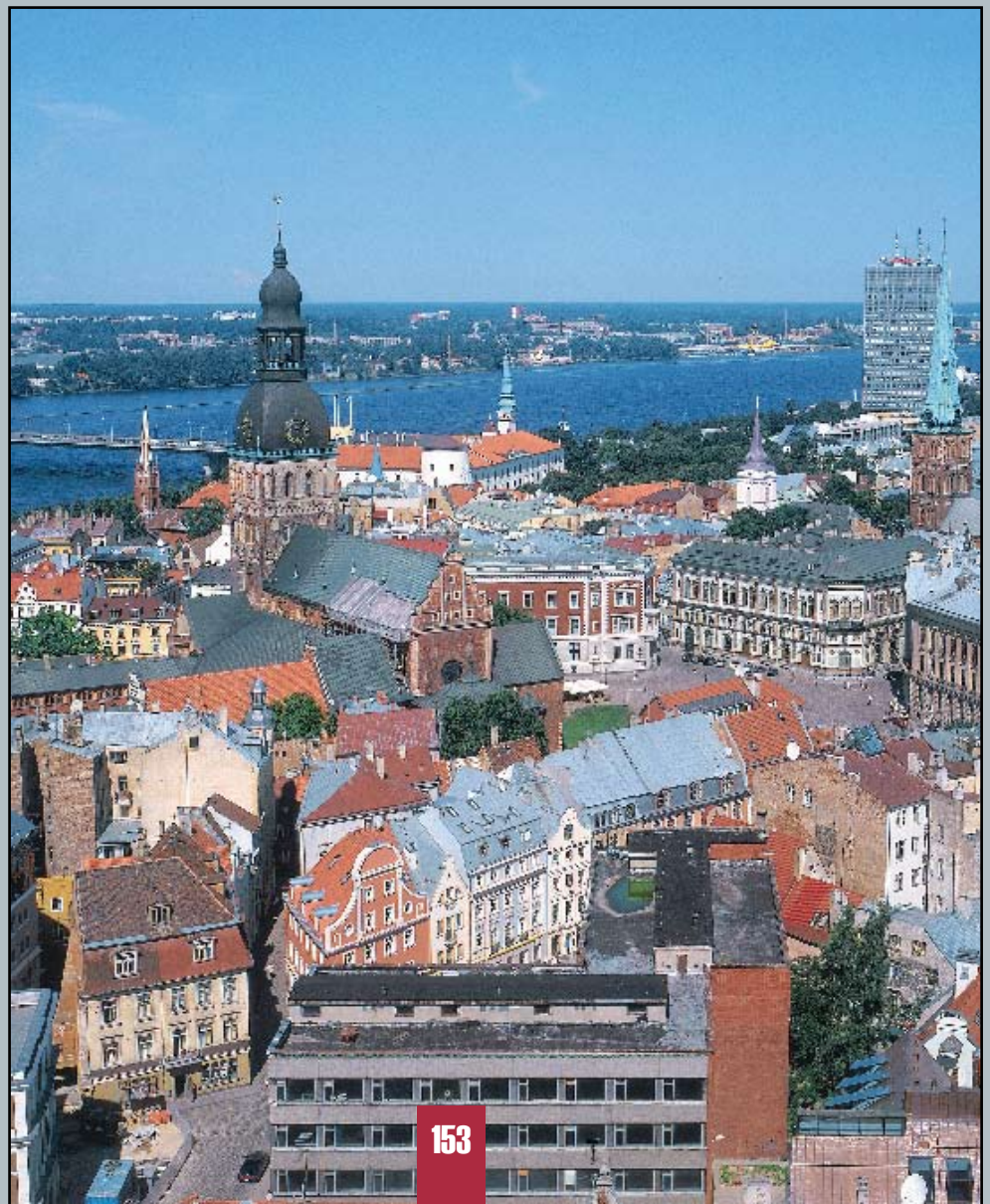




# EHEMU Country Reports

## June 2008

### HEALTH EXPECTANCY IN LATVIA





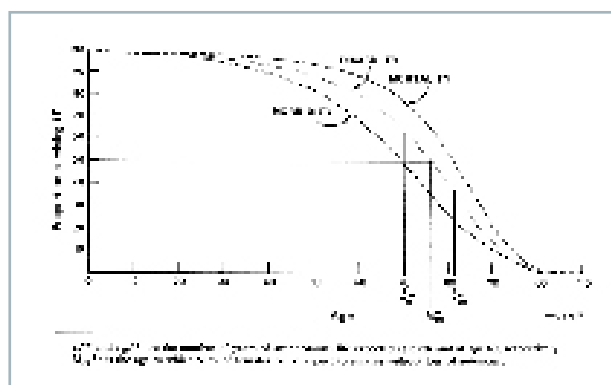
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

**The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.**



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

## How do we compare health expectancies?

Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe (Robine et al., 2003).

Health expectancies are most often calculated by the Sullivan method (Sullivan, 1971). However to make valid comparisons, the underlying health measure should be truly comparable.

To address this, the European Union has decided to include a small set of health expectancies among its European Community Health Indicators (ECHI) to provide synthetic measures of disability, chronic morbidity and perceived health. Therefore the Minimum European Health Module (MEHM), composed of 3 general questions covering these dimensions, has been introduced into the Statistics on Income and Living Conditions (SILC) to improve the comparability of health expectancies between countries. In addition life expectancy without long term activity limitation, based on the disability question, was selected in 2004 to be one of the structural indicators for assessing the EU strategic goals (Lisbon strategy) under the name of "Healthy Life Years" (HLY).

Further details on the MEHM, the European surveys and health expectancy calculation and interpretation can be found on [www.ehemu.eu](http://www.ehemu.eu).



## What is in this report?

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- health expectancies based on activity limitation (HLY) for the country of interest and for the overall 25 European Union member states (EU25), using the SILC 2005 question on long term activity limitation. As the SILC has been only recently initiated, to document trends we provide previous HLY series based on the disability question of the 1995-2001 European Community Household Panel (ECHP)
- health expectancies based on the two additional dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2005
- a global analysis of health expectancies of European countries, based on the SILC 2005



## References

Robine JM, Jagger C, Mathers CD, Crimmins EM, Suzman RM, Eds.

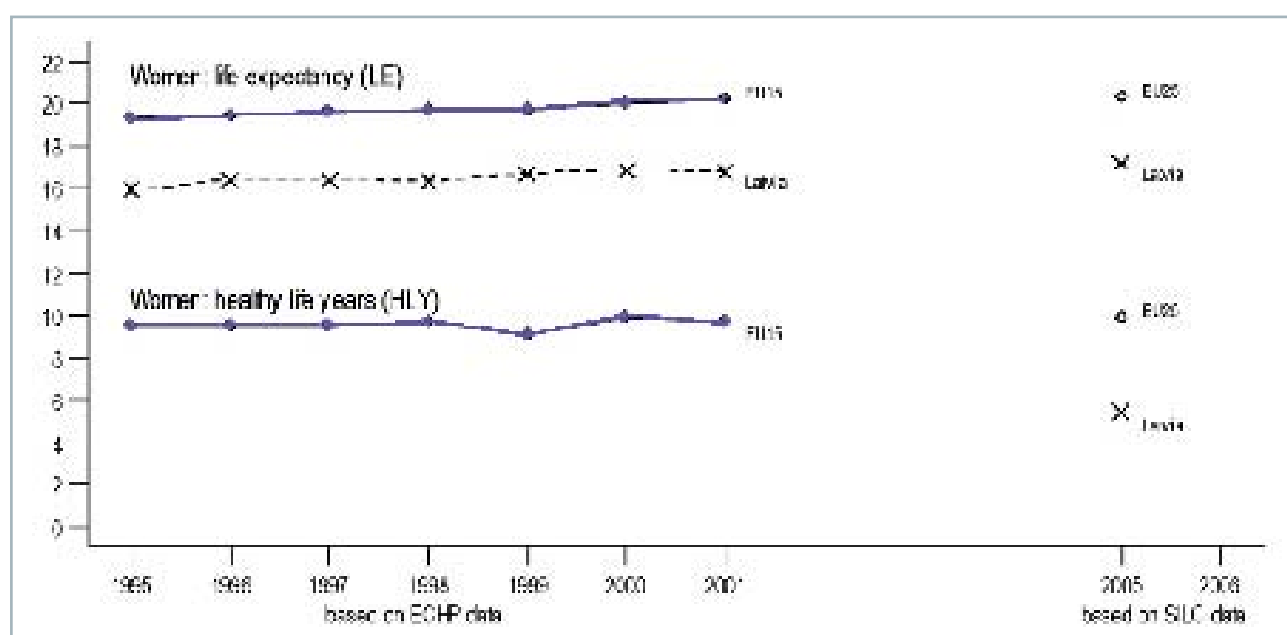
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World Health Organization.

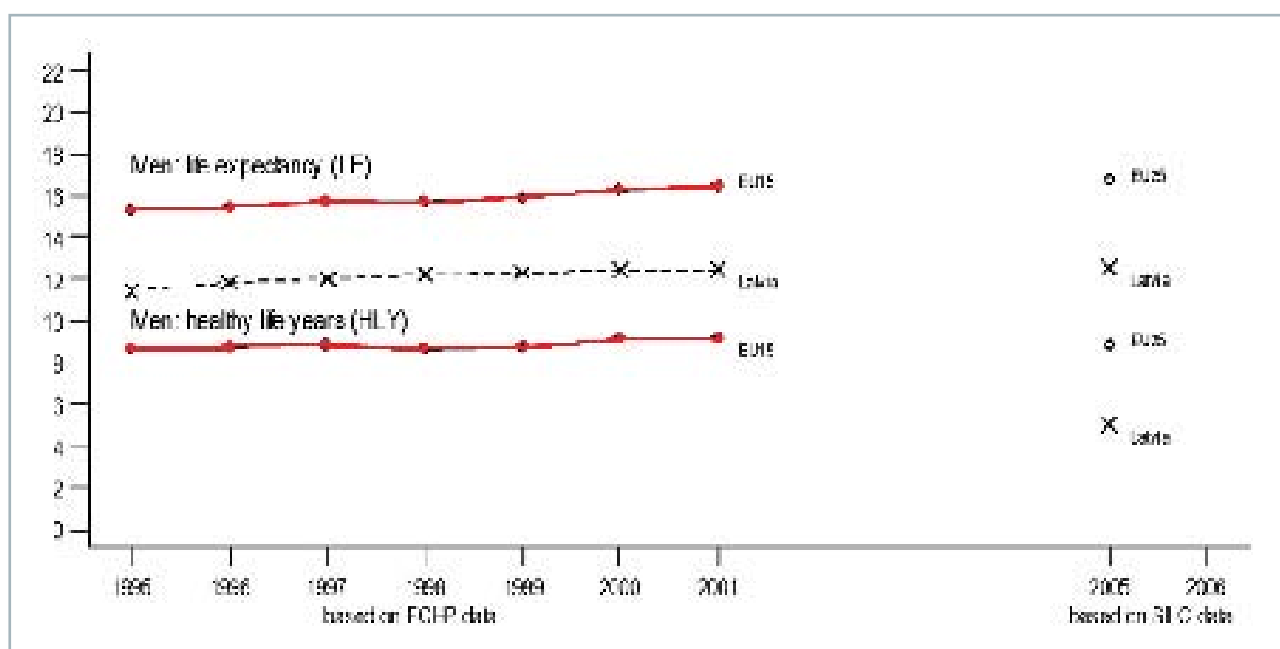
The uses of epidemiology in the study of the elderly: Report of a WHO Scientific Group on the Epidemiology of Aging. Geneva: WHO, 1984 (Technical Report Series 706).

Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Latvia and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



<b>Latvia</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Women: I.E.</b>	15.9	16.4	16.4	16.3	16.7	16.9	16.8	-	-	-	17.2	
<b>Women: HLY</b>	-	-	-	-	-	-	-	-	-	-	5.4	
<b>%HLY/I.E.</b>	-	-	-	-	-	-	-	-	-	-	32%	



<b>Latvia</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Men: I.E.</b>	11.4	11.8	12.0	12.2	12.3	12.4	12.4	-	-	-	12.5	
<b>Men: HLY</b>	-	-	-	-	-	-	-	-	-	-	5.0	
<b>%HLY/I.E.</b>	-	-	-	-	-	-	-	-	-	-	40%	

### Key points:

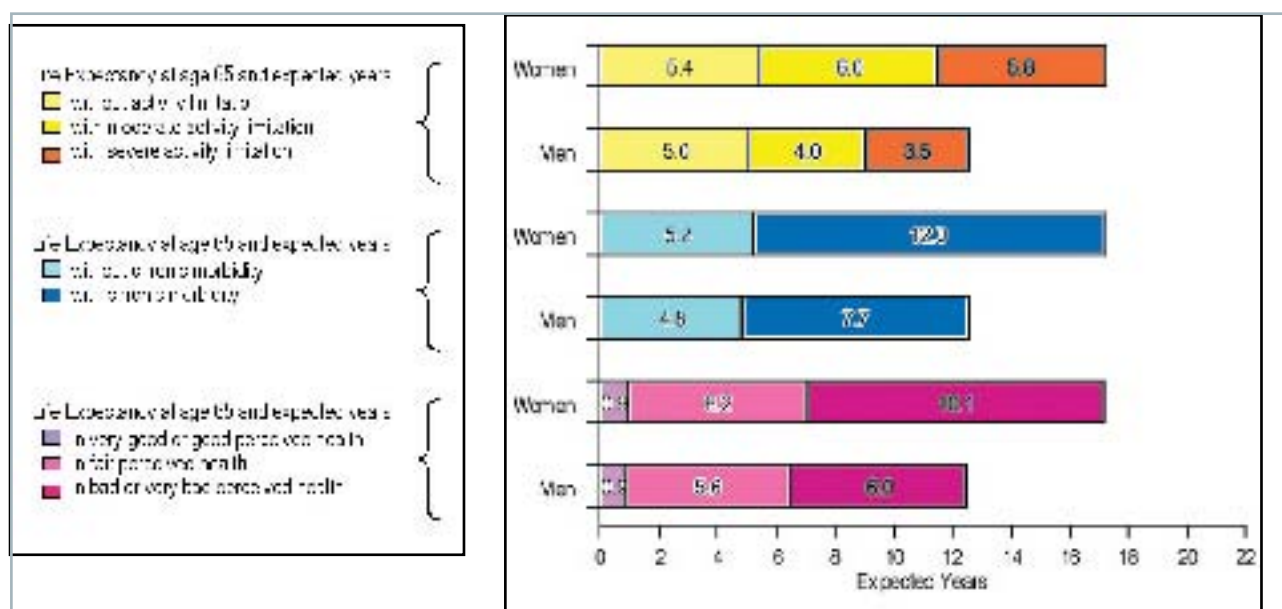
- Latvian life expectancy (LE) at age 65 has increased by 1.3 years for women and 1.1 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was below the EU15 average and remained below the EU25 in 2005.
- Because Latvia joined the European Union in 2004, the first series of health expectancy based on activity limitation (HLY) over the 1995-2001 period is not available.

- The new HLY series, initiated in 2005 with the SILC data, shows that women and men at age 65 can expect to spend 32% and 40% of their life without self-reported long-term activity limitations respectively. The HLY values for Latvia are 4.5 years and 3.8 years below the EU25 average for women and men respectively. Latvian men and women may be more likely to report health problems than the EU25 as a whole.





Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Latvia (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Latvia was 17.2 years for women and 12.5 years for men.
- Based on the SILC 2005, at age 65, women spent 32% (5.4 years) of remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 35% (6.0 years) with moderate activity limitation and 34% (5.8 years) with severe activity limitation.\*
- Men of the same age spent 40% (5.0 years) of remaining life without activity limitation compared to 32% (4.0 years) with moderate activity limitation and 28% (3.5 years) with severe activity limitation.\*
- Although total years lived by men were less than those for women, for all the health expectancies the years of life spent in positive health were similar.
- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Latvia comprised 1236 women and 570 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.

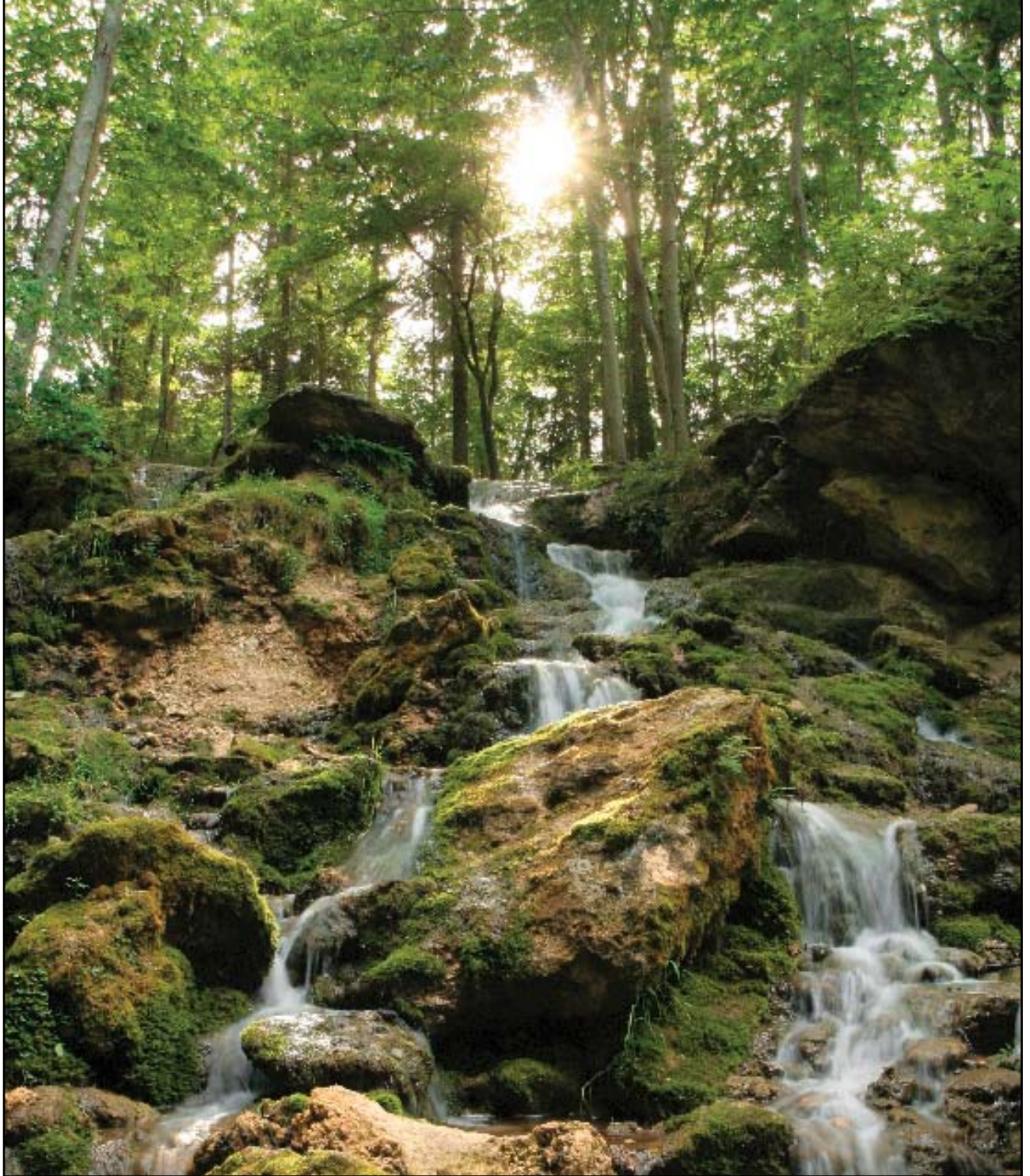


Published results and other reports of health expectancies for Latvia

Robine J-M, Le Roy S, Jagger C, EHEMU team. Changes in life expectancy in the European Union since 1995: similarities and differences between the 25 EU countries. In: Institut des Sciences de la Santé, editor. Living longer but healthier lives: how to achieve health gains in the elderly in the European Union Europe Blanche XXVI, Budapest, 25-26 November 2005. Paris: ISS; 2006. p. 9-48





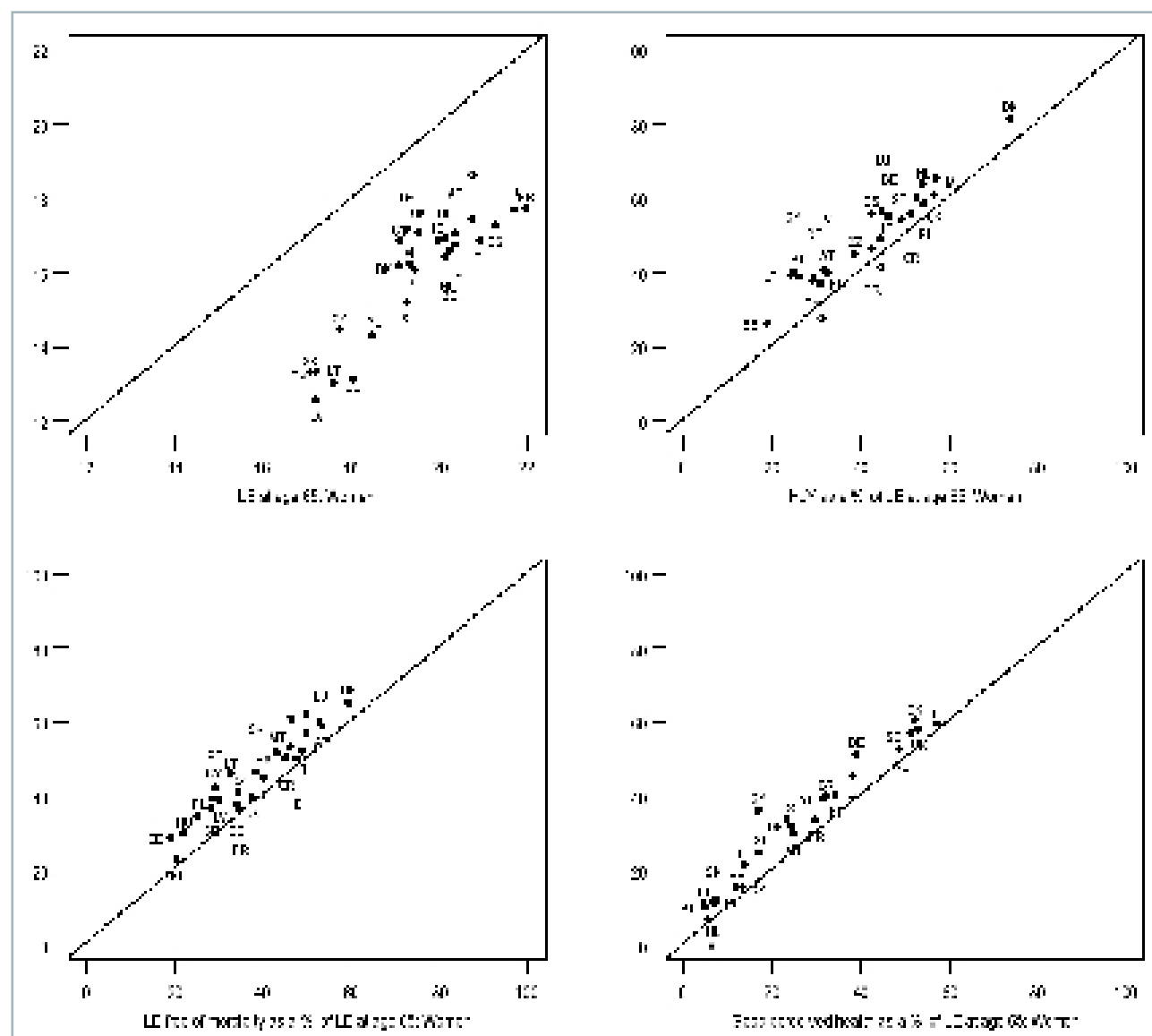


## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
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Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)



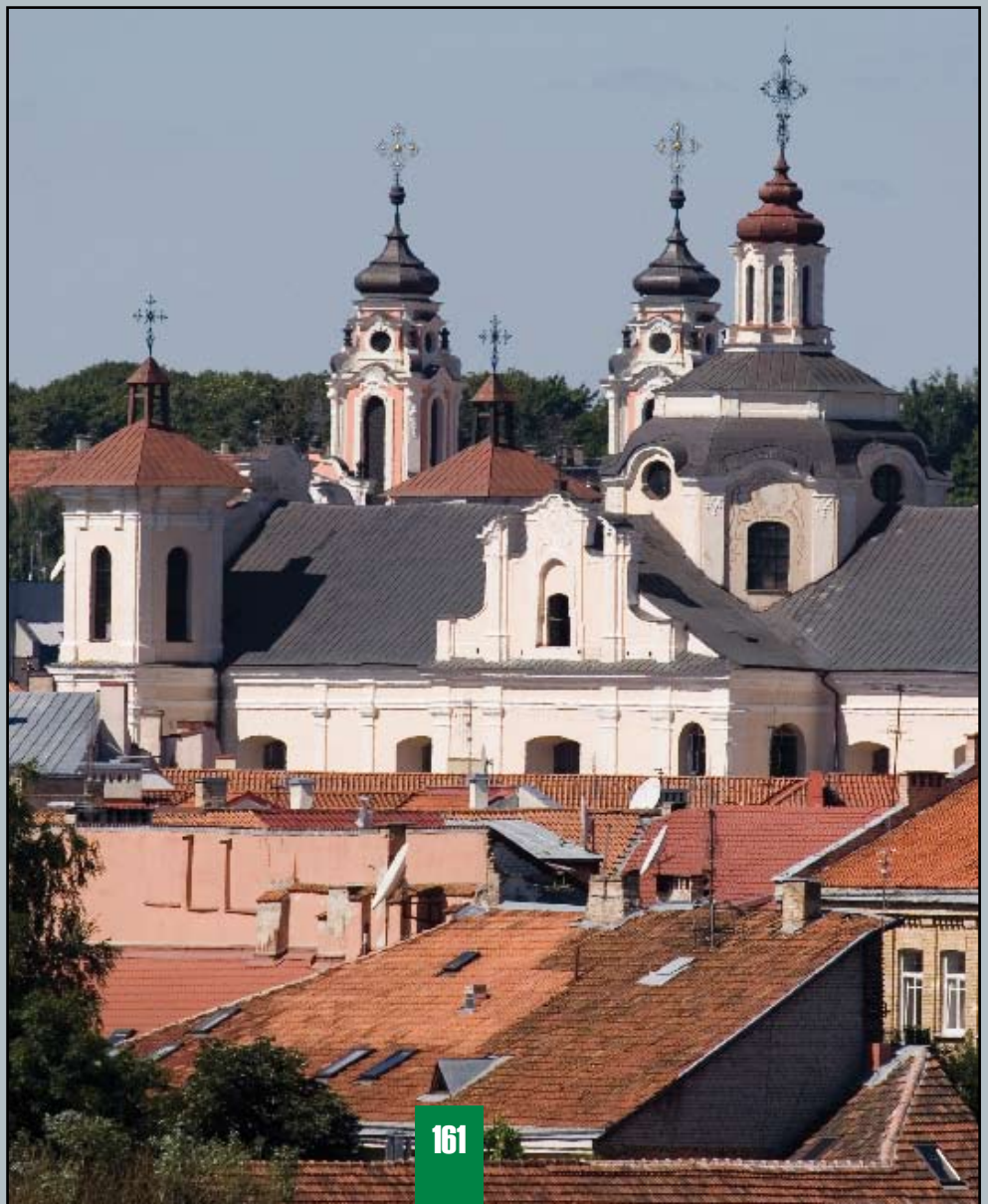




# EHEMU Country Reports

## June 2008

### HEALTH EXPECTANCY IN LITHUANIA





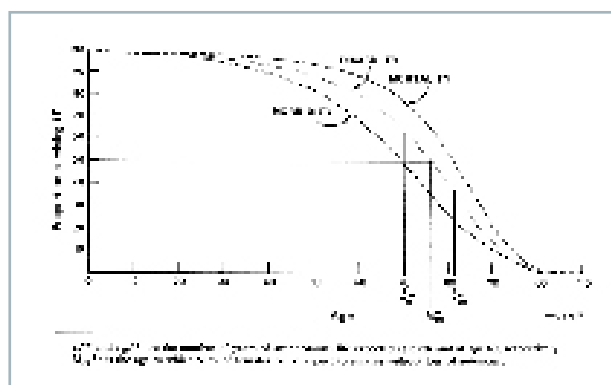
## What is health expectancy?

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**The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.**



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

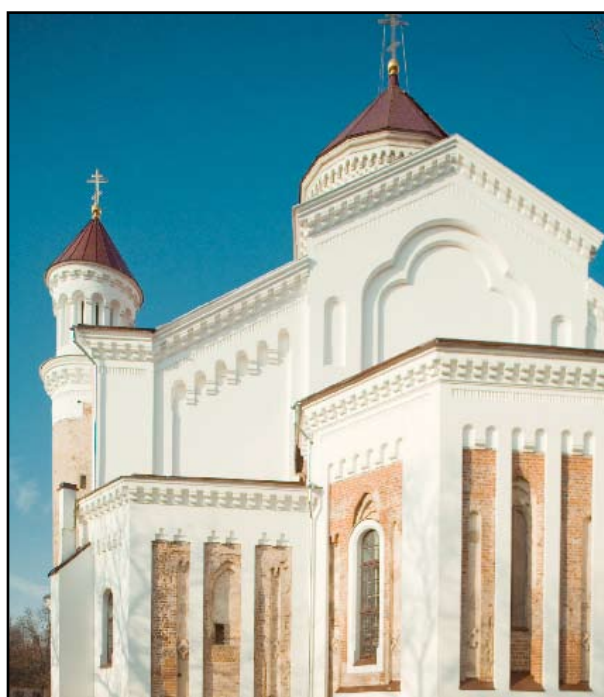
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## References

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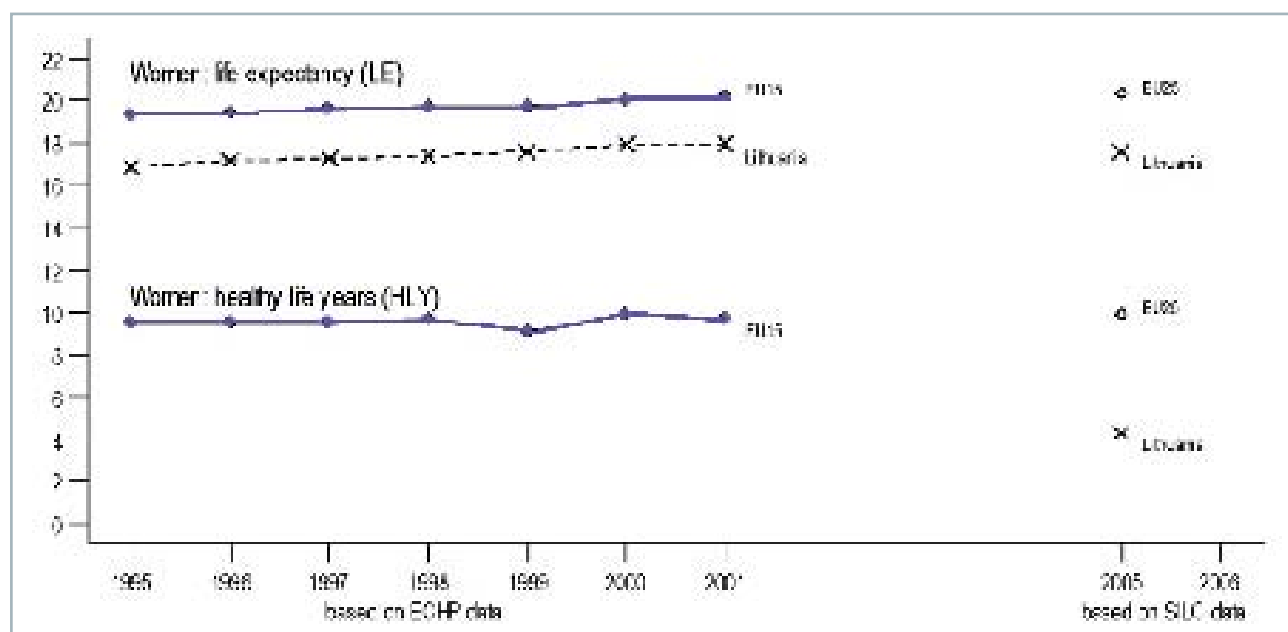
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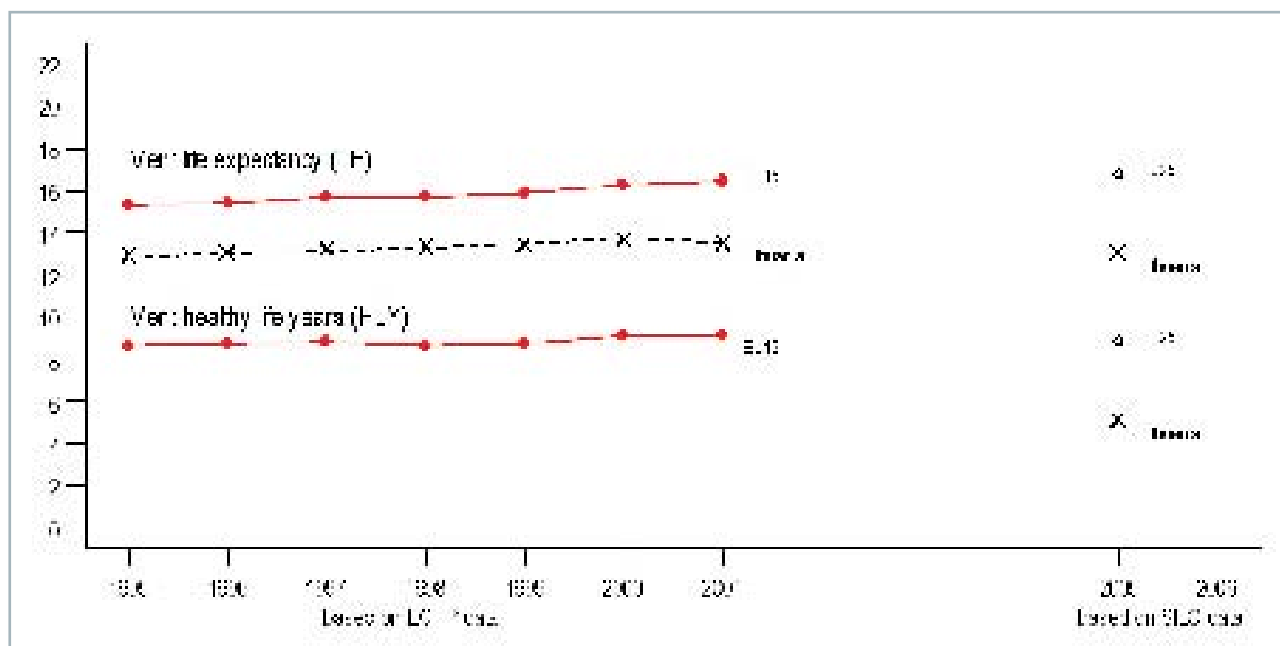
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## Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Lithuania and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



<b>Lithuania</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Women: LE	16.9	17.2	17.3	17.4	17.6	17.9	17.9	-	-	-	17.6	
Women: HLY	-	-	-	-	-	-	-	-	-	-	4.3	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	24%	

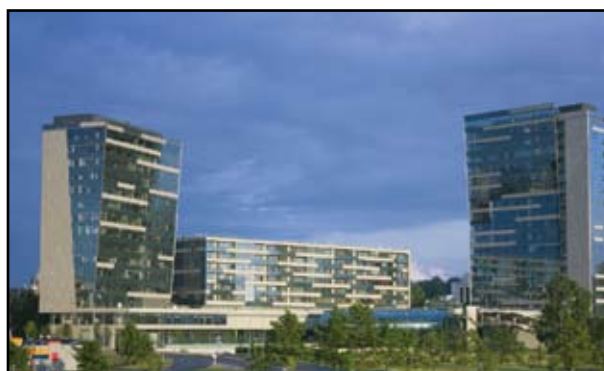


<b>Lithuania</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Men: LE	12.9	13.0	13.2	13.3	13.4	13.7	13.5	-	-	-	13.6	
Men: HLY	-	-	-	-	-	-	-	-	-	-	5.1	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	39%	

### Key points:

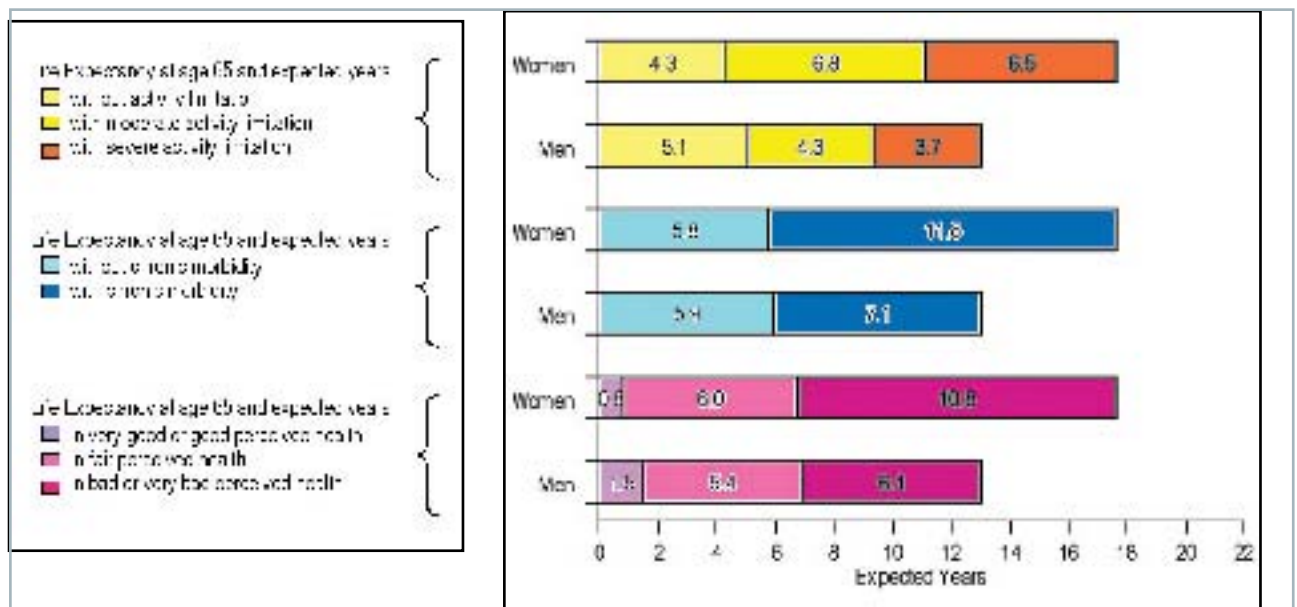
- Lithuanian life expectancy (LE) at age 65 has increased by 0.7 years for women and 0.1 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was below the EU15 average and remained below the EU25 in 2005.
- Because Lithuania joined the European Union in 2004, the first series of health expectancy based on activity limitation (HLY) over the 1995-2001 period is not available.

- The new HLY series, initiated in 2005 with the SILC data, shows that women and men at age 65 can expect to spend 24% and 39% of their life without self-reported long-term activity limitations respectively. The HLY values for Lithuania are almost 5.6 years and 5.7 years below the EU25 average for women and men respectively. Lithuanian men and women may be more likely to report health problems than the EU25 as a whole.





Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Lithuania (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Lithuania was 17.6 years for women and 13.0 years for men.
- Based on the SILC 2005, at age 65, women spent 24% (4.3 years) of remaining life without activity limitation corresponding to Healthy Life Years (HLY), 39% (6.8 years) with moderate activity limitation and 37% (6.5 years) with severe activity limitation.\*
- Men of the same age spent 39% (5.1 years) of remaining life without activity limitation compared to 33% (4.3 years) with moderate activity limitation and 28% (3.7 years) with severe activity limitation.\*
- Although total years lived by men were less than those for women, for all the health expectancies the years of life spent in positive health were greater for men than women.
- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Lithuania comprised 1175 women and 711 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



## Published results and other reports of health expectancies for Lithuania

Kalėdienė R, Petrauskienė J. Healthy life expectancy - an important indicator for health policy development in Lithuania. *Medicina (Kaunas)*. 2004;40(6):582-588.

Robine J-M, Le Roy S, Jagger C, EHEMU team. Changes in life expectancy in the European Union since 1995: similarities and differences between the 25 EU countries. In: Institut des Sciences de la Santé, editor. *Living longer but healthier lives: how to achieve health gains in the elderly in the European Union Europe Blanche XXVI*, Budapest, 25-26 November 2005.

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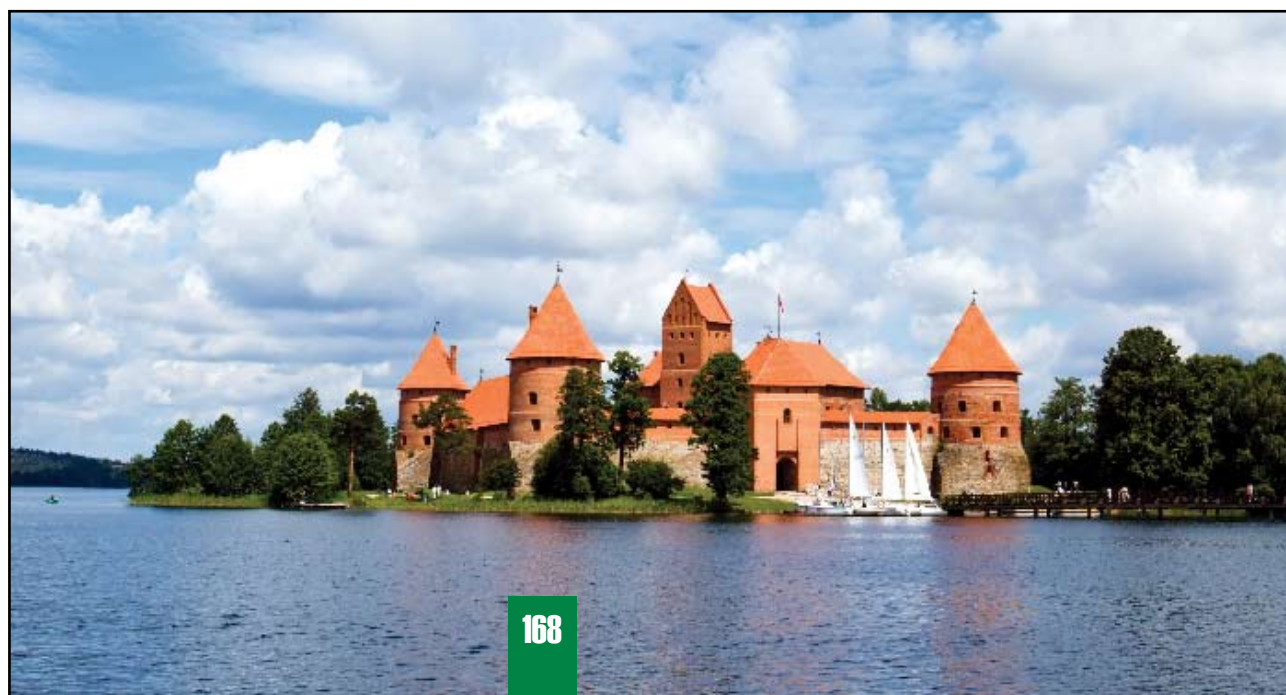
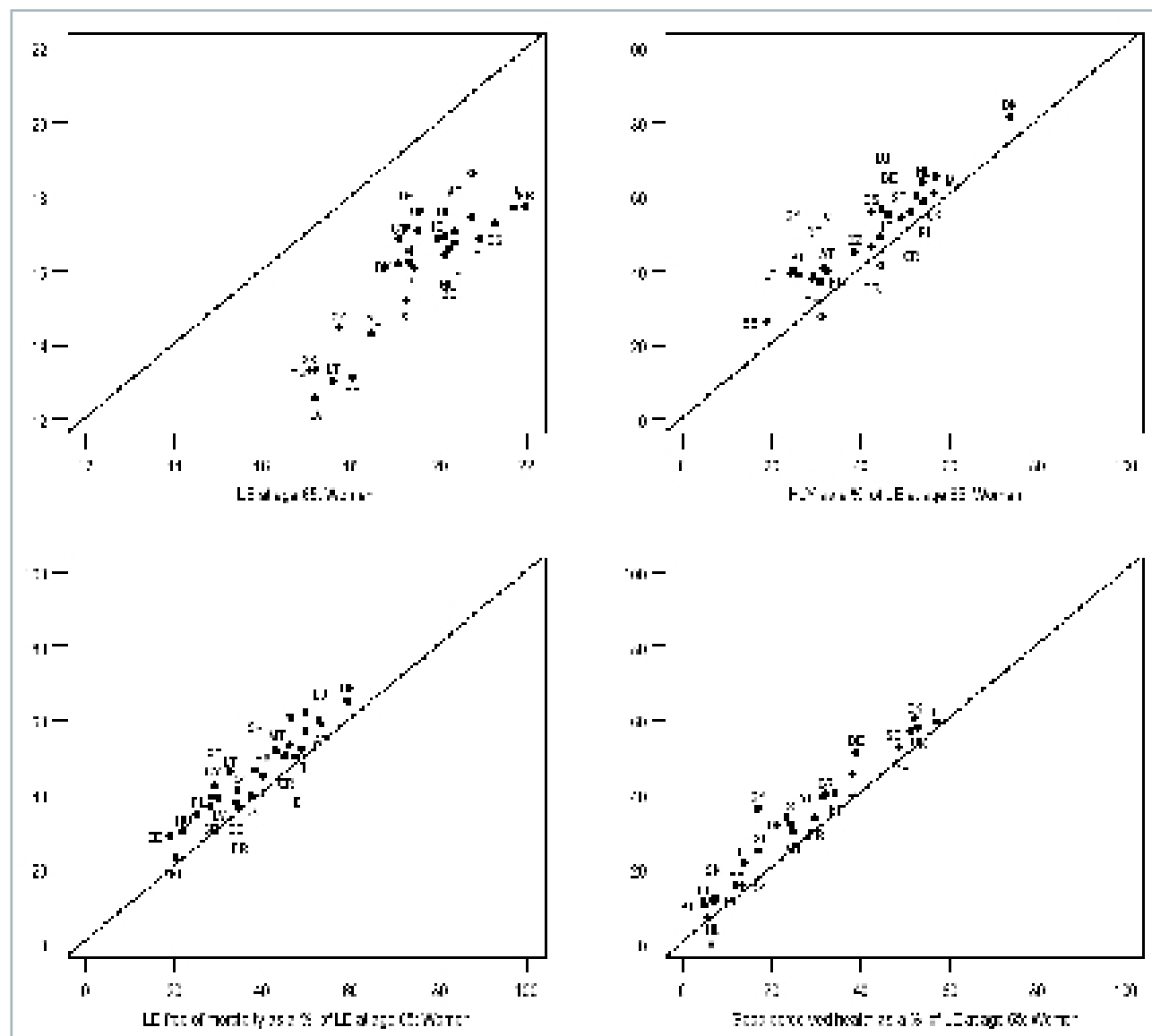
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- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
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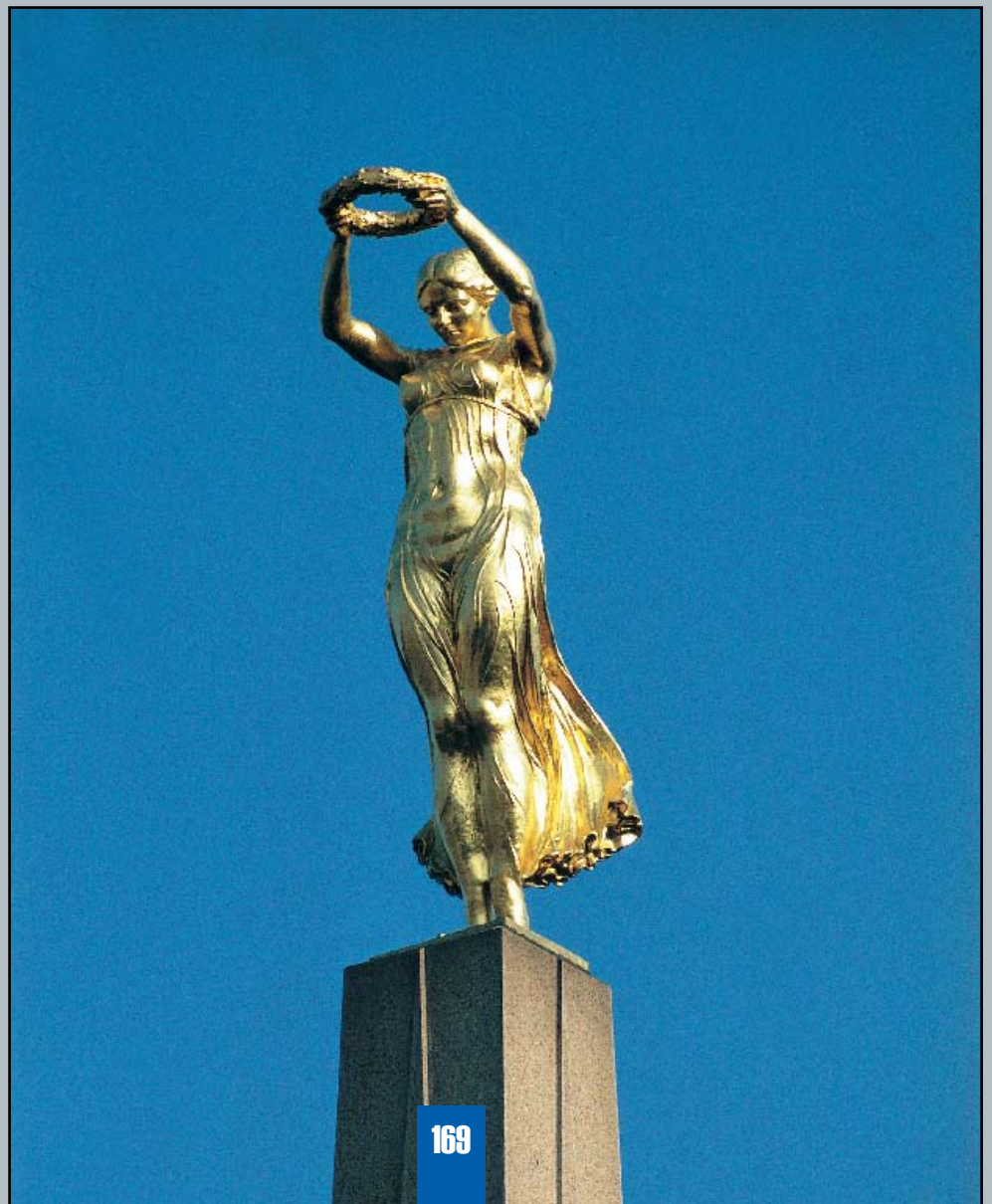




# EHEMU Country Reports

## June 2008

### HEALTH EXPECTANCY IN LUXEMBOURG





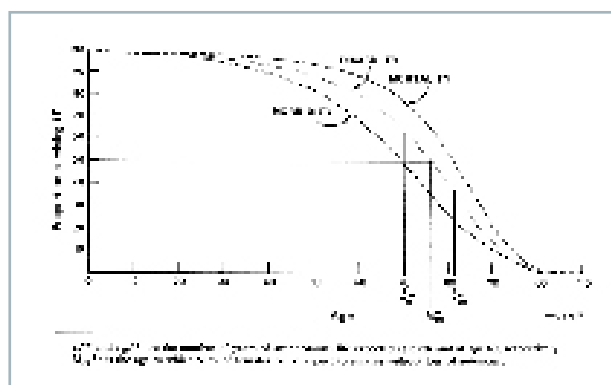
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## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

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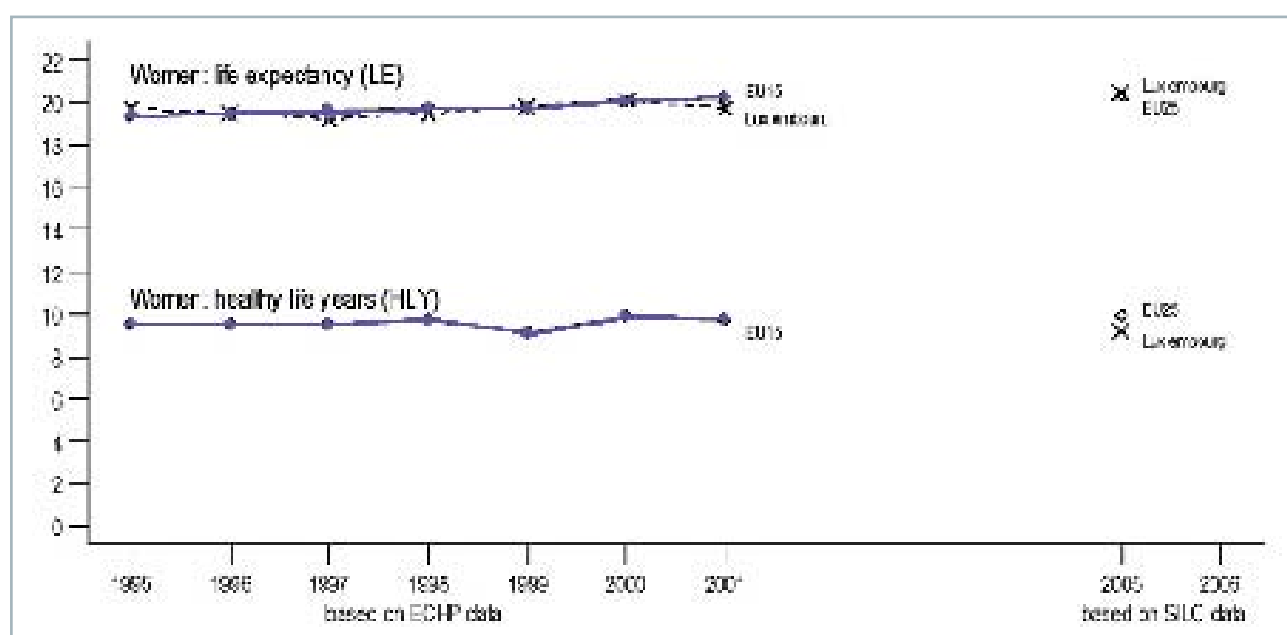
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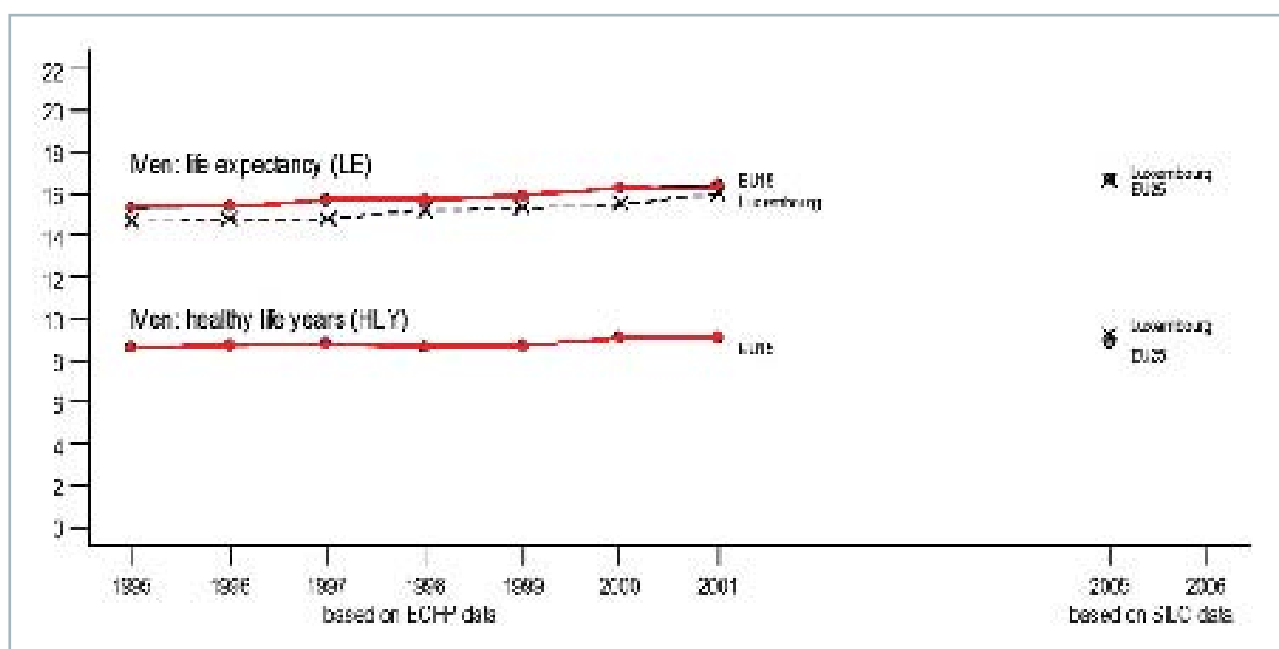
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## Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Luxembourg and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



Luxembourg	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Women: LE	19.7	19.5	19.2	19.5	19.8	20.1	19.7	-	-	-	20.4	
Women: HLY											9.2	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	45%	



Luxembourg	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Men: LE	14.7	14.8	14.8	15.2	15.3	15.5	16.0	-	-	-	16.7	
Men: HLY											9.3	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	56%	

### Key points:

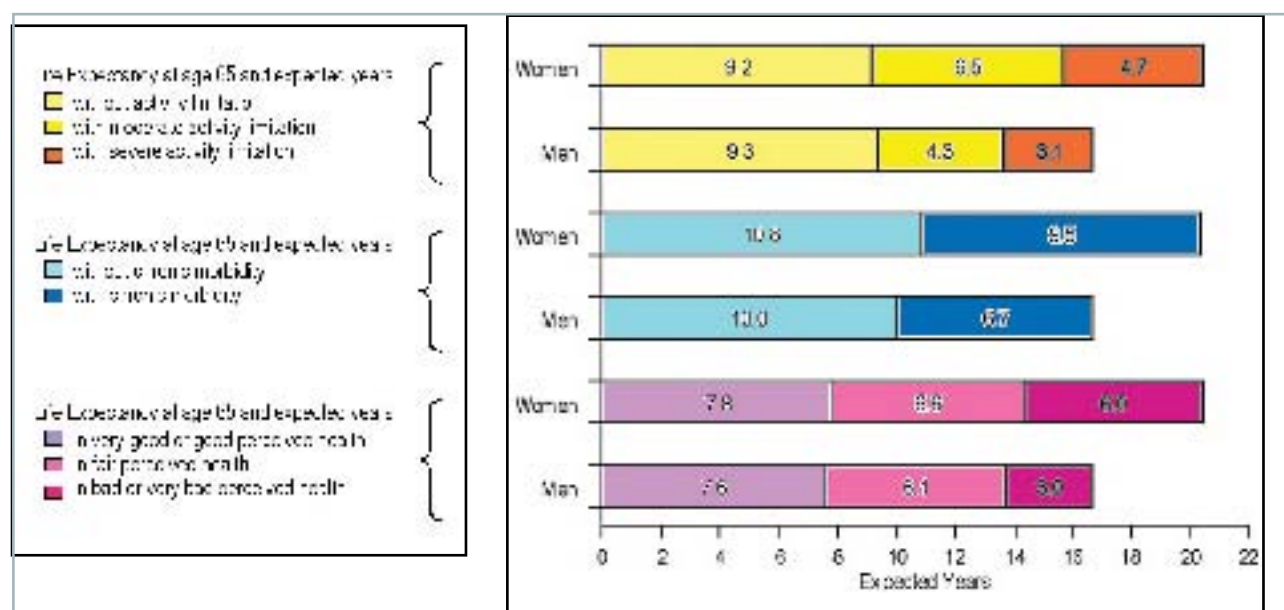
- Luxembourg life expectancy (LE) at age 65 has increased by 0.7 years for women and 2.0 years for men over the 1995-2005 period: LE for men between 1995-2001 were below the EU15 average, but by 2005 LE for both sexes were slightly above the EU25 average for women and equal to the EU25 average for men.
- The first series of health expectancy based on activity limitation (HLY) over the 1995-2001 period is available only for 2 or 3 years in Luxembourg and therefore these are not shown.

- The new HLY series, initiated in 2005 with the SILC data, shows that women and men at age 65 can expect to spend 45% and 56% of their life without self-reported long-term activity limitations respectively. The HLY values for Luxembourg are 0.5 year above the EU25 average for men and 0.7 year below the EU25 average for women. Luxembourg men and women may be less likely to report health problems than the EU25 as a whole.





Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Luxembourg (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Luxembourg was 20.4 years for women and 16.7 years for men.
- Based on the SILC 2005, at age 65, women spent 45% (9.2 years) of remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 32% (6.5 years) with moderate activity limitation and 23% (4.7 years) with severe activity limitation.\*
- Men of the same age spent 56% (9.3 years) of remaining life without activity limitation compared to 26% (4.3 years) with moderate activity limitation and 18% (3.1 years) with severe activity limitation.\*

- Although total years lived by men were less than those for women, the numbers of years lived in very good or good perceived health and the years lived without activity limitation were similar. However, the numbers of years lived without chronic morbidity were greater for women than men.
- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Luxembourg comprised 502 women and 475 men aged 65+ years.

\*These may not sum to Life Expectancy due to rounding.



Published results and other reports of health expectancies for Luxembourg

Robine J-M, Le Roy S, Jagger C, EHEMU team. Changes in life expectancy in the European Union since 1995: similarities and differences between the 25 EU countries. In: Institut des Sciences de la Santé, editor. Living longer but healthier lives: how to achieve health gains in the elderly in the European Union Europe Blanche XXVI, Budapest, 25-26 November 2005. Paris: ISS; 2006. p. 9-48.





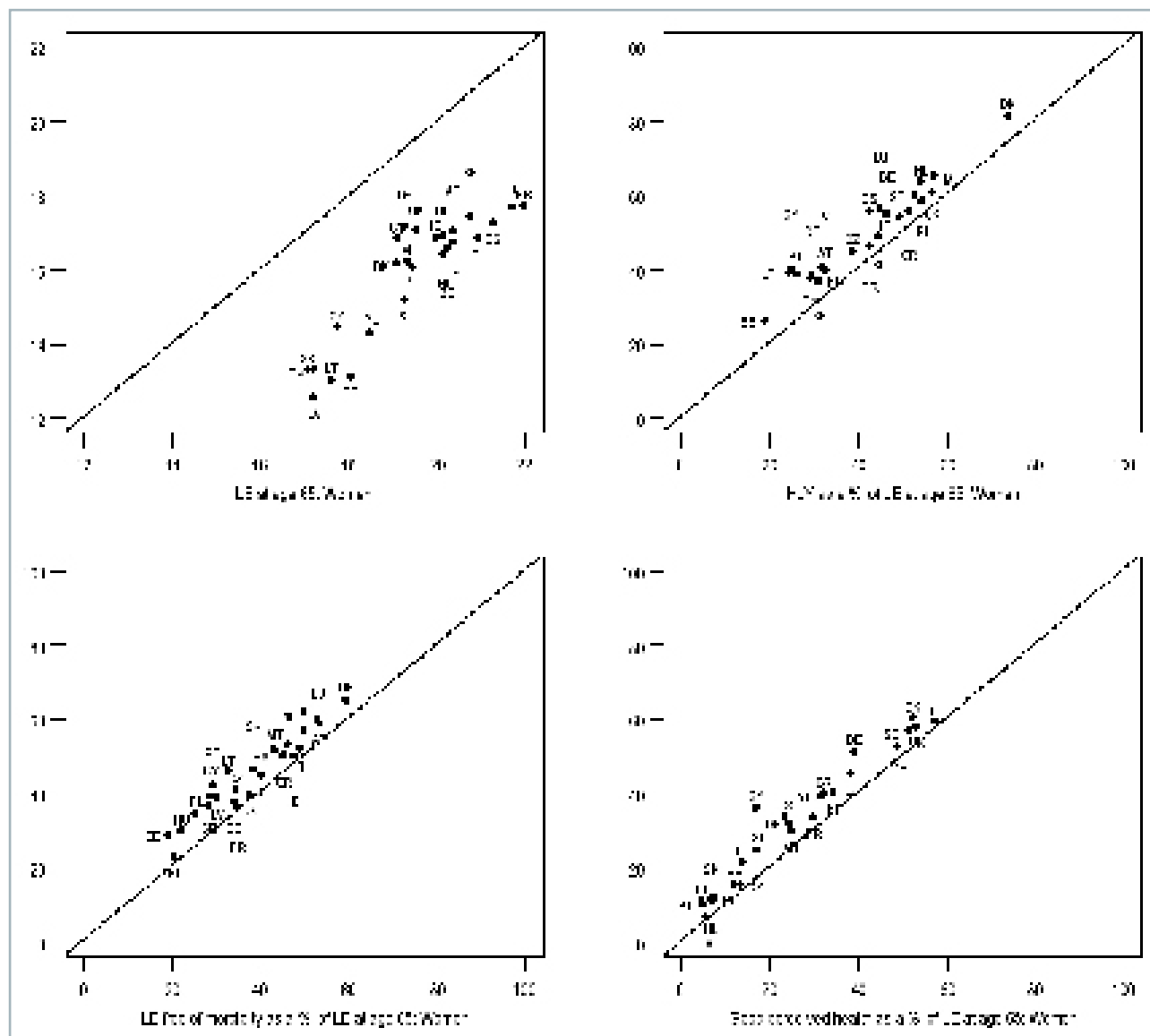
## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.



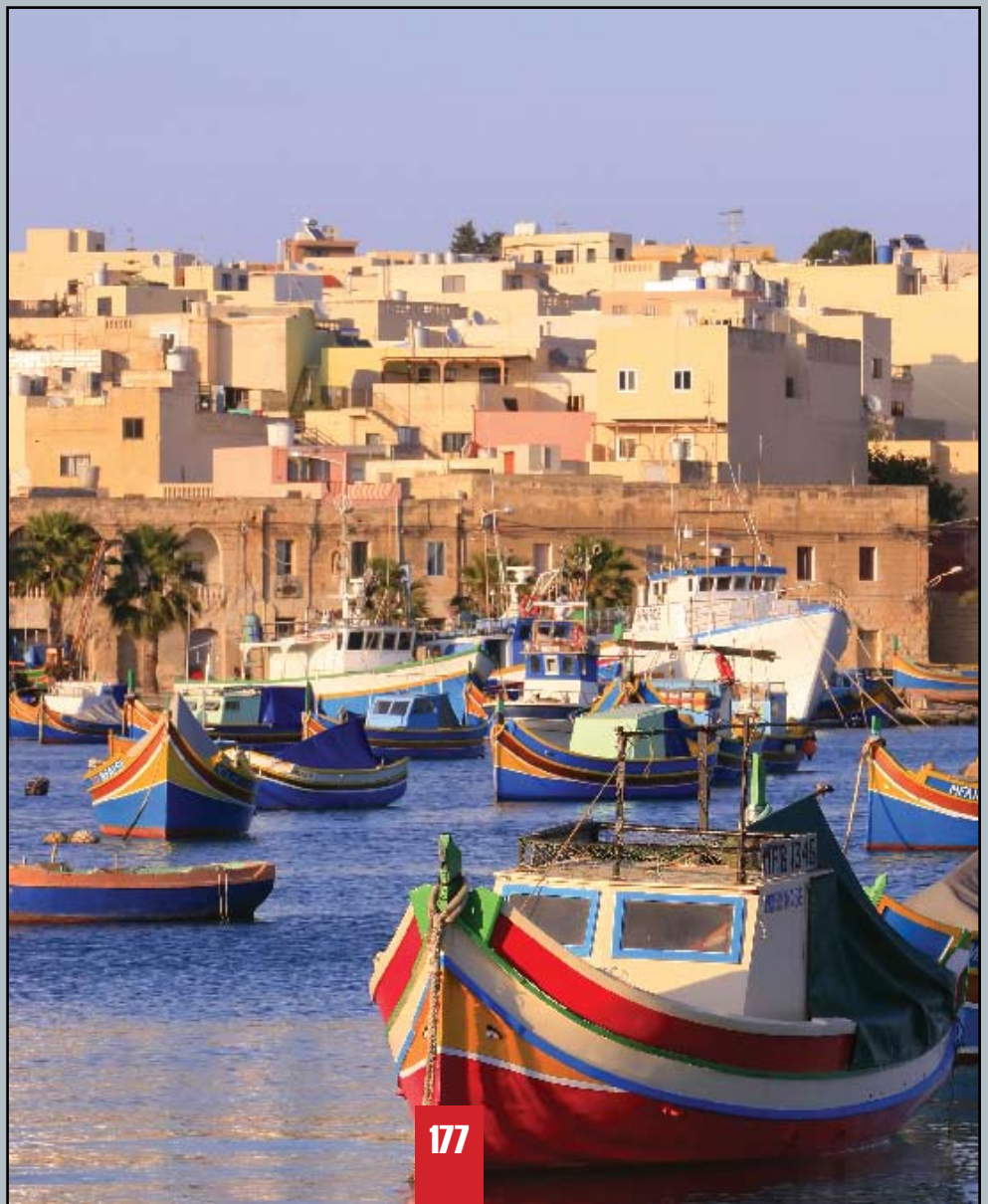
Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)





## EHEMU Country Reports June 2008

### HEALTH EXPECTANCY IN MALTA





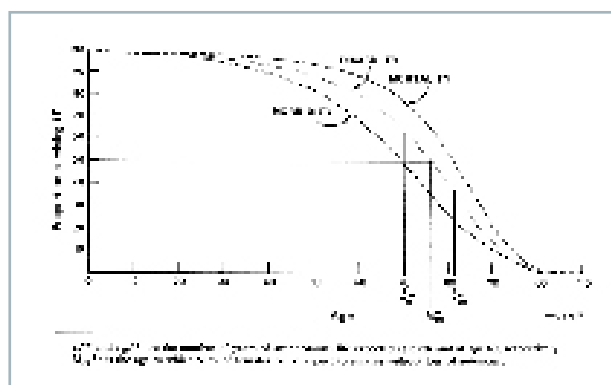
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

**The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.**



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

## How do we compare health expectancies?

Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe (Robine et al., 2003).

Health expectancies are most often calculated by the Sullivan method (Sullivan, 1971). However to make valid comparisons, the underlying health measure should be truly comparable.

To address this, the European Union has decided to include a small set of health expectancies among its European Community Health Indicators (ECHI) to provide synthetic measures of disability, chronic morbidity and perceived health. Therefore the Minimum European Health Module (MEHM), composed of 3 general questions covering these dimensions, has been introduced into the Statistics on Income and Living Conditions (SILC) to improve the comparability of health expectancies between countries. In addition life expectancy without long term activity limitation, based on the disability question, was selected in 2004 to be one of the structural indicators for assessing the EU strategic goals (Lisbon strategy) under the name of "Healthy Life Years" (HLY).

Further details on the MEHM, the European surveys and health expectancy calculation and interpretation can be found on [www.ehemu.eu](http://www.ehemu.eu).



## What is in this report?

This report is produced by the European Health Expectancy Monitoring Unit (EHEMU) as part of a country series. In each report we present:

- health expectancies based on activity limitation (HLY) for the country of interest and for the overall 25 European Union member states (EU25), using the SILC 2005 question on long term activity limitation. As the SILC has been only recently initiated, to document trends we provide previous HLY series based on the disability question of the 1995-2001 European Community Household Panel (ECHP)
- health expectancies based on the two additional dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2005
- a global analysis of health expectancies of European countries, based on the SILC 2005



## References

Robine JM, Jagger C, Mathers CD, Crimmins EM, Suzman RM, Eds.

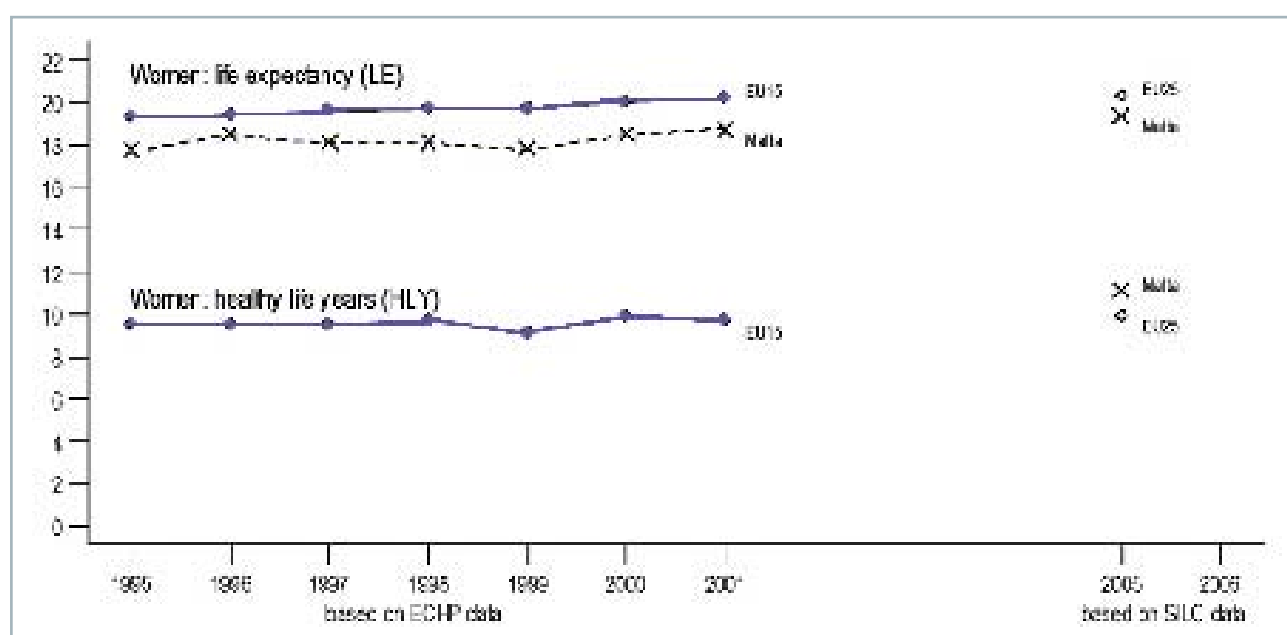
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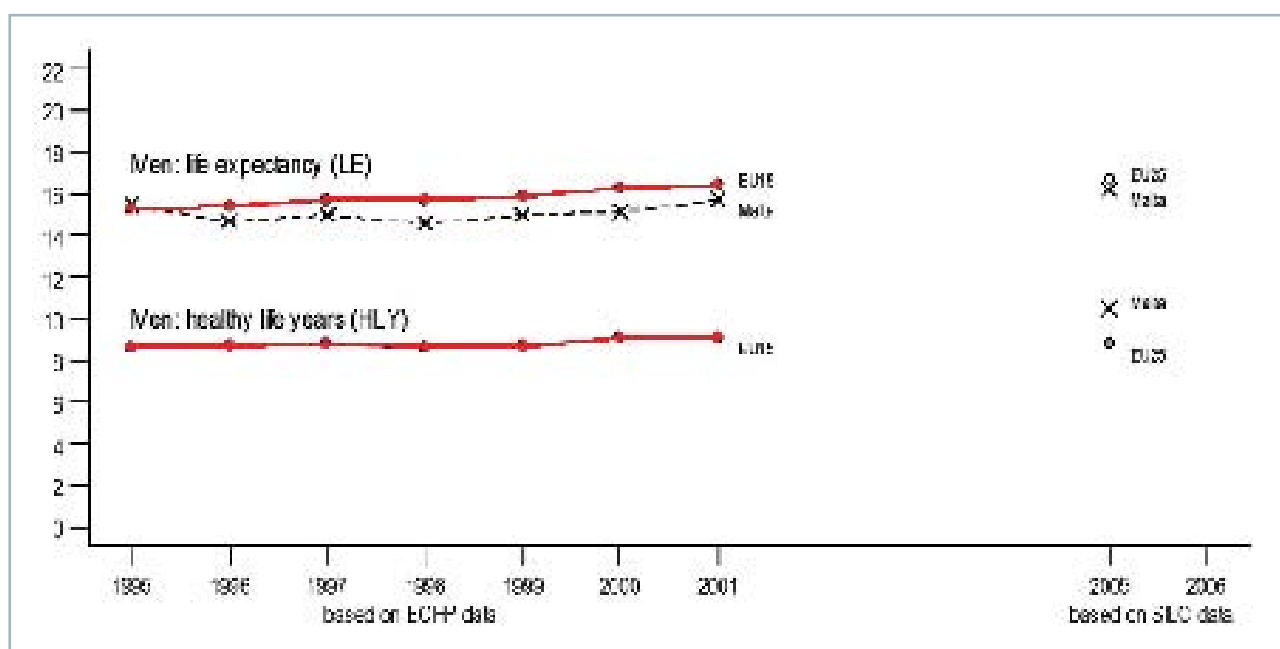
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Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Malta and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



Malta	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Women: LE	17.7	18.5	18.1	18.1	17.8	18.5	18.7	-	-	-	19.4	
Women: HLY	-	-	-	-	-	-	-	-	-	-	11.1	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	58%	

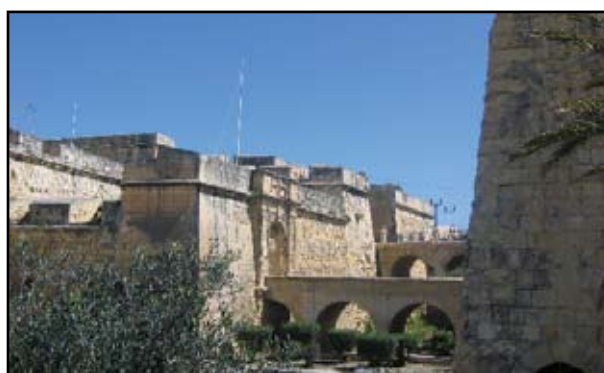


Malta	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Men: LE	15.4	14.7	15.0	14.6	15.0	15.1	15.7	-	-	-	16.2	
Men: HLY	-	-	-	-	-	-	-	-	-	-	10.5	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	55%	

### Key points:

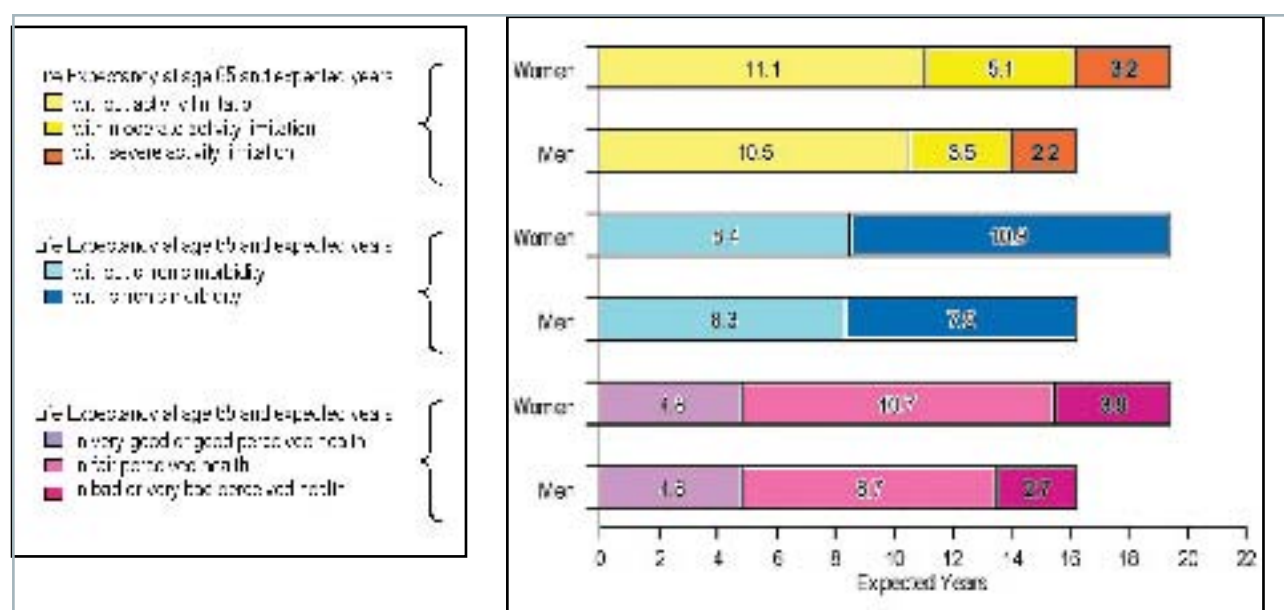
- Maltese life expectancy (LE) at age 65 has increased by 1.7 years for women and 0.8 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was below the EU15 average and remained slightly below the EU25 in 2005.
- Because Malta joined the European Union in 2004, the first series of health expectancy based on activity limitation (HLY) over the 1995-2001 period is not available.

- The new HLY series, initiated in 2005 with the SILC data, shows that women and men at age 65 can expect to spend 58% and 65% of their life without self-reported long-term activity limitations respectively. The HLY values for Malta are 1.2 years and 1.7 years above the EU25 average for women and men respectively. Maltese men and women may be less likely to report health problems than the EU25 as a whole.





## Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Malta (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Malta was 19.4 years for women and 16.2 years for men.
- Based on the SILC 2005, at age 65, women spent 58% (11.1 years) of remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 25% (5.1 years) with moderate activity limitation and 17% (3.2 years) with severe activity limitation.\*
- Men of the same age spent 65% (10.5 years) of remaining life without activity limitation compared to 22% (3.5 years) with moderate activity limitation and 13% (2.2 years) with severe activity limitation.\*

- Although total years lived by men were less than those for women, the numbers of years lived in very good or good perceived health and the years lived without chronic morbidity were similar. However, the numbers of years lived without activity limitation were greater for women than men.
- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Malta comprised 813 women and 644 men aged 65+ years.

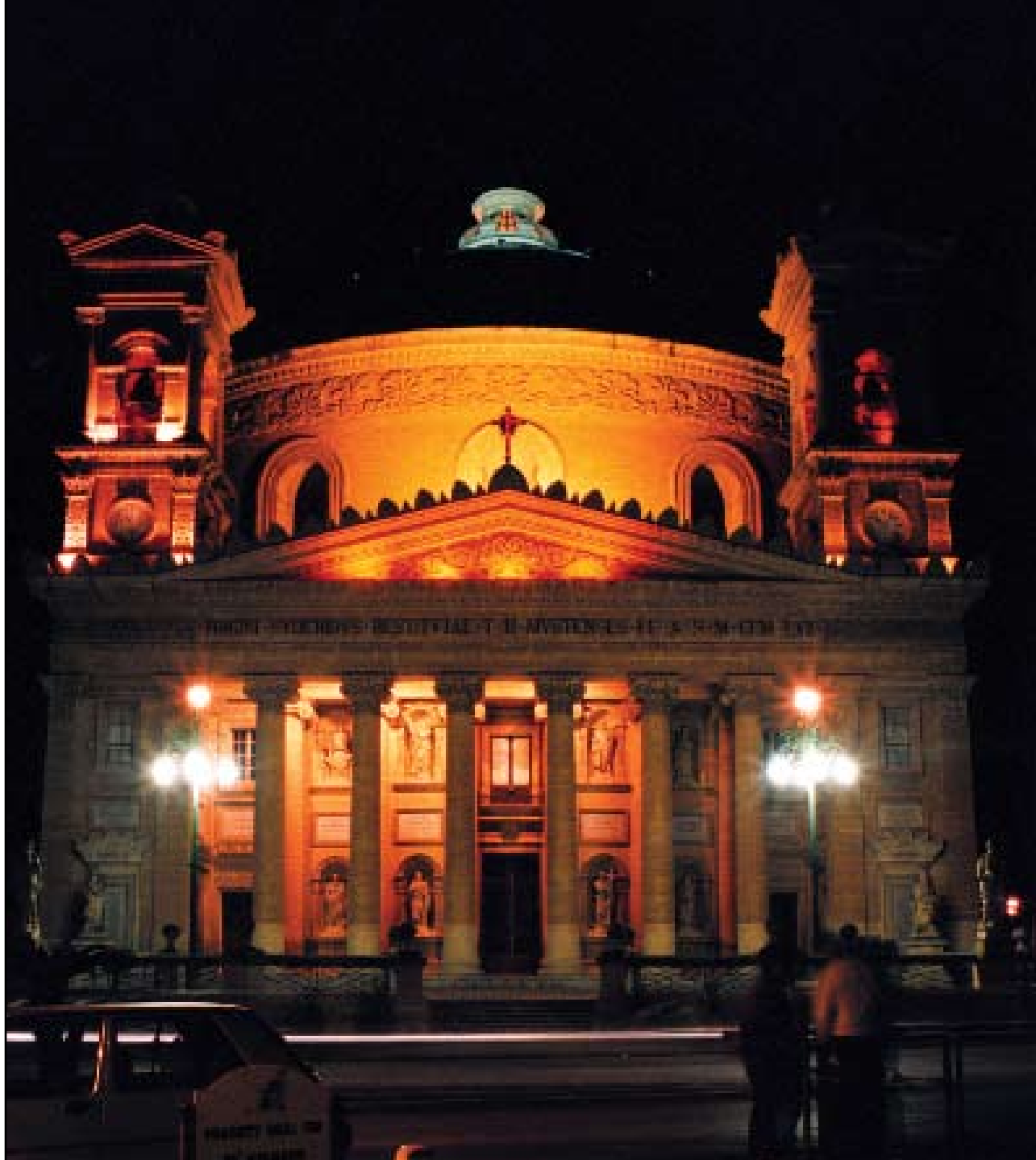
\* These may not sum to Life Expectancy due to rounding.



Published results and other reports of health expectancies for Malta

Robine J-M, Le Roy S, Jagger C, EHEMU team. Changes in life expectancy in the European Union since 1995: similarities and differences between the 25 EU countries. In: Institut des Sciences de la Santé, editor. Living longer but healthier lives: how to achieve health gains in the elderly in the European Union Europe Blanche XXVI, Budapest, 25-26 November 2005. Paris: ISS; 2006. p. 9-48.



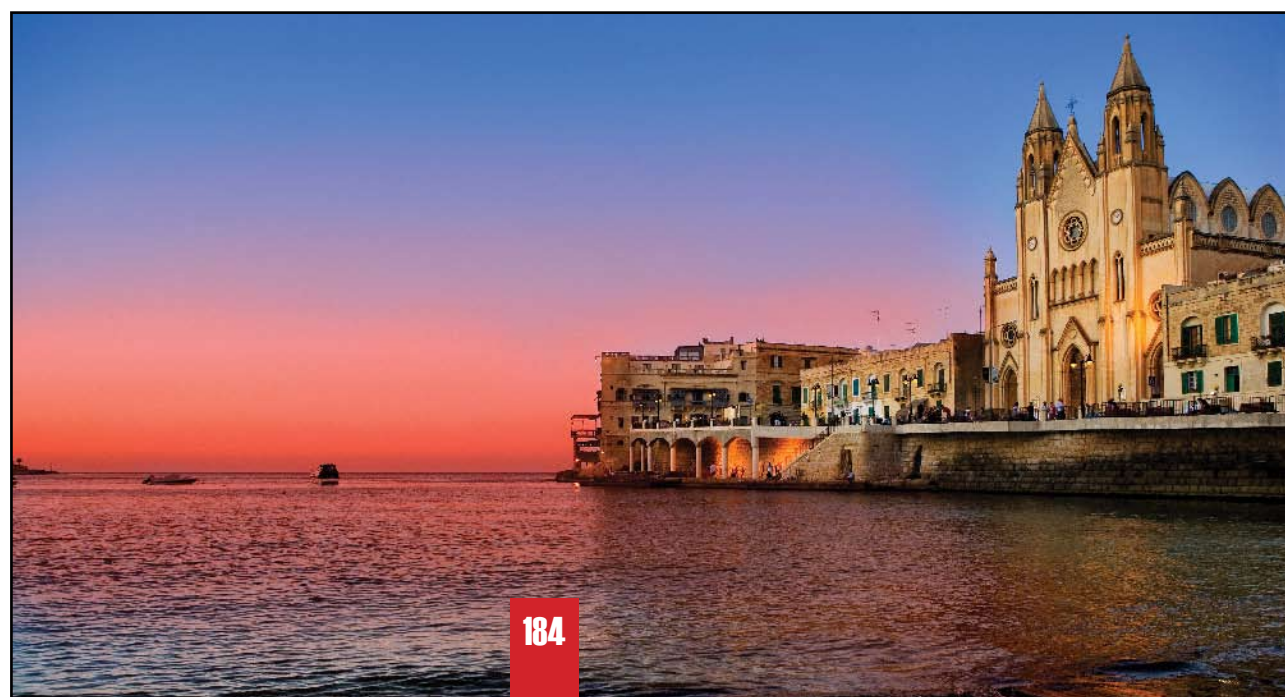
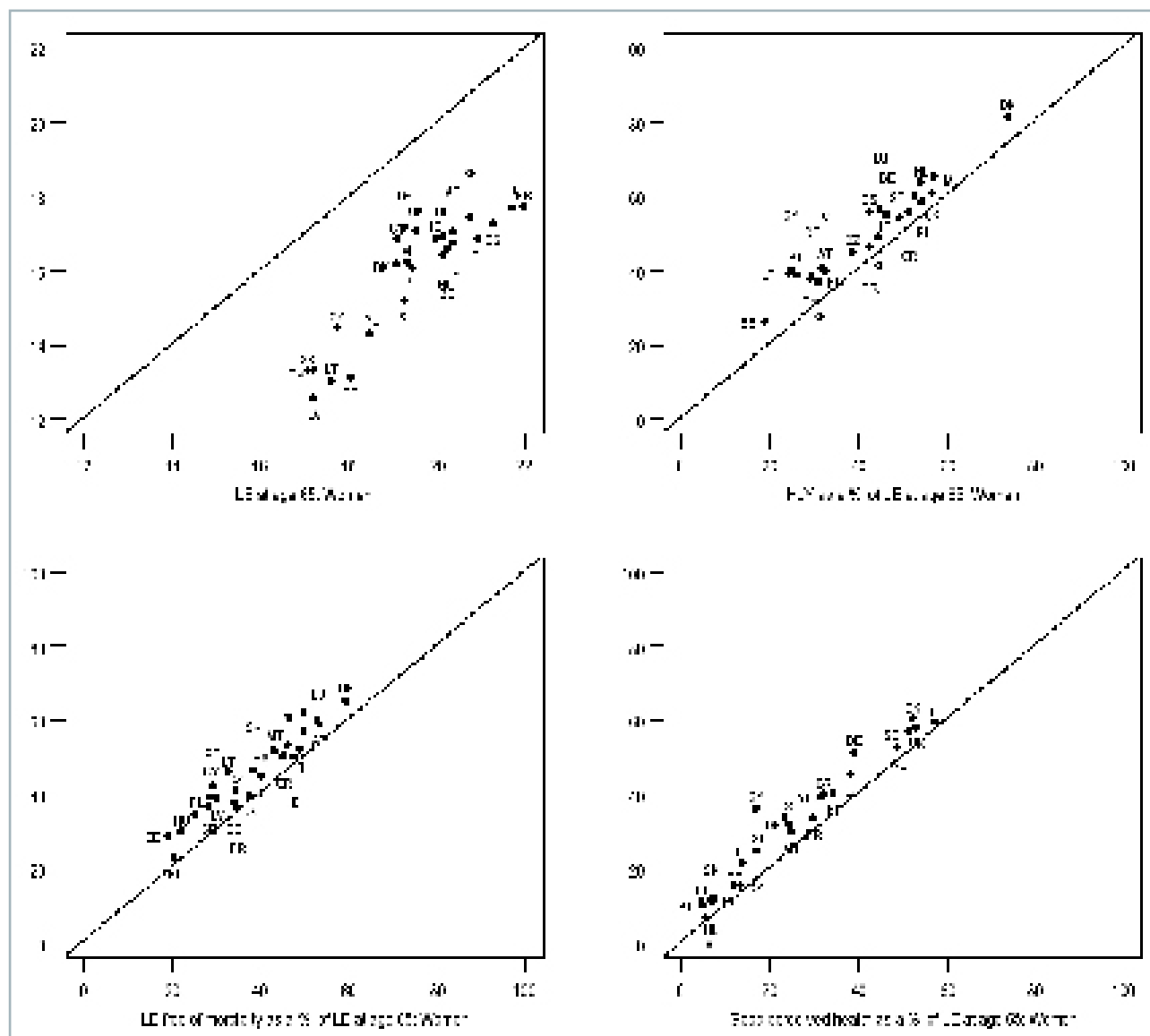


## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.

Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)





# EHEMU Country Reports

## June 2008

### HEALTH EXPECTANCY IN NETHERLANDS





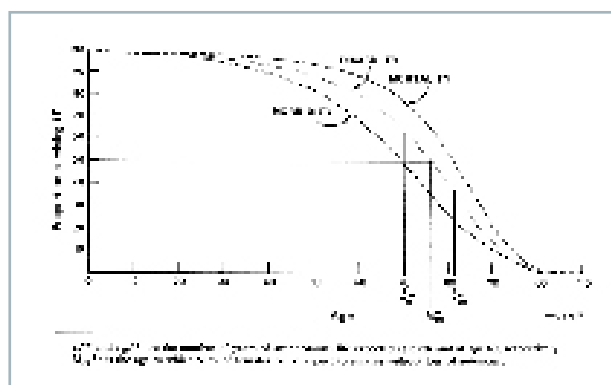
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

**The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.**



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

## How do we compare health expectancies?

Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe (Robine et al., 2003).

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Further details on the MEHM, the European surveys and health expectancy calculation and interpretation can be found on [www.ehemu.eu](http://www.ehemu.eu).



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- health expectancies based on the two additional dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2005
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## References

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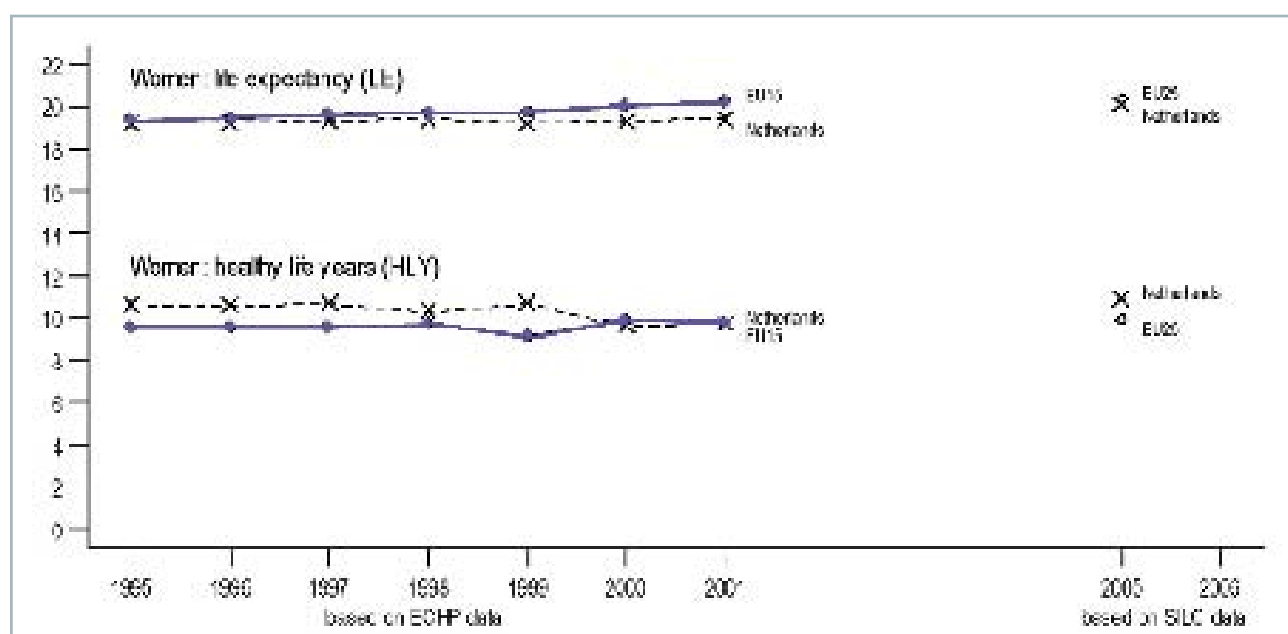
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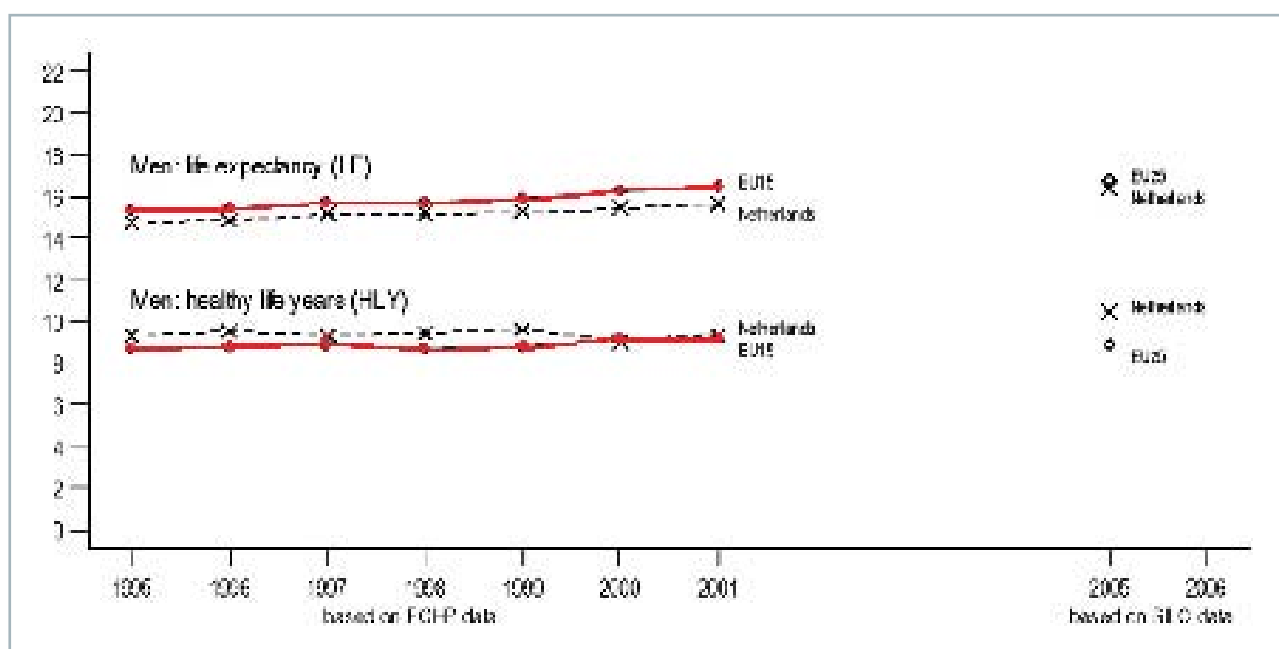
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Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for the Netherlands and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



Netherlands	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Women: LE	19.2	19.2	19.3	19.4	19.2	19.3	19.4	-	-	-	20.1	
Women: HLY	10.6	10.6	10.7	10.3	10.7	9.6	9.7				10.9	
%HLY/LE	55%	55%	55%	53%	56%	50%	50%	-	-	-	54%	



Netherlands	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Men: LE	14.7	14.8	15.1	15.1	15.2	15.4	15.6	-	-	-	16.4	
Men: HLY	9.3	9.5	9.3	9.4	9.6	9.0	9.3				10.4	
%HLY/LE	63%	64%	62%	62%	63%	59%	60%	-	-	-	63%	

### Key points:

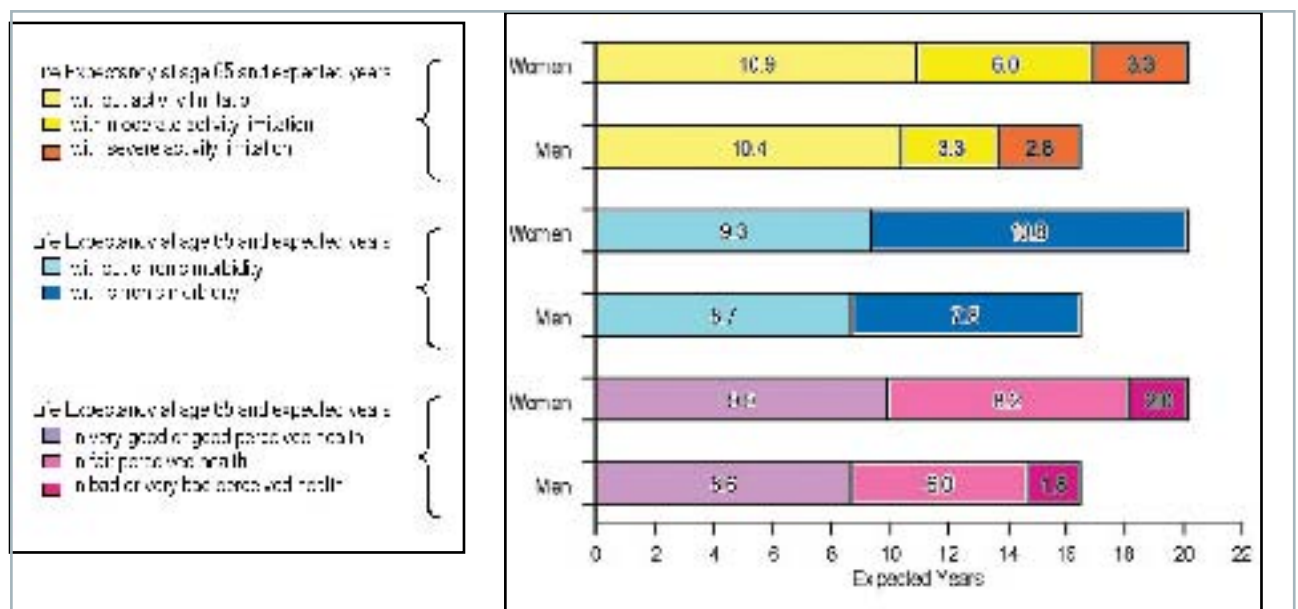
- Dutch life expectancy (LE) at age 65 has increased by 0.9 years for women and 1.7 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 were below the EU15 average, by 2005 LE for both sexes were slightly below the EU25 average.
- Over the 1995-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data decreased for women but remained almost stable for men. The proportion of HLY (or years without self-reported limitations due to health condition or disability), within the total expected years, decreased for both sexes, being close to 50% for women and 60% for men in 2001. Between

1995 and 1999 HLY in the Netherlands was above the EU15 average and reached the EU15 average in 2001.

- The new HLY series, initiated in 2005 with the SILC data, shows a highervalue for the Netherlands than previously and compared to the EU average, being 1 year and 1.6 years above the EU25 average (and above the EU15 average) for women and men respectively. Women and men at age 65 can expect to spend 54% and 63% of their life without self-reported long-term activity limitations respectively. Compared to earlier trends, the SILC question may result in people reporting limitations of different severity than previously and Dutch women and men may be less likely to report minor problems than before and than the EU25 as a whole.



Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for the Netherlands (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in the Netherlands was 20.1 years for women and 16.4 years for men.
- Based on the SILC 2005, at age 65, women spent 54% (10.9 years) of their remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 30% (6.0 years) with moderate activity limitation and 16% (3.3 years) with severe activity limitation.\*
- Men of the same age spent 63% (10.4 years) of remaining life without activity limitation compared to 20% (3.3 years) with moderate activity limitation and 17% (2.8 years) with severe activity limitation.\*
- Although for all the health expectancies the years of life spent in positive health were greater for women than men, women spent a larger proportion of their life in ill health.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Netherlands comprised 1030 women and 570 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



#### Published results and other reports of health expectancies for the Netherlands

van Baal PHM, Hoogenveen RT, Polder JJ, Feenstra TL, Boshuizen HC, de Wit GA. Healthy life expectancy and lifetime medical costs of smokers and obese people. *Eur J Public Health*. 2006;16:50-50.

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Groenewegen PP, Westert GP, Boshuizen HC. Regional differences in healthy life expectancy in the Netherlands. *Public Health*. 2003;117(6):424-429.



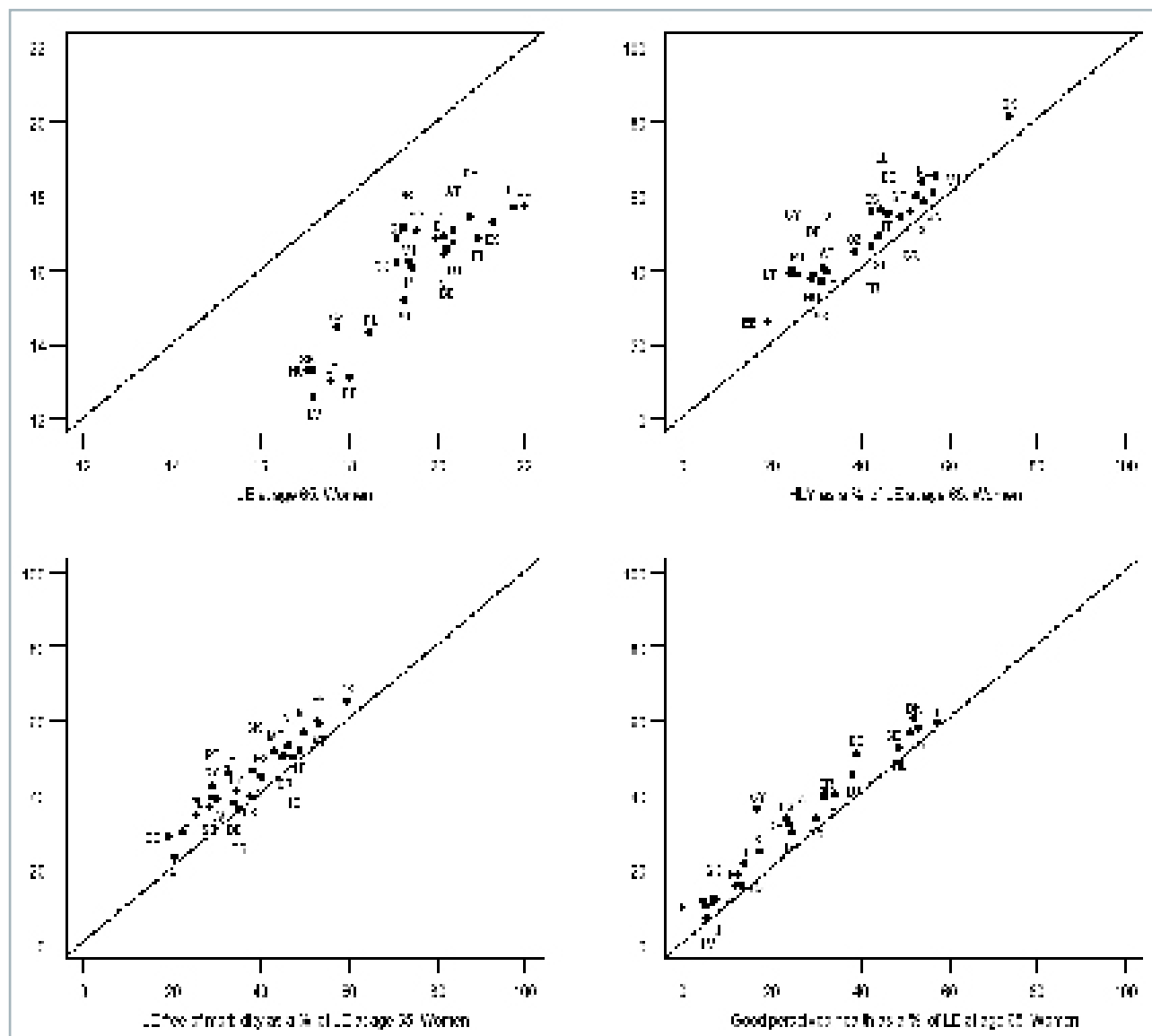


### European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

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- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
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# EHEMU Country Reports June 2008

## HEALTH EXPECTANCY IN POLAND





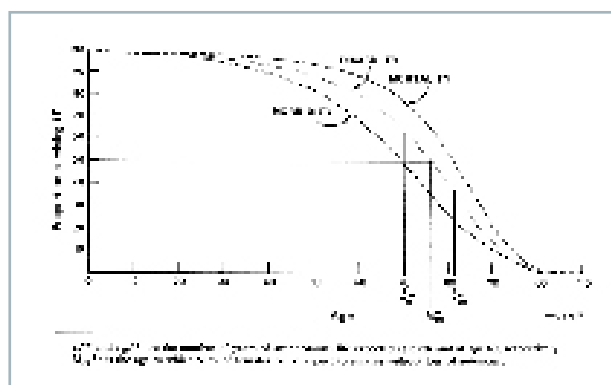
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Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

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## References

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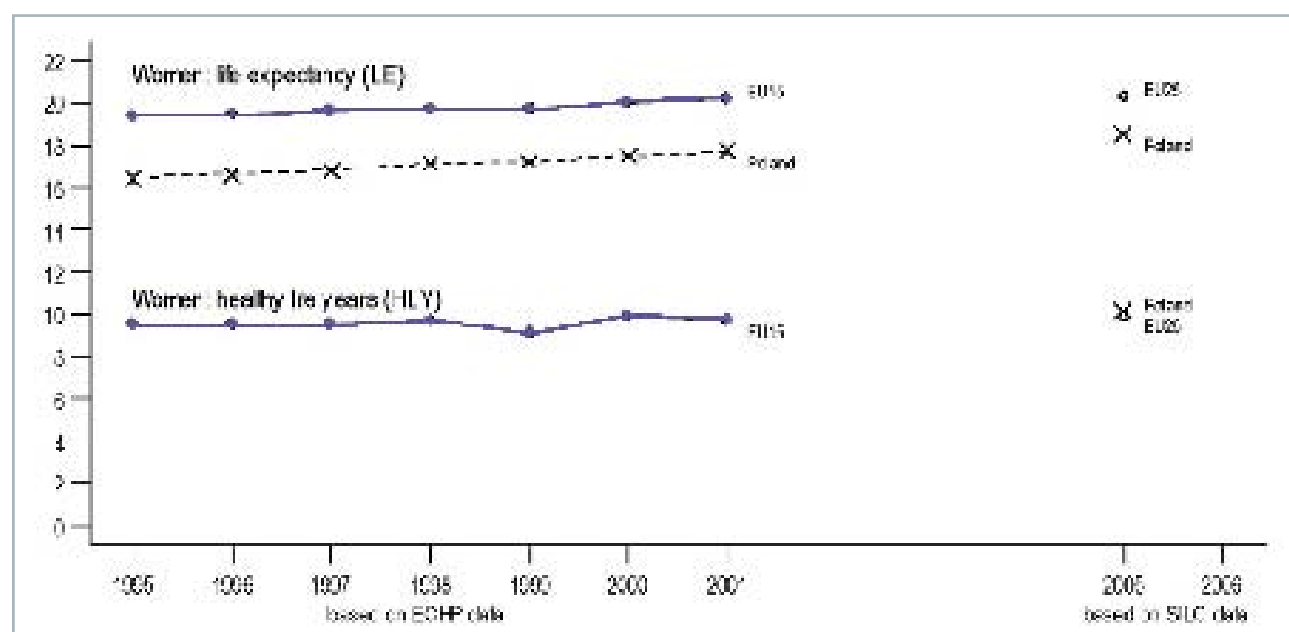
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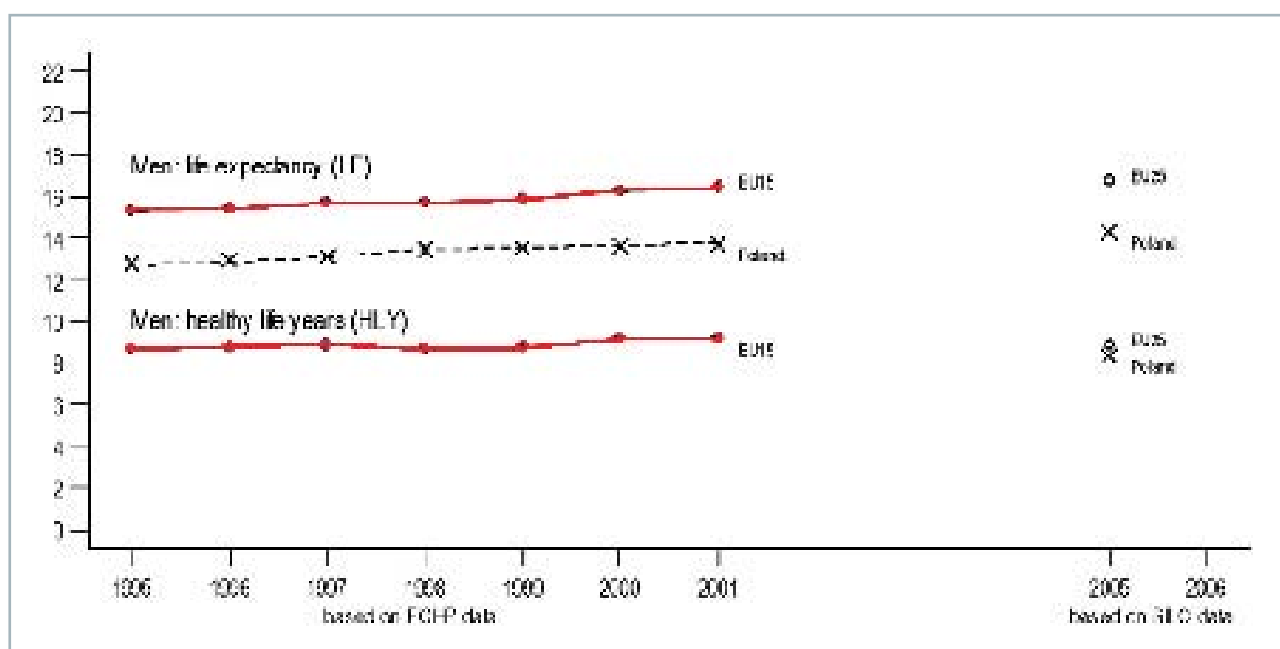
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Poland	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Women: LE	16.4	16.6	16.8	17.1	17.2	17.5	17.7	-	-	-	18.5	
Women: HLY											10.1	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	55%	



Poland	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Men: LE	12.7	12.9	13.1	13.4	13.5	13.6	13.7	-	-	-	14.3	
Men: HLY	-	-	-	-	-	-	-	-	-	-	8.3	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	58%	

### Key points:

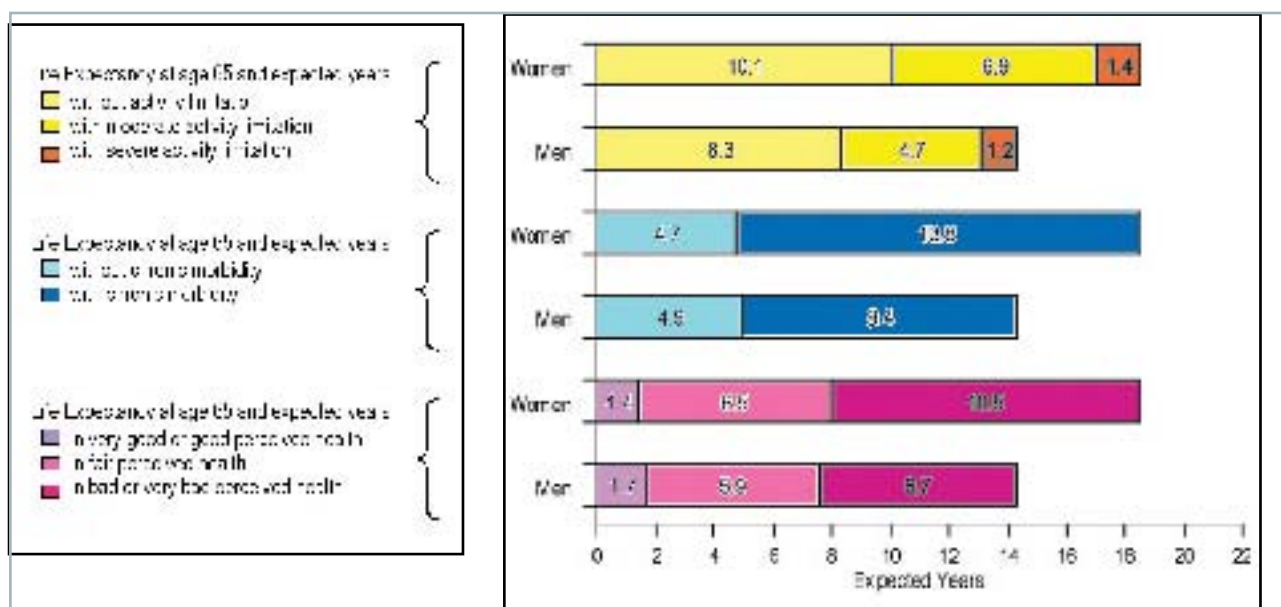
- Polish life expectancy (LE) at age 65 has increased by 2.1 years for women and 1.6 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was below the EU15 average and by 2005 remained lower than the EU25 average.
- Because Poland joined the European Union in 2004 and the ECHP was not conducted in Poland, the first series of health expectancy based on activity limitation (HLY) over 1995-2001 is not available.

- The new HLY series, initiated in 2005 with the SILC data, shows that women and men at age 65 can expect to spend 55% and 58% of their life without self-reported long-term activity limitations respectively. The HLY values for Poland are 0.5 year below the EU25 average for men and almost equal to the EU 25 average for women. Polish men and women may be less likely to report health problems than the EU25 as a whole.





Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Poland (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Poland was 18.5 years for women and 14.3 years for men.
- Based on the SILC 2005, at age 65, women spent 55% (10.1 years) of remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 37% (6.9 years) with moderate activity limitation and 8% (1.4 years) with severe activity limitation.\*
- Men of the same age spent 58% (8.3 years) of remaining life without activity limitation compared to 33% (4.7 years) with moderate activity limitation and 9% (1.2 years) with severe activity limitation.\*
- Although total years lived by men were less than those for women, the numbers of years lived in very good or good perceived health and the years lived without chronic morbidity were similar. However, the numbers of years lived without activity limitation were greater for women than men.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Poland comprised 3703 women and 2433 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



Published results and other reports of health expectancies for Poland

Krajowy Program „Zabezpieczenie Społeczne i Integracja Społeczna na lata 2006-2008» [National Report on Strategy for Social Protection and Social Inclusion 2006-2008]. Warsaw: Ministry of Labour and Social Policy; 2006.

Szałkiewicz E. Starzenie się społeczeństwa – wyzwanie dla Polski [Ageing – challenge for Poland]; 2006. Report No.: MEDI 2/2006.

Topór-Mądry R, Gilis-Januszevska A, Lusawa K. Szacowanie potrzeb zdrowotnych (Estimation of health care needs). Warsaw: Zdrowie i Zarządzanie, no 2/2003; 2003.



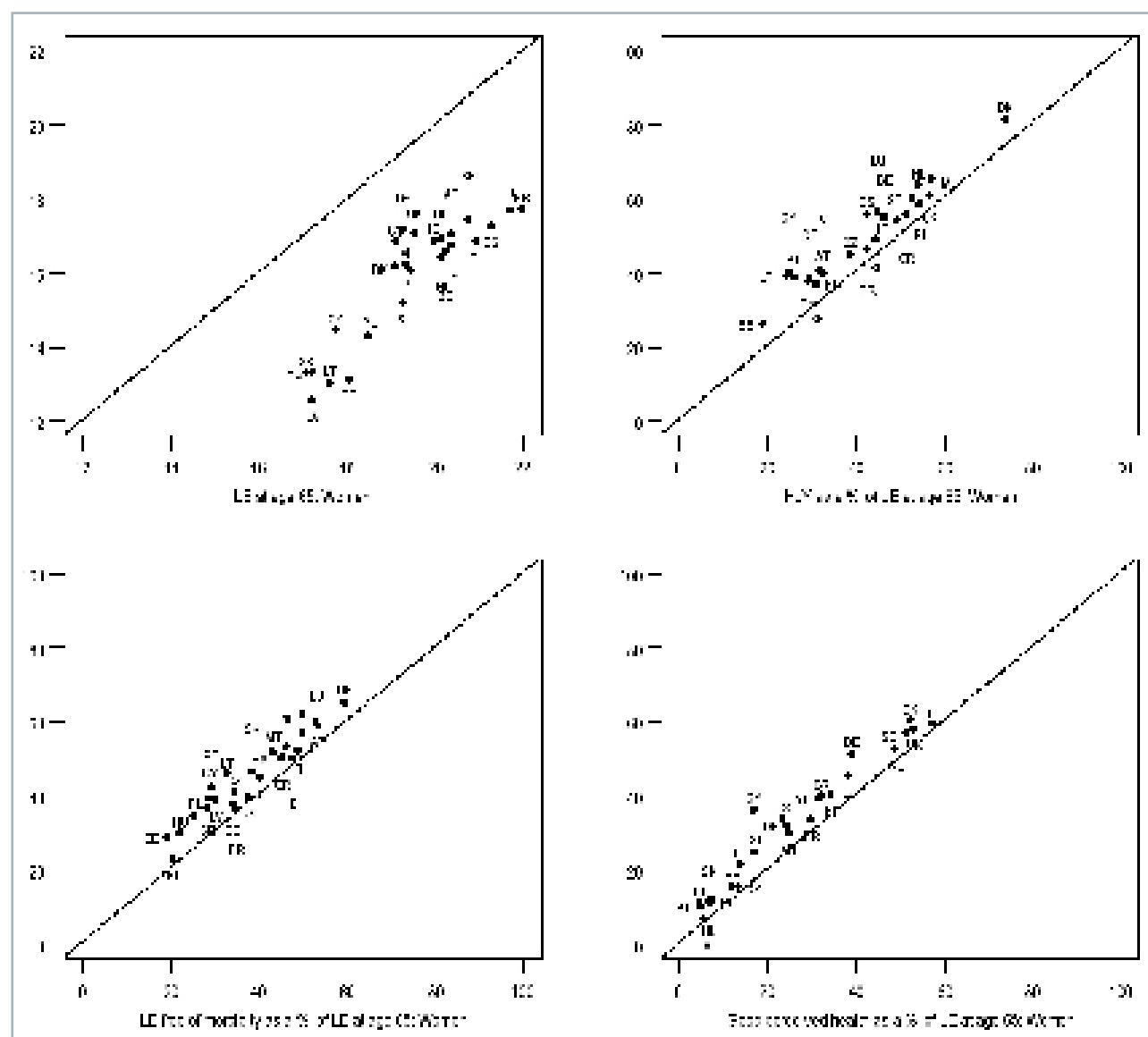


## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.

Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)





## EHEMU Country Reports June 2008

### HEALTH EXPECTANCY IN PORTUGAL





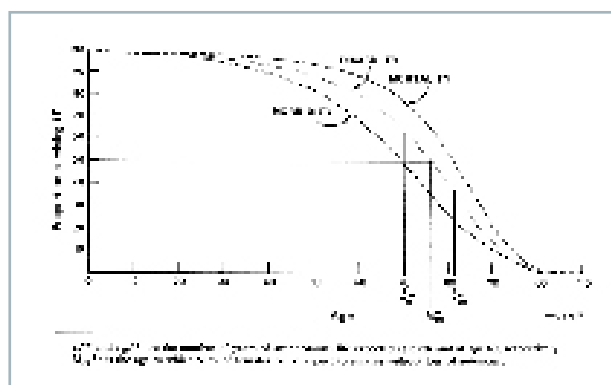
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

**The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.**



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

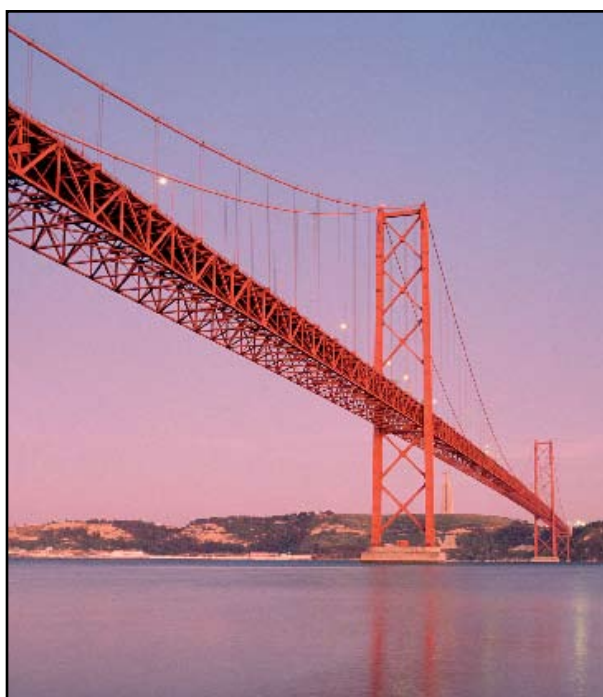
## How do we compare health expectancies?

Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe (Robine et al., 2003).

Health expectancies are most often calculated by the Sullivan method (Sullivan, 1971). However to make valid comparisons, the underlying health measure should be truly comparable.

To address this, the European Union has decided to include a small set of health expectancies among its European Community Health Indicators (ECHI) to provide synthetic measures of disability, chronic morbidity and perceived health. Therefore the Minimum European Health Module (MEHM), composed of 3 general questions covering these dimensions, has been introduced into the Statistics on Income and Living Conditions (SILC) to improve the comparability of health expectancies between countries. In addition life expectancy without long term activity limitation, based on the disability question, was selected in 2004 to be one of the structural indicators for assessing the EU strategic goals (Lisbon strategy) under the name of "Healthy Life Years" (HLY).

Further details on the MEHM, the European surveys and health expectancy calculation and interpretation can be found on [www.ehemu.eu](http://www.ehemu.eu).



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- health expectancies based on the two additional dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2005
- a global analysis of health expectancies of European countries, based on the SILC 2005

## References

Robine JM, Jagger C, Mathers CD, Crimmins EM, Suzman RM, Eds.

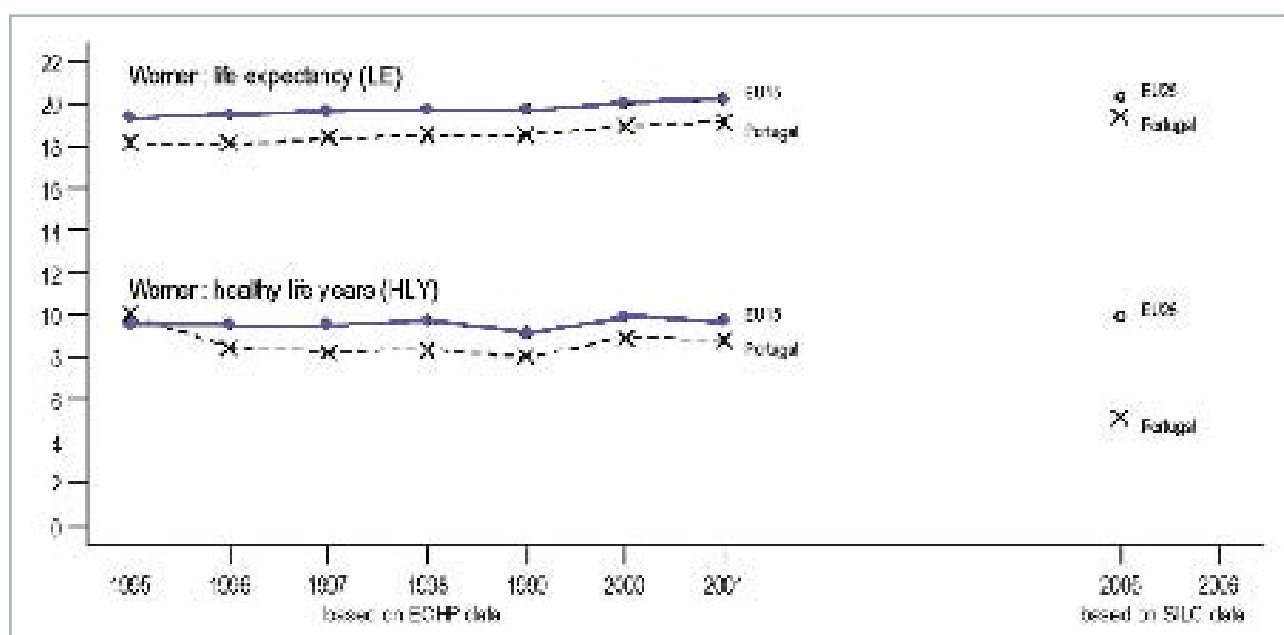
Determining health expectancies. Chichester UK: Wiley, 2003.

World Health Organization.

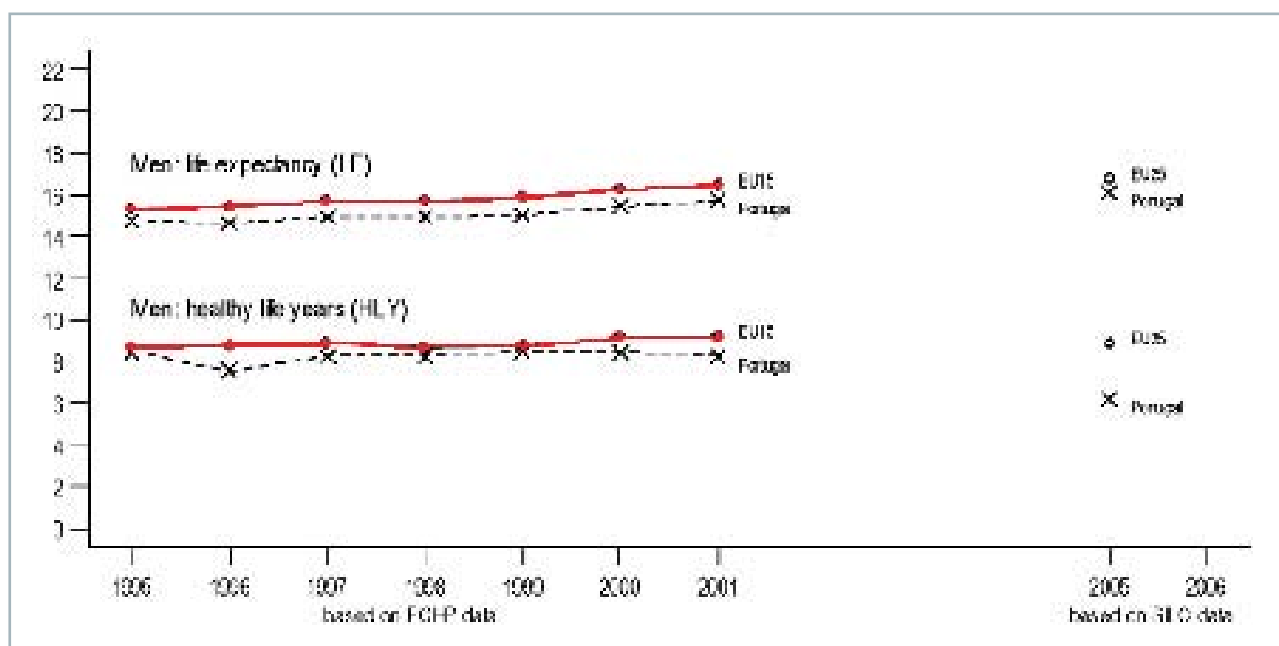
The uses of epidemiology in the study of the elderly: Report of a WHO Scientific Group on the Epidemiology of Aging. Geneva: WHO, 1984 (Technical Report Series 706).

Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

## Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Portugal and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



<b>Portugal</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Women:</b>												
<b>LE</b>	18.1	18.1	18.4	18.5	18.5	18.9	19.1	-	-	-	19.4	
<b>Women:</b>												
<b>HLY</b>	10.0	8.4	8.2	8.3	8.0	8.9	8.8				5.1	
<b>%HLY/LE</b>	56%	47%	45%	45%	43%	47%	46%	-	-	-	26%	



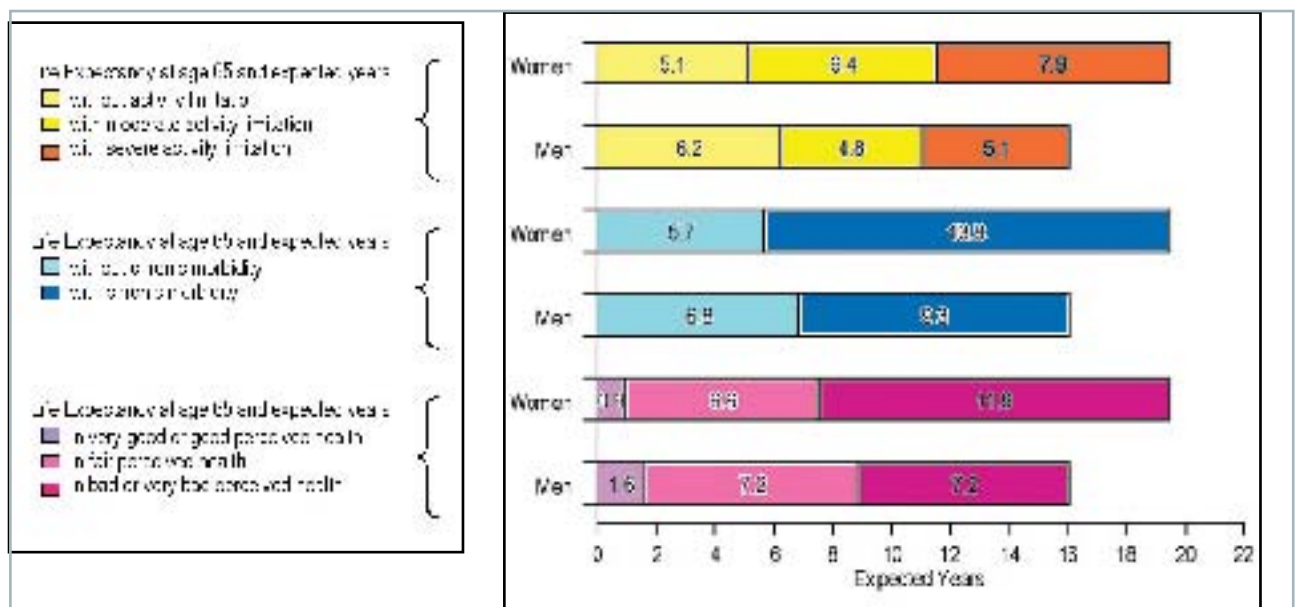
<b>Portugal</b>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Men: LE</b>	14.7	14.6	14.9	14.9	15.0	15.4	15.7	-	-	-	16.1	
<b>Men: HLY</b>	8.1	7.5	8.2	8.2	8.1	8.1	8.2				6.2	
<b>%HLY/LE</b>	57%	51%	55%	55%	56%	55%	52%	-	-	-	39%	

### Key points:

- Portuguese life expectancy (LE) at age 65 has increased by 1.3 years for women and 1.4 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was below the EU15 average and remained below the EU25 average in 2005.
- Over the 1995-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data remained almost stable. The proportion of HLY (or years without self-reported limitations due to health condition or disability), within the total expected years, decreased for both sexes, being close to 46% for women and 52% for men in 2001. Between 1996 and 2001 HLY in Portugal was below the EU15 average.
- The new HLY series, initiated in 2005 with the SILC data, shows a lower value for Portugal than previously and below the EU average being 4.8 years and 2.6 years lower than the EU25 average (and below the EU15 average) for women and men respectively. Women and men at age 65 can expect to spend 26% and 39% of their life without self-reported long-term activity limitations respectively. Compared to earlier trends, the SILC question may result in people reporting limitations of different severity than previously and Portuguese women and men may be more likely to report less severe problems than before and than the EU25 as a whole.



Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Portugal (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Portugal was 19.4 years for women and 16.1 years for men.
- Based on the SILC 2005, at age 65, women spent 26% (5.1 years) of their remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 33% (6.4 years) with moderate activity limitation and 41% (7.9 years) with severe activity limitation.\*
- Men of the same age spent 39% (6.2 years) of remaining life without activity limitation compared to 30% (4.8 years) with moderate activity limitation and 31% (5.1 years) with severe activity limitation.\*
- Although total years lived by men were less than those for women, for all the health expectancies the years of life spent in positive health were greater for men than women.
- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Portugal comprised 1458 women and 1016 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



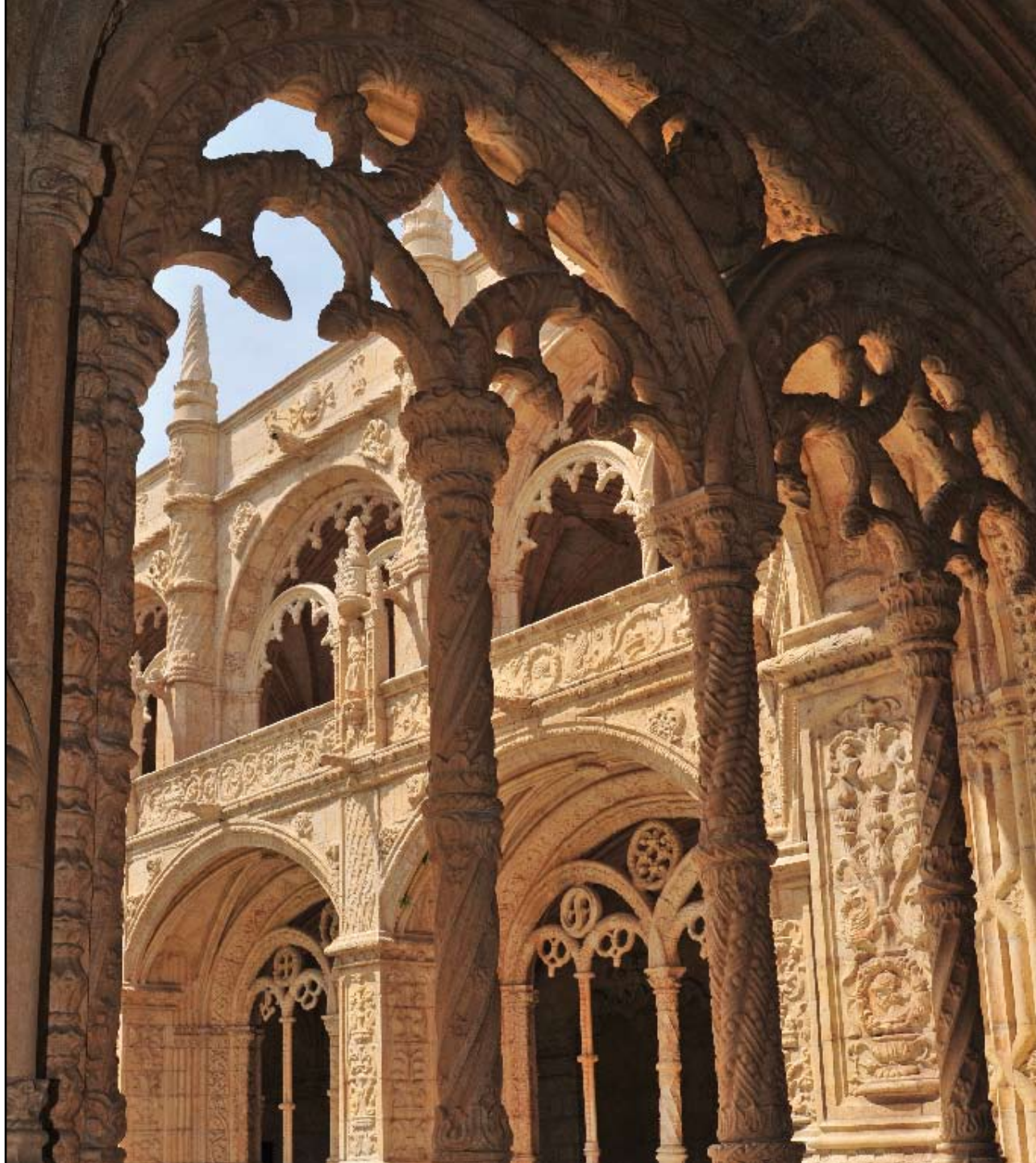
## Published results and other reports of health expectancies for Portugal

Lievre A, Jusot F, Barnay T, Sermet C, Brouard N, Robine J-M, et al. Healthy working life expectancies at age 50 in Europe: a new indicator. *J Nutr Health Aging*. 2007;11(6):508-514.

Khoman E, Weale M. Healthy life expectancy in the EU Member States: ENEPRI Research report nº33 - AHEAD WP5. *sl: ENEPRI*; 2006.

Esperanças de vida sem incapacidade física de longa duração: Portugal continental: 1995-1996. Portugal: Instituto Nacional de Estatística; 2000.





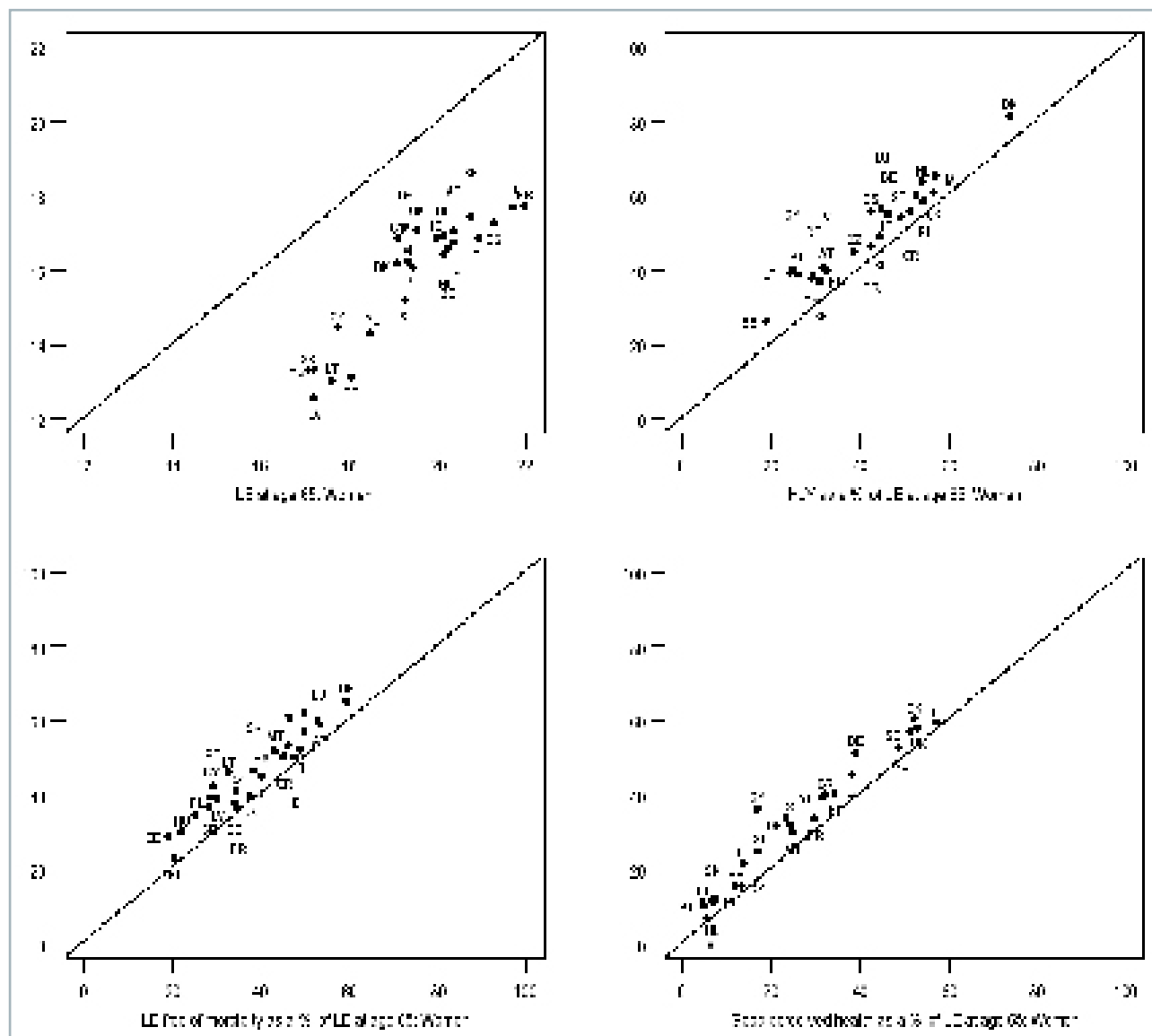
## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.



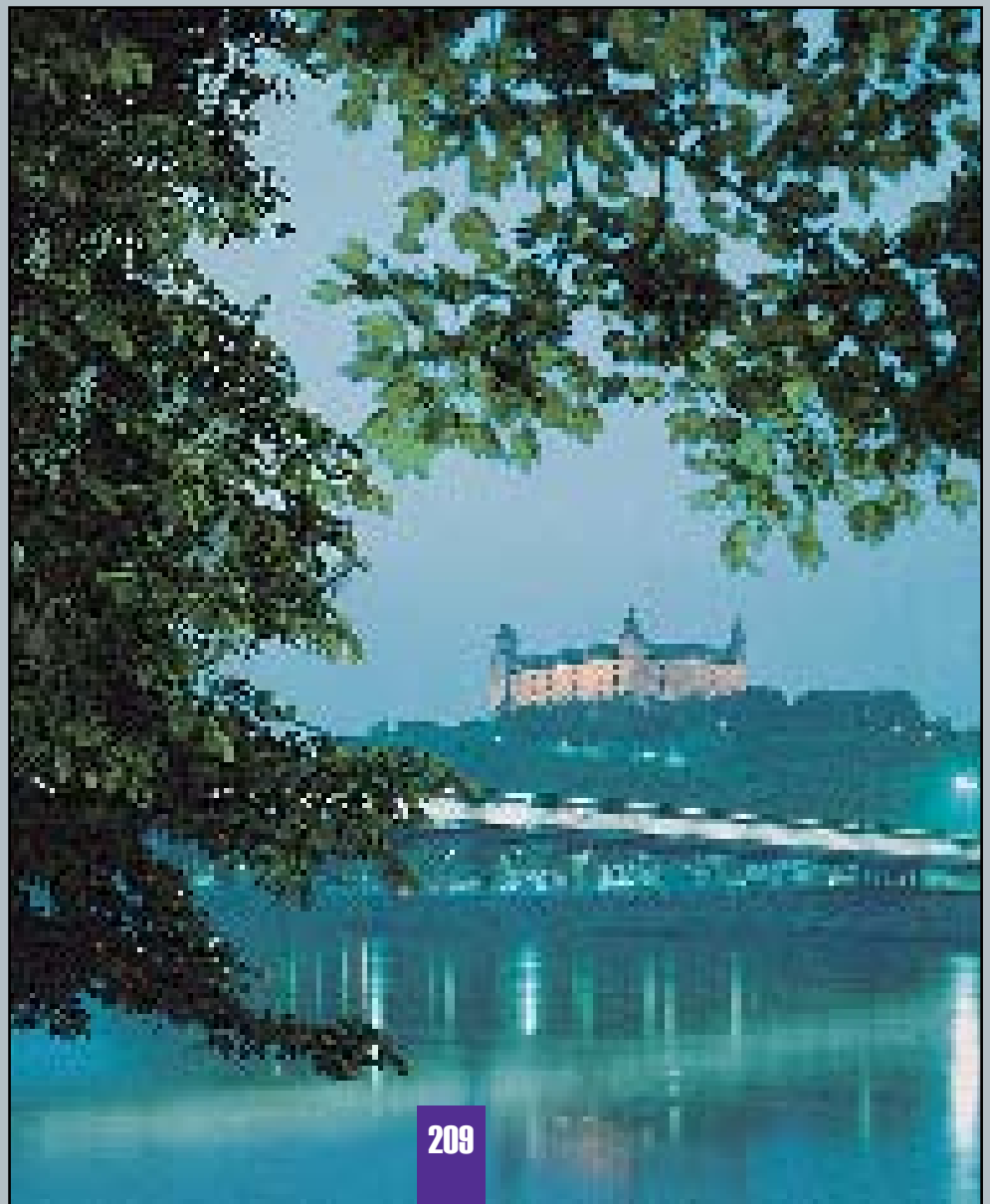
Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)





## EHEMU Country Reports June 2008

### HEALTH EXPECTANCY IN THE SLOVAK REPUBLIC





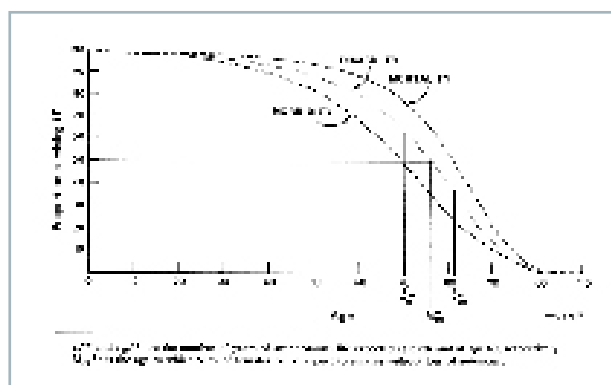
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

**The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.**



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

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## References

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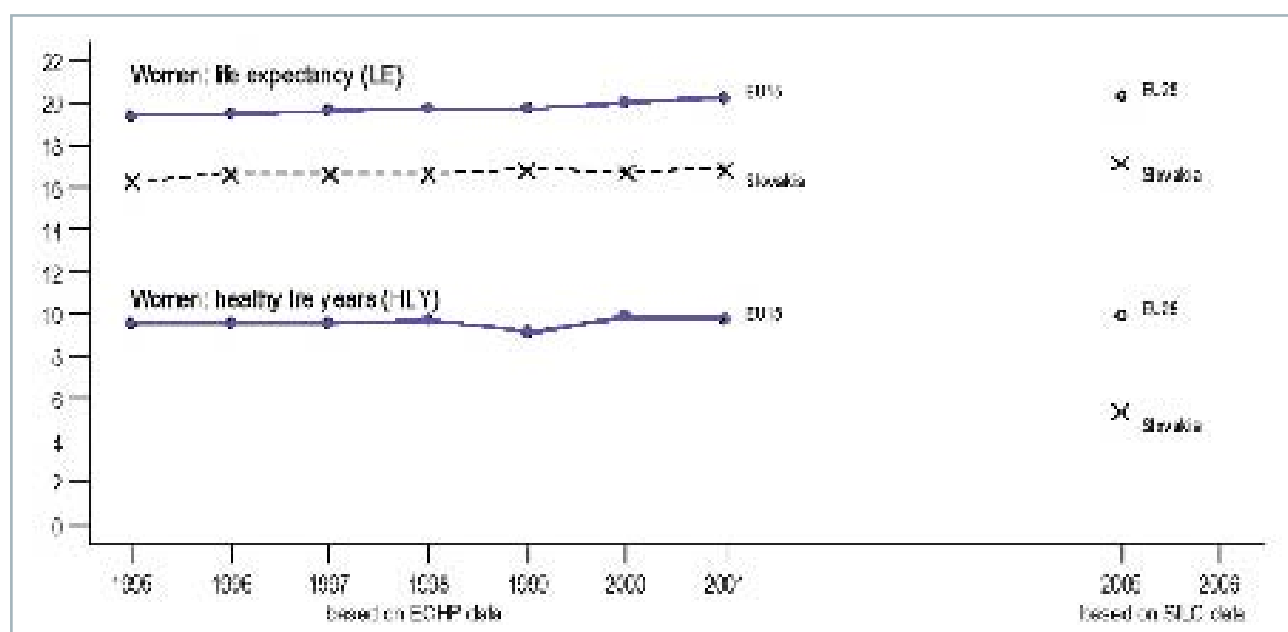
World Health Organization.

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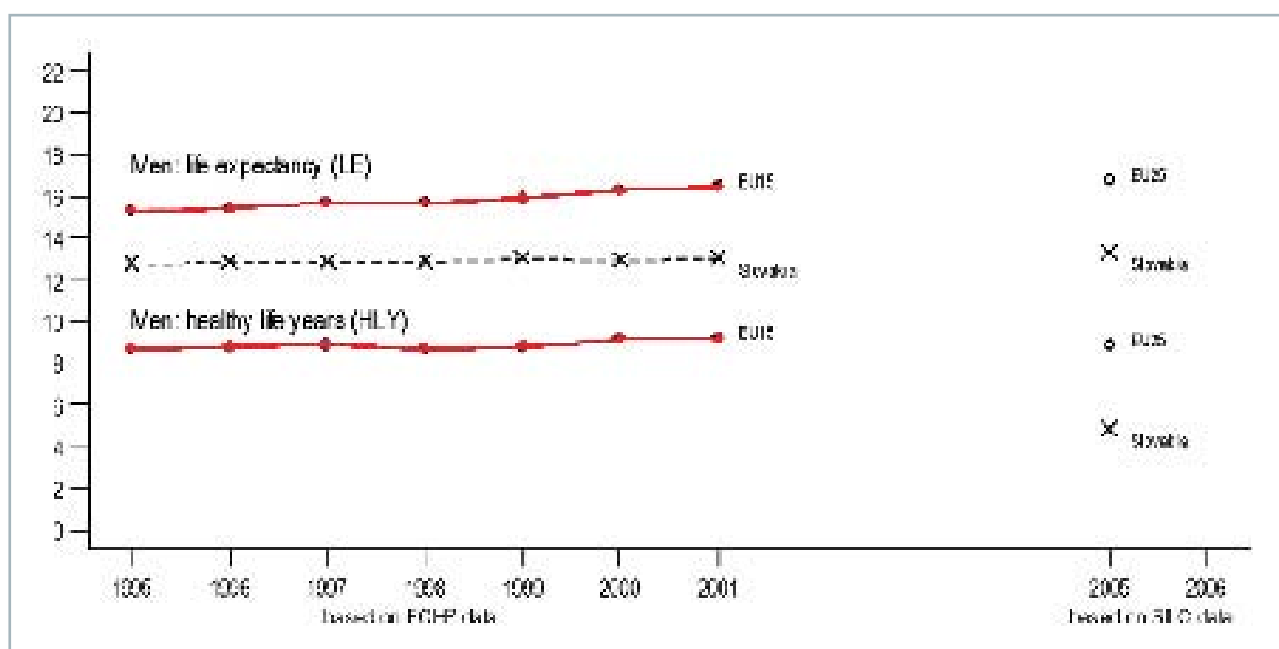
Geneva: WHO, 1984 (Technical Report Series 706).

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Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Slovakia and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



Slovakia	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Women: LE	16.2	16.6	16.6	16.6	16.8	16.7	16.8	-	-	-	17.1	
Women: HLY											5.3	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	31%	



Slovakia	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Men: LE	12.7	12.8	12.8	12.8	13.0	12.9	13.0	-	-	-	13.3	
Men: HLY											4.8	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	36%	

### Key points:

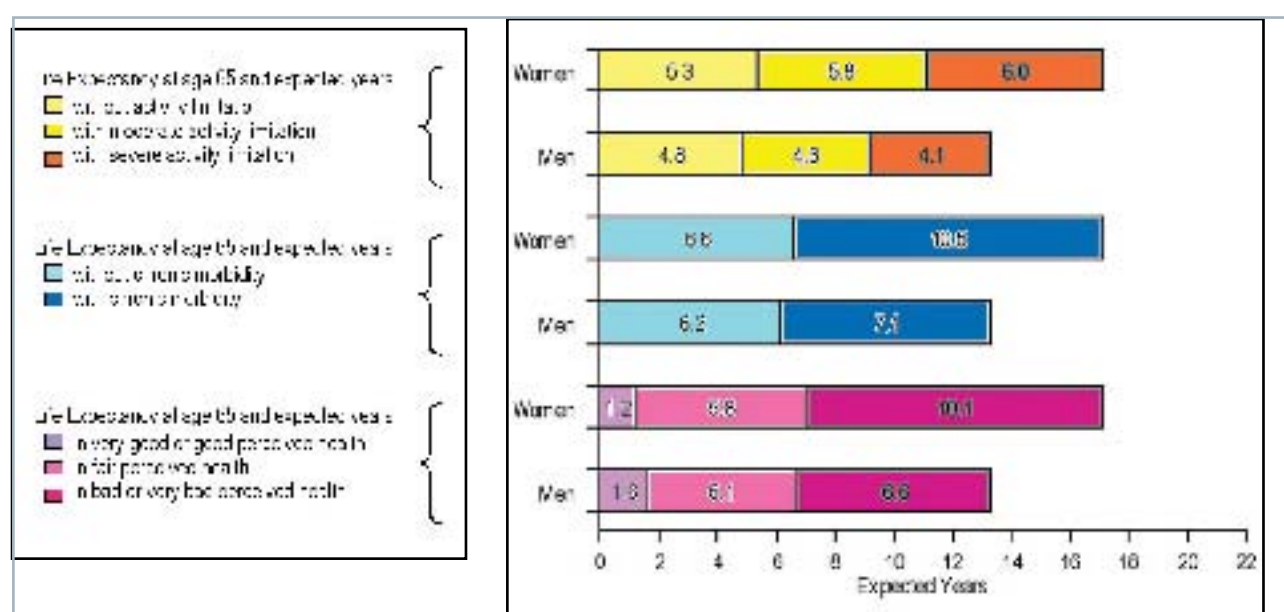
- Slovak life expectancy (LE) at age 65 has increased by 0.9 years for women and 0.6 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was below the EU15 average and remained below the EU25 average in 2005.
- Because Slovakia joined the European Union in 2004, the first series of health expectancy based on activity limitation (HLY) over the 1995-2001 period is not available.

- The new HLY series, initiated in 2005 with the SILC data, shows that women and men at age 65 can expect to spend 31% and 36% of their life without self-reported long-term activity limitations respectively. The HLY values for Slovakia are 4.6 years and 4 years below the EU25 average for women and men respectively (and below the EU15 average). Slovakian men and women may be more likely to report health problems than the EU25 as a whole.





Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Slovakia (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Slovakia was 17.1 years for women and 13.3 years for men.
- Based on the SILC 2005, at age 65, women spent 31% (5.3 years) of their remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 34% (5.8 years) with moderate activity limitation and 35% (6.0 years) with severe activity limitation.\*
- Men of the same age spent 36% (4.8 years) of remaining life without activity limitation compared to 32% (4.3 years) with moderate activity limitation and 32% (4.1 years) with severe activity limitation.\*

- Although total years lived by men were less than those for women, for all the health expectancies the years of life spent in positive health were similar.
- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Slovakia comprised 994 women and 702 men aged 65+ years.

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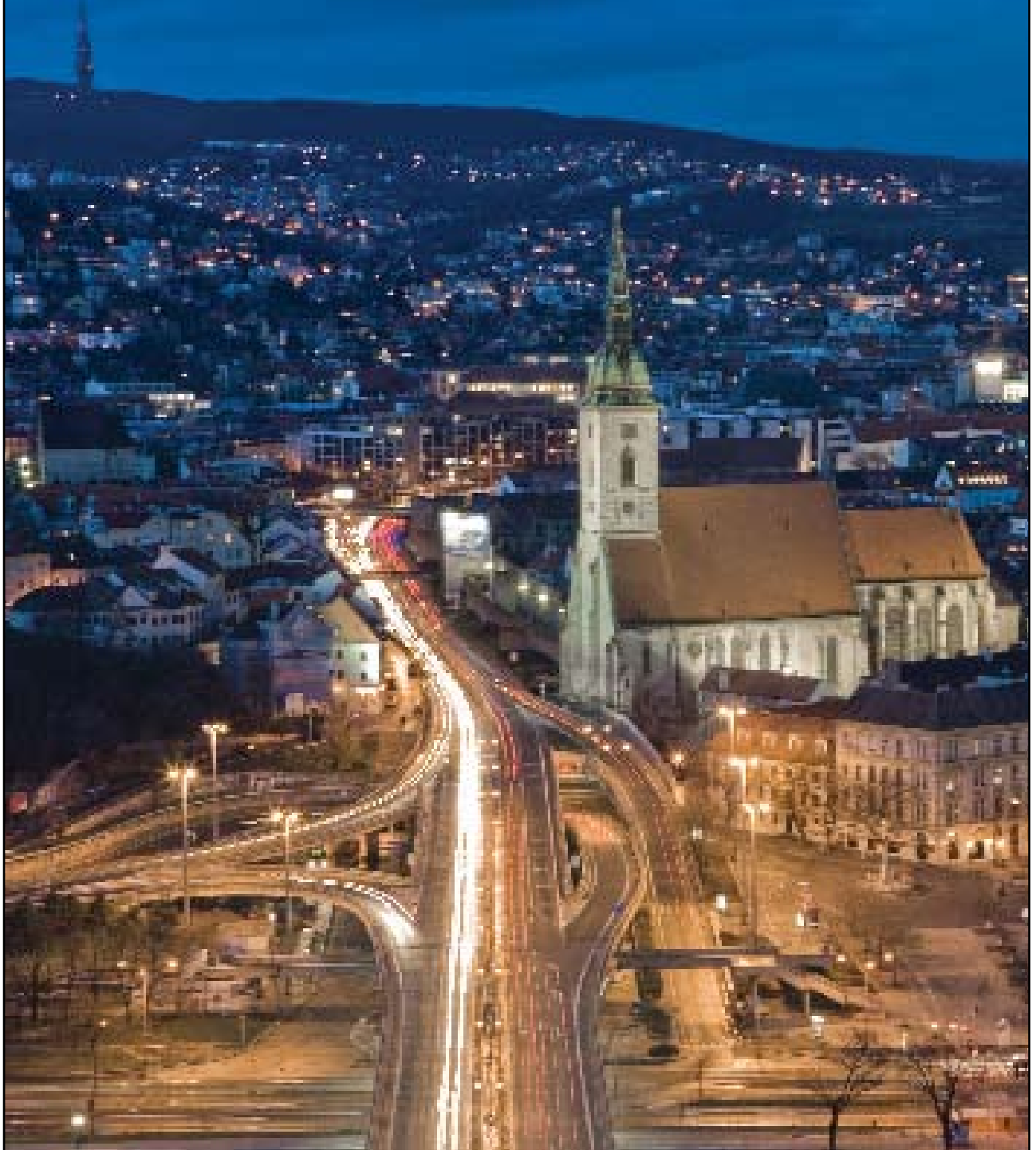


#### Published results and other reports of health expectancies for Slovakia

Robine J-M, Le Roy S, Jagger C, EHEMU team. Changes in life expectancy in the European Union since 1995: similarities and differences between the 25 EU countries. In: Institut des Sciences de la Santé, editor. Living longer but healthier lives: how to achieve health gains in the elderly in the European Union Europe Blanche XXVI, Budapest, 25-26 November 2005. Paris: ISS; 2006. p. 9-48.

Meszaros J. Ako dlho žije populácia Slovenskej republiky v zdraví? [For how long the population of the Slovak Republic live in health?]. Slovenská štatistika a demografia. 2007(1-2):133-140.



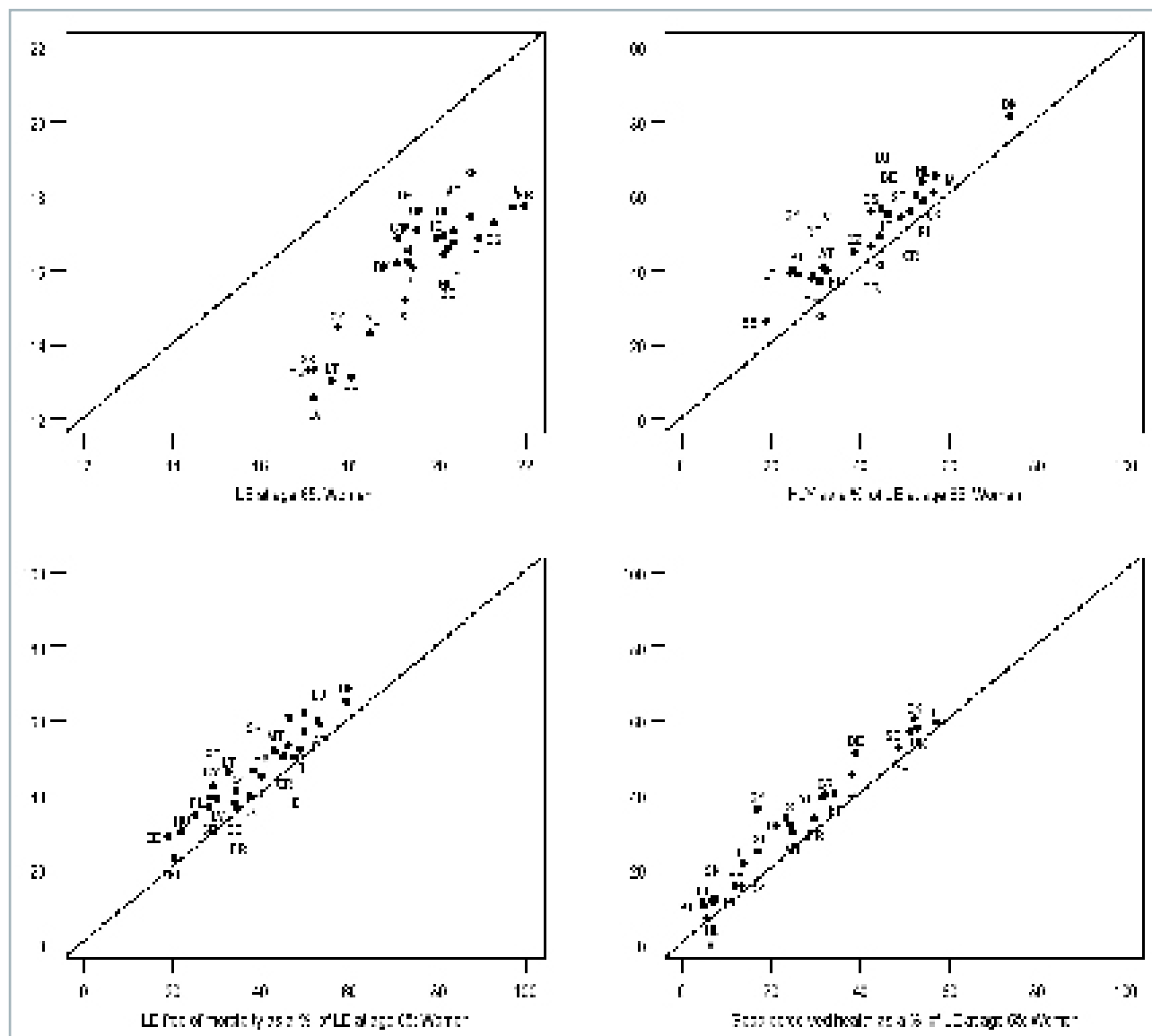


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- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
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Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)





## EHEMU Country Reports June 2008

### HEALTH EXPECTANCY IN SLOVENIA





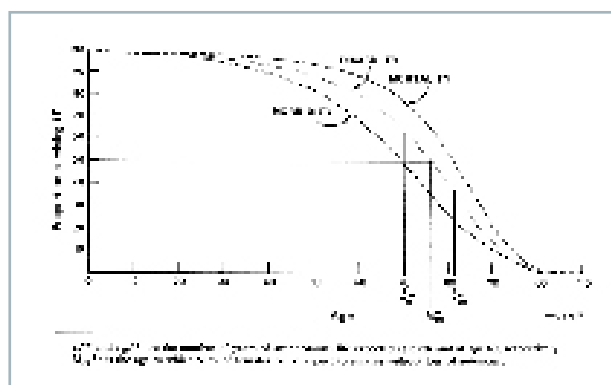
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The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

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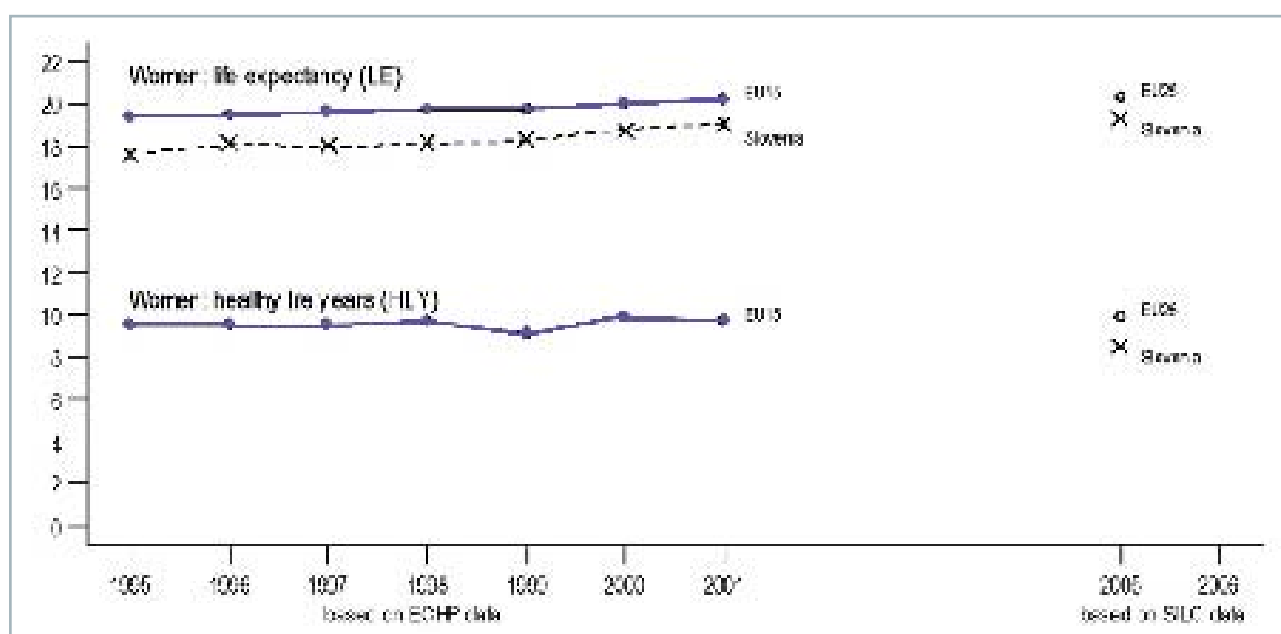
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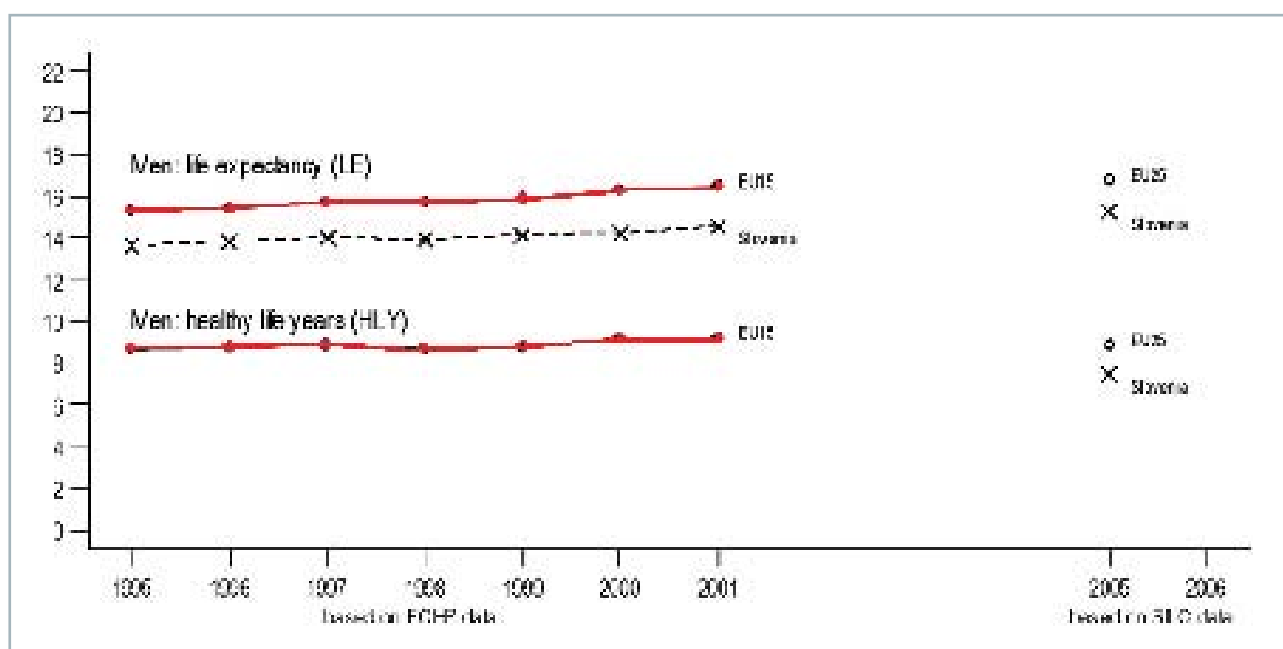
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Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Slovenia and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



Slovenia	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Women: LE	17.6	18.1	18.0	18.1	18.3	18.7	19.0	-	-	-	19.3	
Women: HLY	-	-	-	-	-	-	-	-	-	-	8.5	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	44%	



Slovenia	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Men: LE	13.6	13.8	14.0	13.9	14.1	14.2	14.5	-	-	-	15.2	
Men: HLY	-	-	-	-	-	-	-	-	-	-	7.4	
%HLY/LE	-	-	-	-	-	-	-	-	-	-	49%	

### Key points:

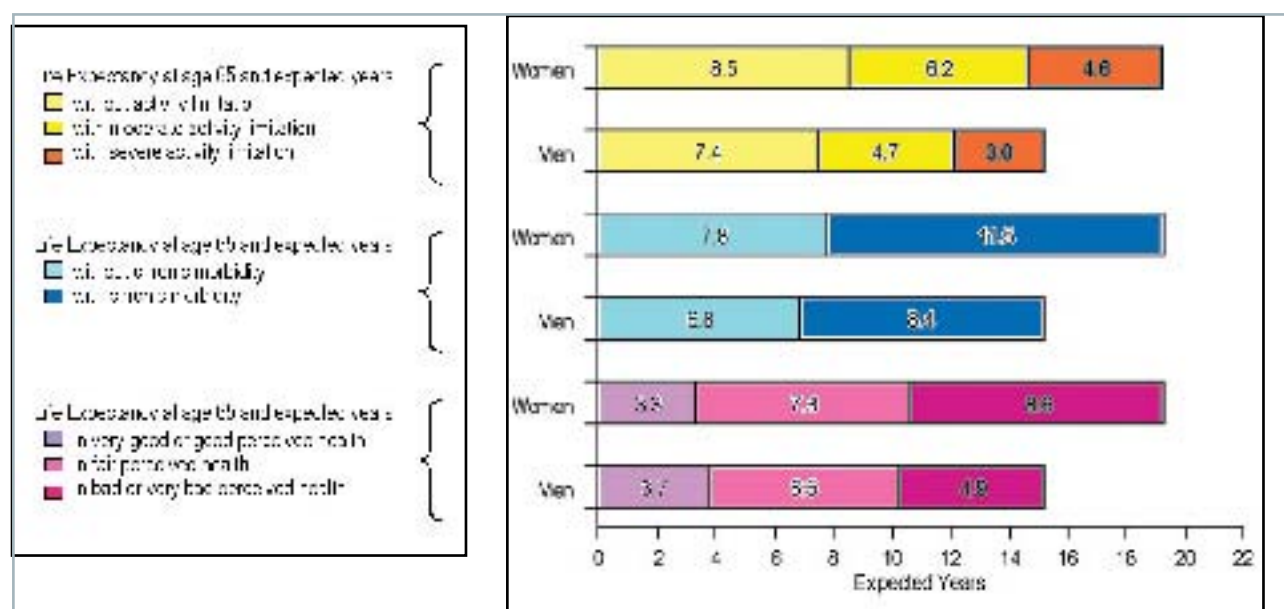
- Slovenian life expectancy (LE) at age 65 has increased by 1.7 years for women and 1.6 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was below the EU15 average and remained below the EU25 average in 2005.
- Because Slovenia joined the European Union in 2004, the first series of health expectancy based on activity limitation (HLY) over the 1995-2001 period is not available.

- The new HLY series, initiated in 2005 with the SILC data, shows that women and men at age 65 can expect to spend 44% and 49% of their life without self-reported long-term activity limitations respectively. The HLY values for Slovenia are 1.4 years below the EU25 average for both sexes (and lower than EU15 average). Slovenian men and women may be more likely to report health problems than the EU25 as a whole.





Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Slovenia (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Slovenia was 19.3 years for women and 15.2 years for men.
- Based on the SILC 2005, at age 65, women spent 44% (8.5 years) of their remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 32% (6.2 years) with moderate activity limitation and 23% (4.6 years) with severe activity limitation.\*
- Men of the same age spent 49% (7.4 years) of remaining life without activity limitation compared to 31% (4.7 years) with moderate activity limitation and 20% (3.0 years) with severe activity limitation.\*
- Although for life expectancy without chronic morbidity and for life expectancy without activity limitation the years of life spent in positive health were greater for women than men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Slovenia comprised 1016 women and 598 men aged 65+ years.

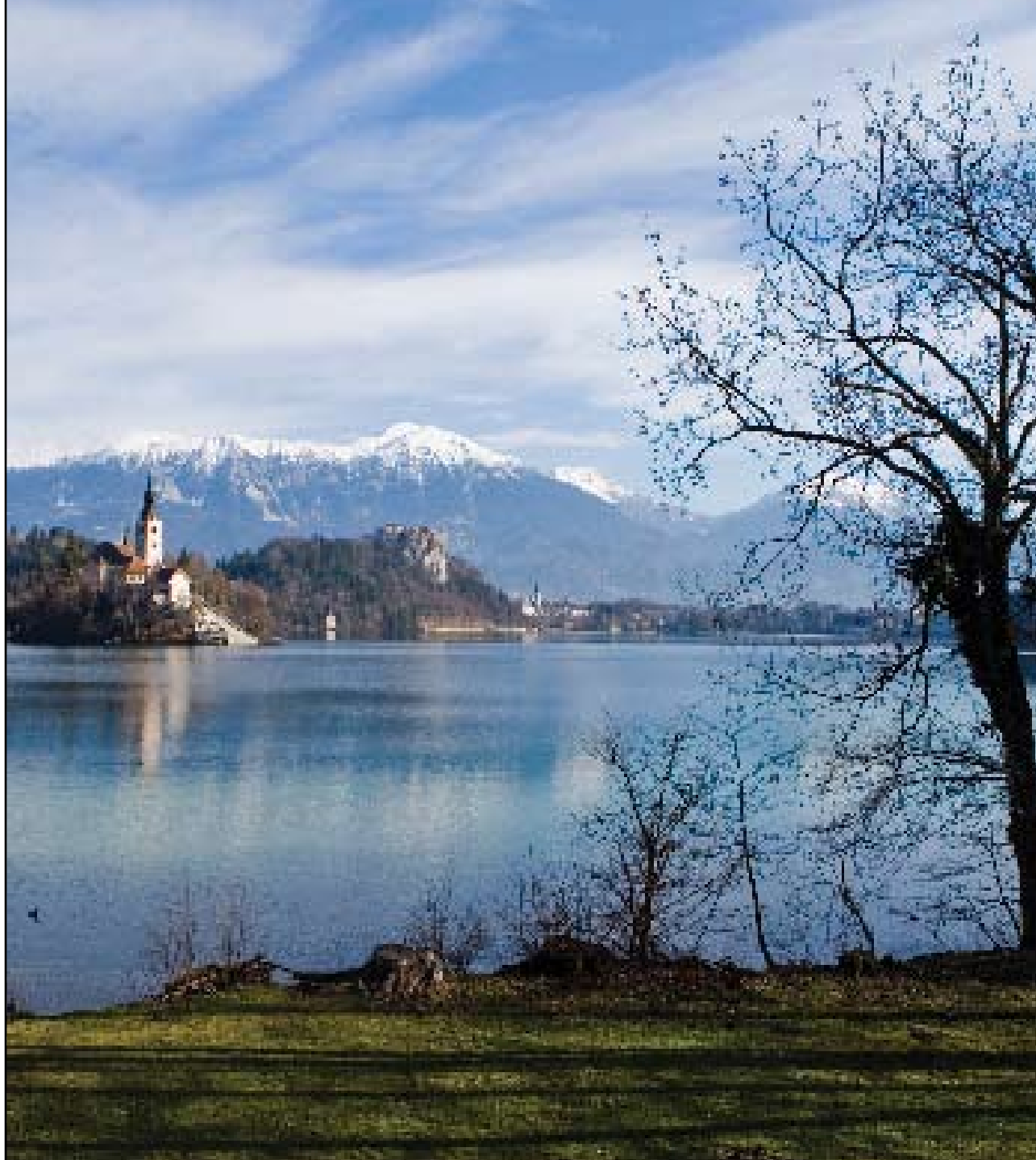
\* These may not sum to Life Expectancy due to rounding.



Published results and other reports of health expectancies for Slovenia

Robine J-M, Le Roy S, Jagger C, EHEMU team. Changes in life expectancy in the European Union since 1995: similarities and differences between the 25 EU countries. In: Institut des Sciences de la Santé, editor. Living longer but healthier lives: how to achieve health gains in the elderly in the European Union Europe Blanche XXVI, Budapest, 25-26 November 2005. Paris: ISS; 2006. p. 9-48.



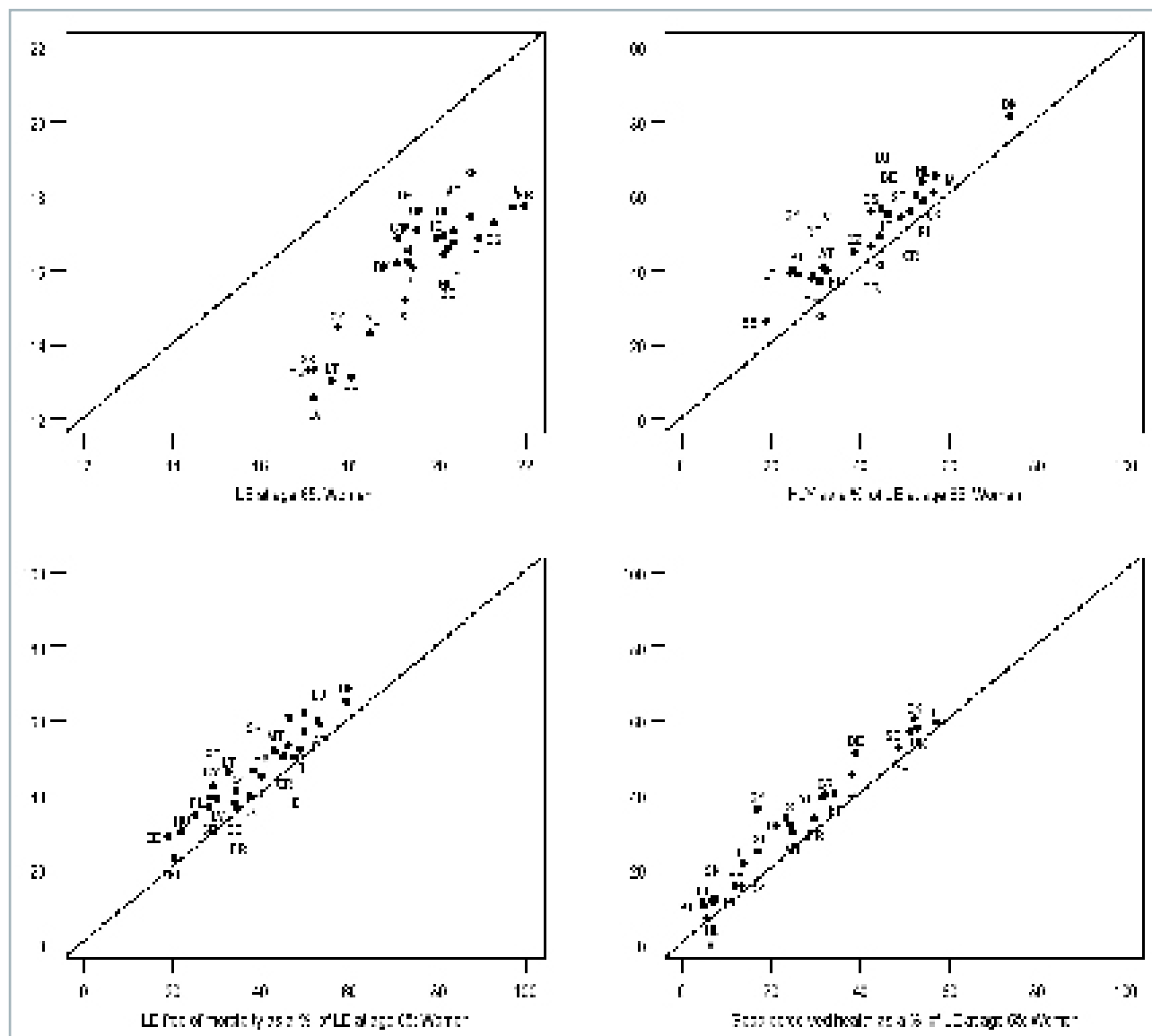


## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.

Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)





# EHEMU Country Reports

## June 2008

### HEALTH EXPECTANCY IN SPAIN





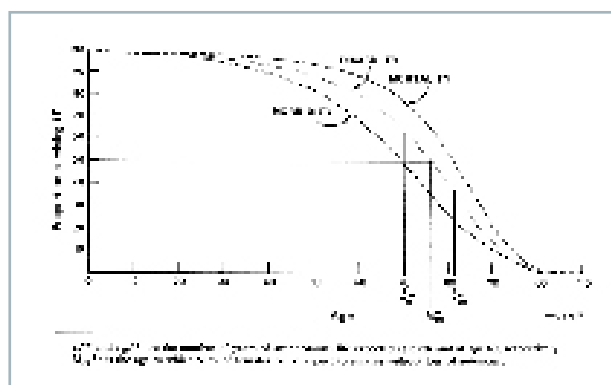
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

**The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.**



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

## How do we compare health expectancies?

Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe (Robine et al., 2003).

Health expectancies are most often calculated by the Sullivan method (Sullivan, 1971). However to make valid comparisons, the underlying health measure should be truly comparable.

To address this, the European Union has decided to include a small set of health expectancies among its European Community Health Indicators (ECHI) to provide synthetic measures of disability, chronic morbidity and perceived health. Therefore the Minimum European Health Module (MEHM), composed of 3 general questions covering these dimensions, has been introduced into the Statistics on Income and Living Conditions (SILC) to improve the comparability of health expectancies between countries. In addition life expectancy without long term activity limitation, based on the disability question, was selected in 2004 to be one of the structural indicators for assessing the EU strategic goals (Lisbon strategy) under the name of "Healthy Life Years" (HLY).

Further details on the MEHM, the European surveys and health expectancy calculation and interpretation can be found on [www.ehemu.eu](http://www.ehemu.eu).



## What is in this report?

This report is produced by the European Health Expectancy Monitoring Unit (EHEMU) as part of a country series. In each report we present:

- health expectancies based on activity limitation (HLY) for the country of interest and for the overall 25 European Union member states (EU25), using the SILC 2005 question on long term activity limitation. As the SILC has been only recently initiated, to document trends we provide previous HLY series based on the disability question of the 1995-2001 European Community Household Panel (ECHP)
- health expectancies based on the two additional dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2005
- a global analysis of health expectancies of European countries, based on the SILC 2005



## References

Robine JM, Jagger C, Mathers CD, Crimmins EM, Suzman RM, Eds.

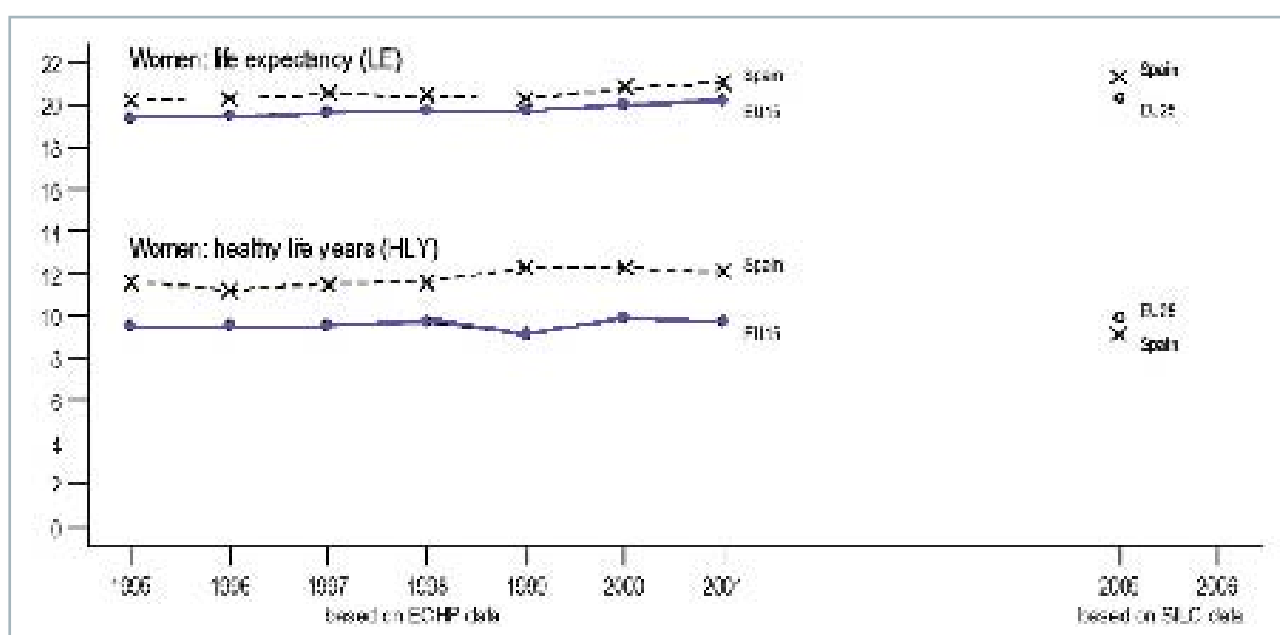
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World Health Organization.

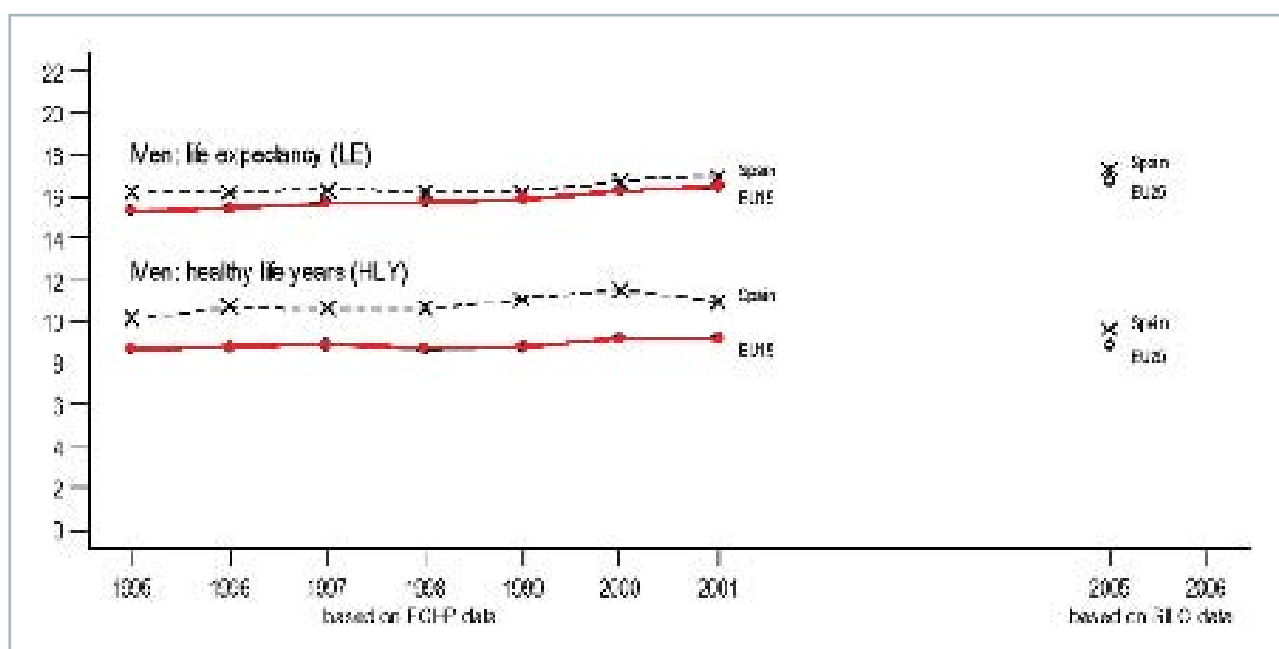
The uses of epidemiology in the study of the elderly: Report of a WHO Scientific Group on the Epidemiology of Aging. Geneva: WHO, 1984 (Technical Report Series 706).

Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Spain and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



Spain	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Women: LE	20.2	20.3	20.5	20.4	20.3	20.8	21.0	-	-	-	21.3	
Women: HLY	11.6	11.2	11.5	11.6	12.3	12.3	12.1				9.1	
%HLY/LE	58%	55%	56%	57%	61%	59%	58%	-	-	-	43%	



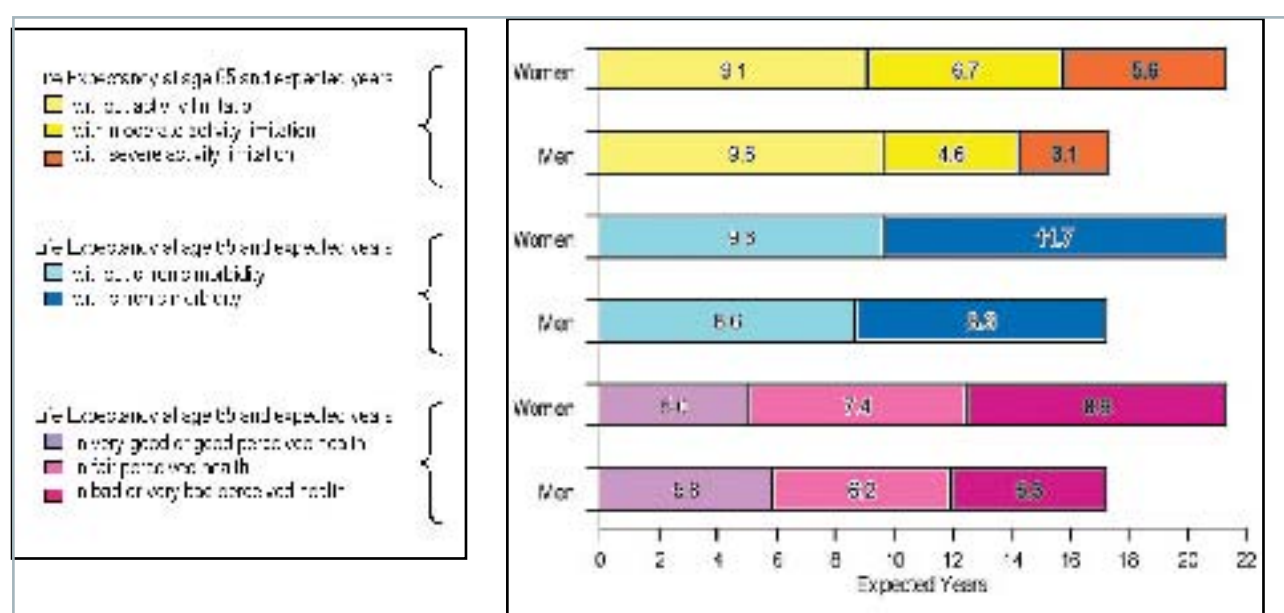
Spain	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Men: LE	16.2	16.2	16.3	16.2	16.2	16.7	16.9	-	-	-	17.3	
Men: HLY	10.1	10.7	10.6	10.6	11.0	11.5	10.9				9.6	
%HLY/LE	63%	66%	65%	65%	68%	69%	65%	-	-	-	56%	

### Key points:

- Spanish life expectancy (LE) at age 65 has increased by 1.1 years for both sexes over the 1995-2005 period: LE for both sexes between 1995-2001 was above the EU15 average and remained above the EU25 average in 2005.
- Over the 1995-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data increased. The proportion of HLY (or years without self-reported limitations due to health condition or disability), within the total expected years, remained stable for both sexes, around 58% for women and 65% for men. Between 1995 and 2001 HLY in Spain was above the EU15 average.
- The new HLY series, initiated in 2005 with the SILC data, shows a lower value for Spain than previously. The HLY values for Spain are 0.8 year above the EU25 average for men and 0.8 year below the EU25 average for women. Women and men at age 65 can expect to spend 43% and 56% of their life without self-reported long-term activity limitations respectively. Compared to earlier trends, the SILC question may result in people reporting limitations of different severity than previously and Spanish women and men may be more likely to report less severe problems than before.



Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Spain (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Spain was 21.3 years for women and 17.3 years for men.
- Based on the SILC 2005, at age 65, women spent 43% (9.1 years) of remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 31% (6.7 years) with moderate activity limitation and 26% (5.6 years) with severe activity limitation.\*
- Men of the same age spent 56% (9.6 years) of remaining life without activity limitation compared to 26% (4.6 years) with moderate activity limitation and 18% (3.1 years) with severe activity limitation.\*

- Although total years lived by men were less than those for women, for life expectancy in very good or good perceived health and for life expectancy without activity limitation the years of life spent in positive health were greater for men than women.
- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Spain comprised 3606 women and 2738 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



## Published results and other reports of health expectancies for Spain

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Regidor Poyatos E, Gutiérrez Fisac JL. Indicadores de Salud. La salud de la población española en el contexto europeo y del Sistema Nacional de Salud 2005. Madrid: Ministerio de Sanidad Y Consumo; 2006.

Gomez Redondo R, Genova Maleras R, Robles E. Mortality compression and equilibrium trend in health: the Spanish case. In: Institut des Sciences de la Santé, editor. *Living longer but healthier lives: how to achieve health gains in the elderly in the European Union* Europe Blanche XXVI, Budapest, 25-26 November 2005. Paris: ISS; 2006. p. 65-82.

Esnaola S, Martin U, Pérez Y, Ruiz R, Aldasoro E, M. C. Magnitud y desigualdades socioeconómicas de la esperanza de vida ajustada por calidad en la CAPV Instituto Vasco de Innovación Sanitaria. Departamento de Sanidad. Gobierno Vasco, septiembre 2006. Bizkaia: Instituto Vasco de Innovación Sanitaria. Departamento de Sanidad. Gobierno Vasco; 2006.

Sagardui-Villamor J, Guallar-Castillón P, García-Ferruelo M, Banegas JR, Rodríguez-Artalejo F. Trends in Disability and Disability-Free Life Expectancy Among Elderly People in Spain: 1986-1999. *J Gerontol Med Sci*. 2005;60A(8):1028-1034.

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Gispert R, Puig X, Puigdefàbregas A, Tresseras R, Busquets E. Esperanza de vida libre de incapacidad y esperanza de vida en buena salud en Cataluña 1994-2000. *Med Clin (Barc)*. 2003;121(Supl 1):128-132.

Genova Maleras R, Pereira Candel J. Estudio monográfico: las expectativas de salud. In: Sancho Castiello M, editor. *Las personas mayores en España Informe 2002*. Madrid: IMSERSO; 2003. p. 515-547.



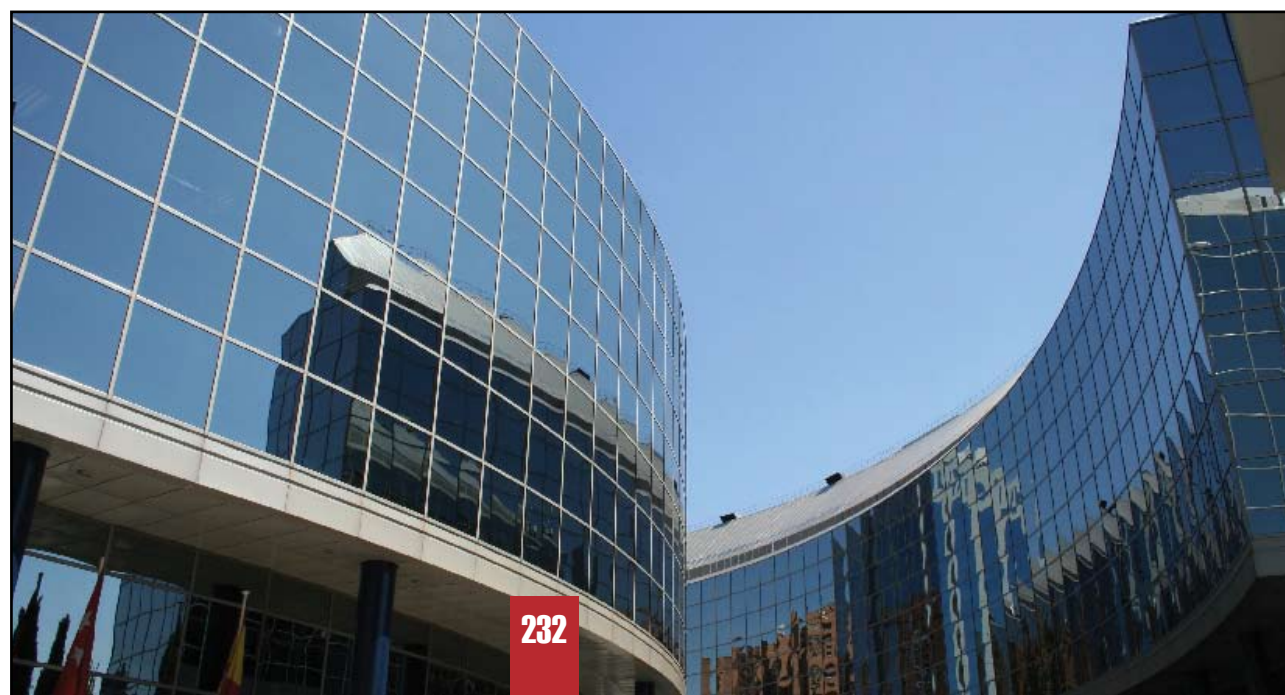
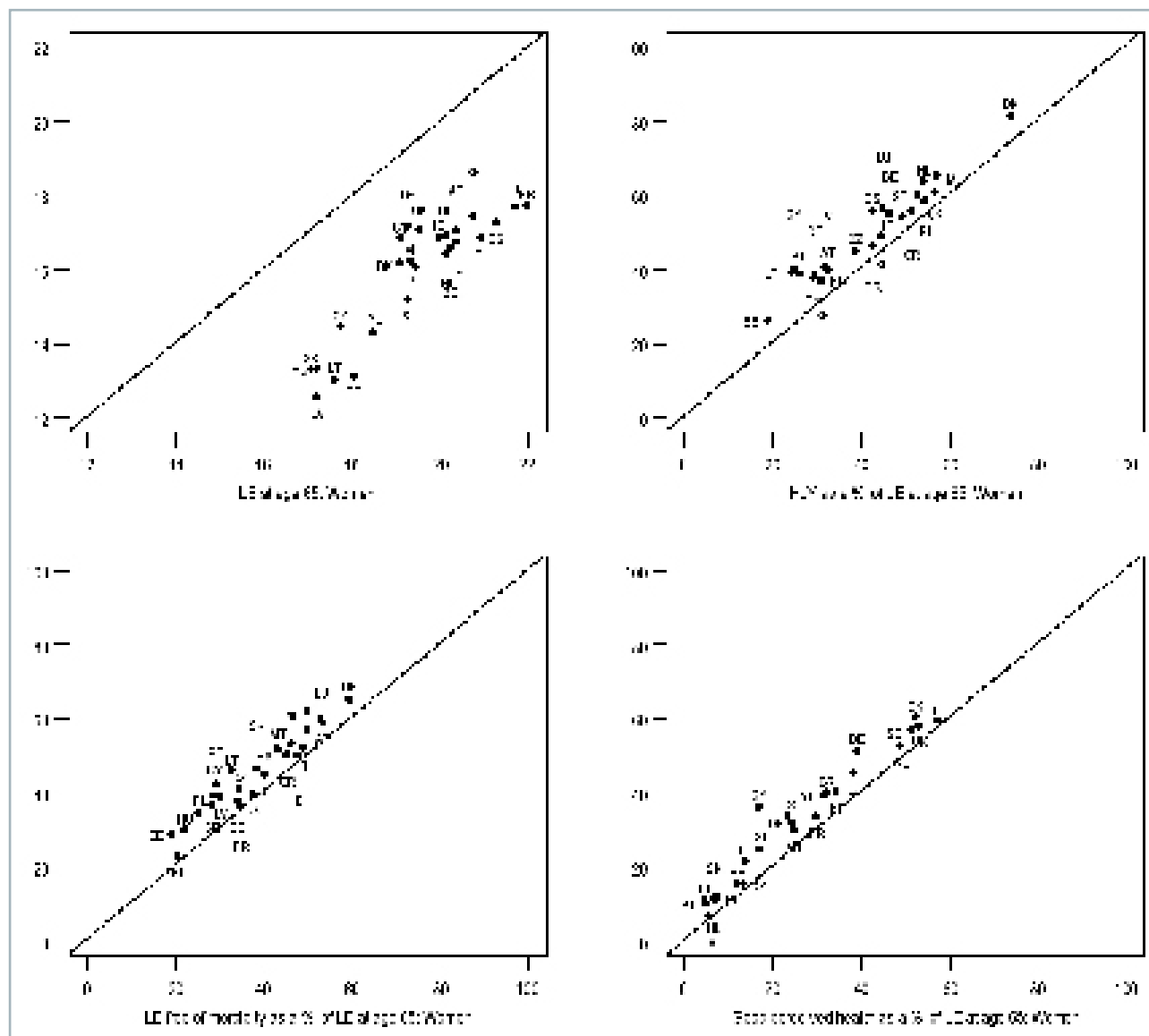


## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.

Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)





## EHEMU Country Reports June 2008

### HEALTH EXPECTANCY IN SWEDEN





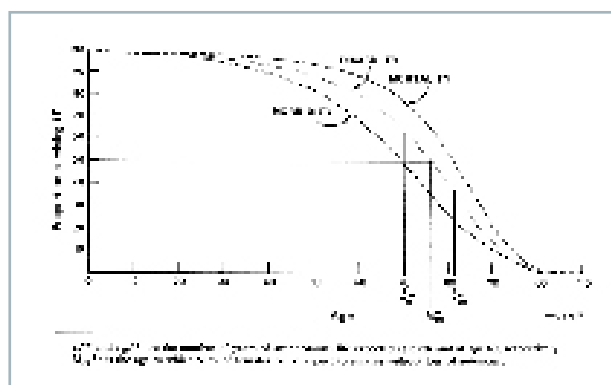
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

## How is the effect of longer life measured?

The general model of health transitions (WHO, 1984) shows the differences between life spent in different states: total survival, disability-free survival and survival without chronic disease. This leads naturally to life expectancy (the area under the 'mortality' curve), disability-free life expectancy (the area under the 'disability' curve) and life expectancy without chronic disease (the area under the 'morbidity' curve).

**The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980.**



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

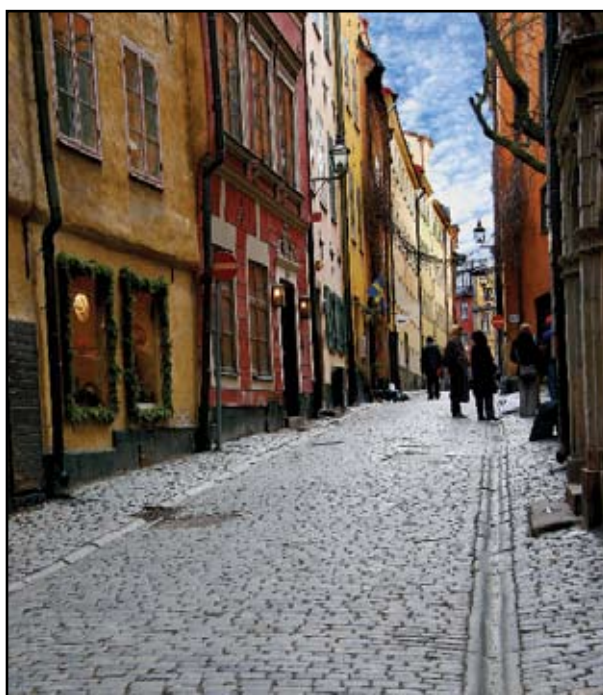
## How do we compare health expectancies?

Health expectancies are independent of the size of populations and of their age structure and so they allow direct comparison of different population sub-groups: e.g. sexes, socio-professional categories, as well as countries within Europe (Robine et al., 2003).

Health expectancies are most often calculated by the Sullivan method (Sullivan, 1971). However to make valid comparisons, the underlying health measure should be truly comparable.

To address this, the European Union has decided to include a small set of health expectancies among its European Community Health Indicators (ECHI) to provide synthetic measures of disability, chronic morbidity and perceived health. Therefore the Minimum European Health Module (MEHM), composed of 3 general questions covering these dimensions, has been introduced into the Statistics on Income and Living Conditions (SILC) to improve the comparability of health expectancies between countries. In addition life expectancy without long term activity limitation, based on the disability question, was selected in 2004 to be one of the structural indicators for assessing the EU strategic goals (Lisbon strategy) under the name of "Healthy Life Years" (HLY).

Further details on the MEHM, the European surveys and health expectancy calculation and interpretation can be found on [www.ehemu.eu](http://www.ehemu.eu).



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- health expectancies based on the two additional dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2005
- a global analysis of health expectancies of European countries, based on the SILC 2005



## References

Robine JM, Jagger C, Mathers CD, Crimmins EM, Suzman RM, Eds.

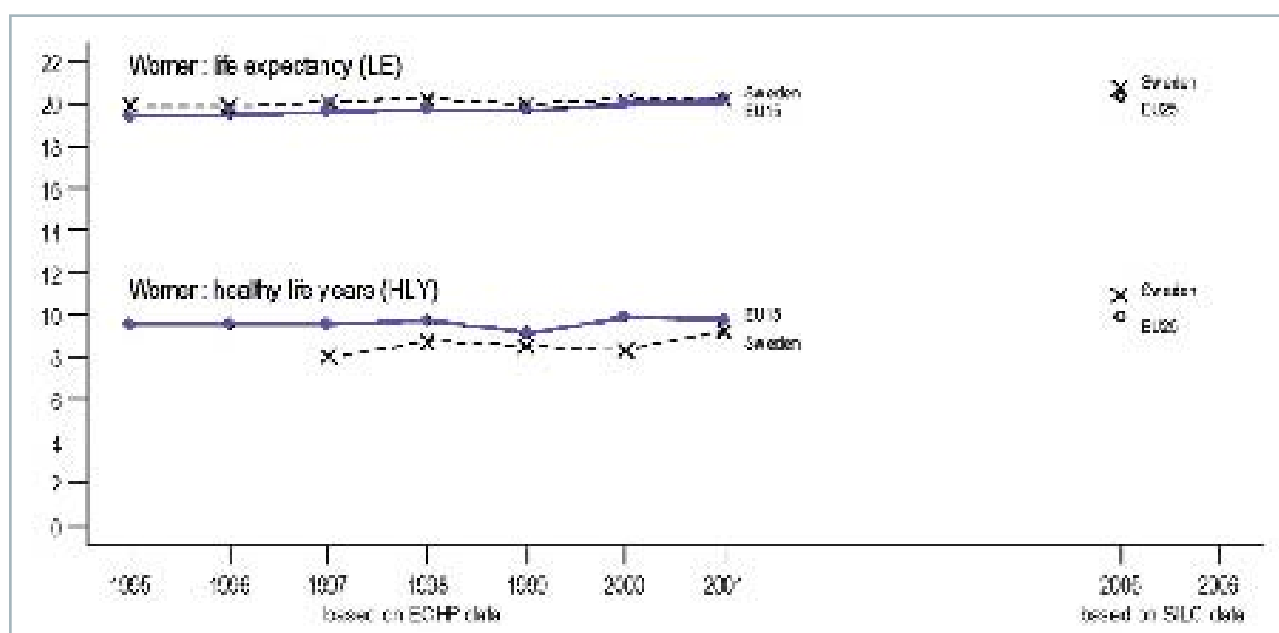
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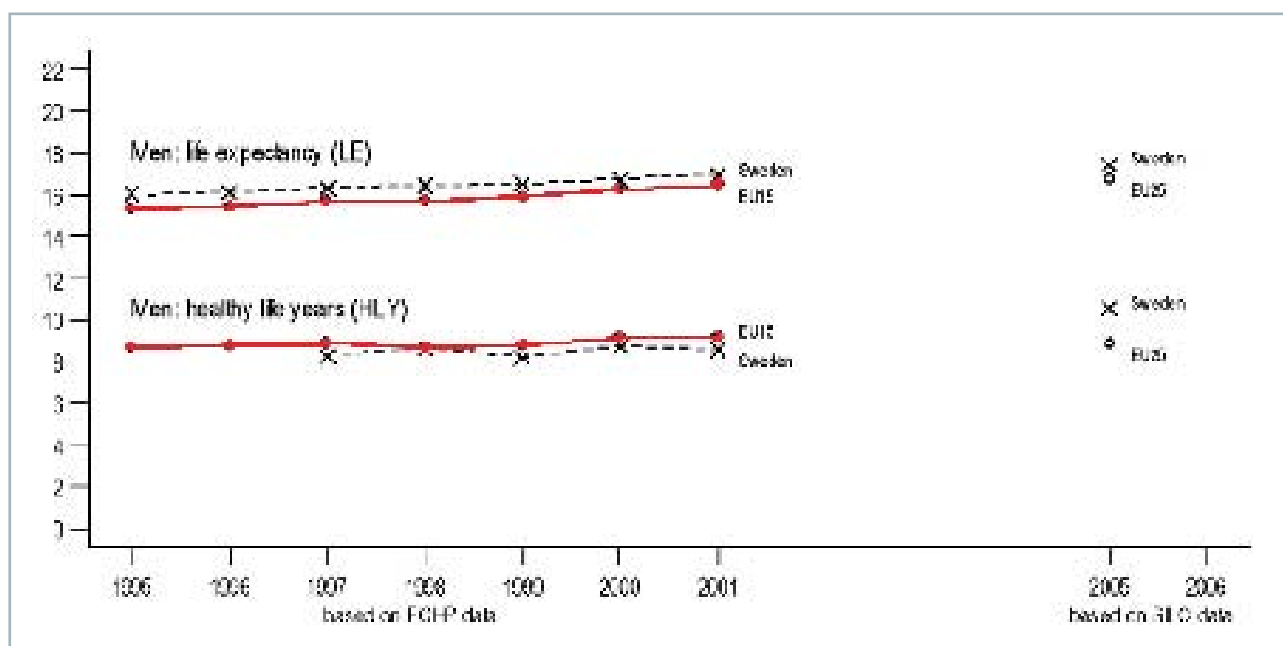
The uses of epidemiology in the study of the elderly: Report of a WHO Scientific Group on the Epidemiology of Aging. Geneva: WHO, 1984 (Technical Report Series 706).

Sullivan DF (1971) A single index of mortality and morbidity. HSMHA Health Reports 86:347-354.

Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Sweden and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



Sweden Women: LE	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
	19.9	19.9	20.1	20.2	20.0	20.2	20.2	-	-	-	20.7	
Women: HLY			8.0	8.7	8.5	8.3	9.2				10.9	
%HLY/LE	-	-	40%	43%	43%	41%	46%	-	-	-	53%	



Sweden Men: LE	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
	16.0	16.1	16.3	16.4	16.5	16.7	16.9	-	-	-	17.4	
Men: HLY			8.2	8.6	8.1	8.7	8.5				10.5	
%HLY/LE	-	-	51%	52%	49%	52%	51%	-	-	-	60%	

## Key points:

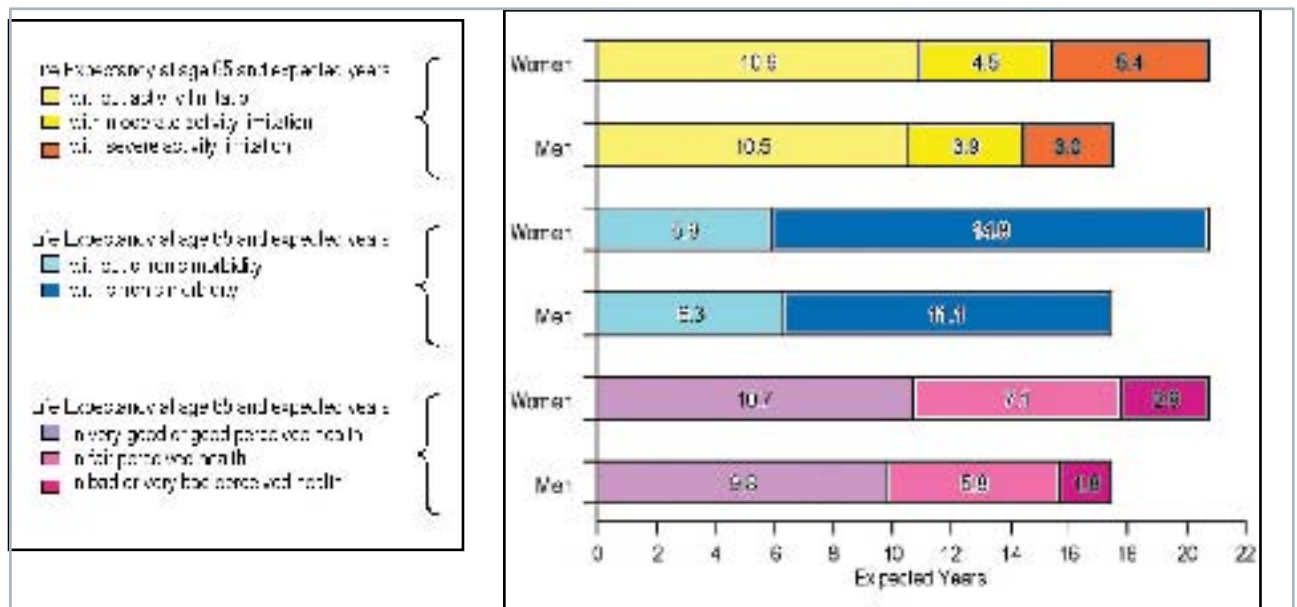
- Swedish life expectancy (LE) at age 65 has increased by 0.8 years for women and 1.4 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 was above the EU15 average and remained above the EU25 average in 2005.
- Over the 1997-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data increased although more strongly for women. The proportion of HLY (or years without self-reported limitations due to health condition or disability), within the total expected years, increased for women and remained stable for men, being close to 46% for women and 51% for men in 2001. Between 1997 and 2001 HLY

in Sweden was below the EU15 average.

- The new HLY series, initiated in 2005 with the SILC data, shows a higher value for Sweden than previously and above the EU average being 1 year and 1.7 years above the EU25 average (and higher than EU15 average) for women and men respectively. Women and men at age 65 can expect to spend 53% and 60% of their life without self-reported long-term activity limitations respectively. Compared to earlier trends, the SILC question may result in people reporting limitations of different severity than previously and Swedish women and men may be less likely to report less severe problems than before and than the EU25 as a whole.



Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Sweden (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in Sweden was 20.7 years for women and 17.4 years for men.
- Based on the SILC 2005, at age 65, women spent 53% (10.9 years) of their remaining life without activity limitation (corresponding to Healthy Life Years (HLY)), 21% (4.5 years) with moderate activity limitation and 26% (5.4 years) with severe activity limitation.\*
- Men of the same age spent 60% (10.5 years) of remaining life without activity limitation compared to 22% (3.9 years) with moderate activity limitation and 18% (3.0 years) with severe activity limitation.\*
- Although total years lived by men were less than those for women, for life expectancy without chronic morbidity the years of life spent in positive health were greater for men than women.
- Compared to men, women spent a larger proportion of their life in ill health and these years of ill health were more likely to be years with severe health problems.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for Sweden comprised 671 women and 528 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



#### Published results and other reports of health expectancies for Sweden

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Wilhelmson K, Allebeck P, Steen B. Improved health among 70-year olds: Comparison of health indicators in three different birth cohorts. *Aging Clin Exp Res.* 2002;14(5):361-370.



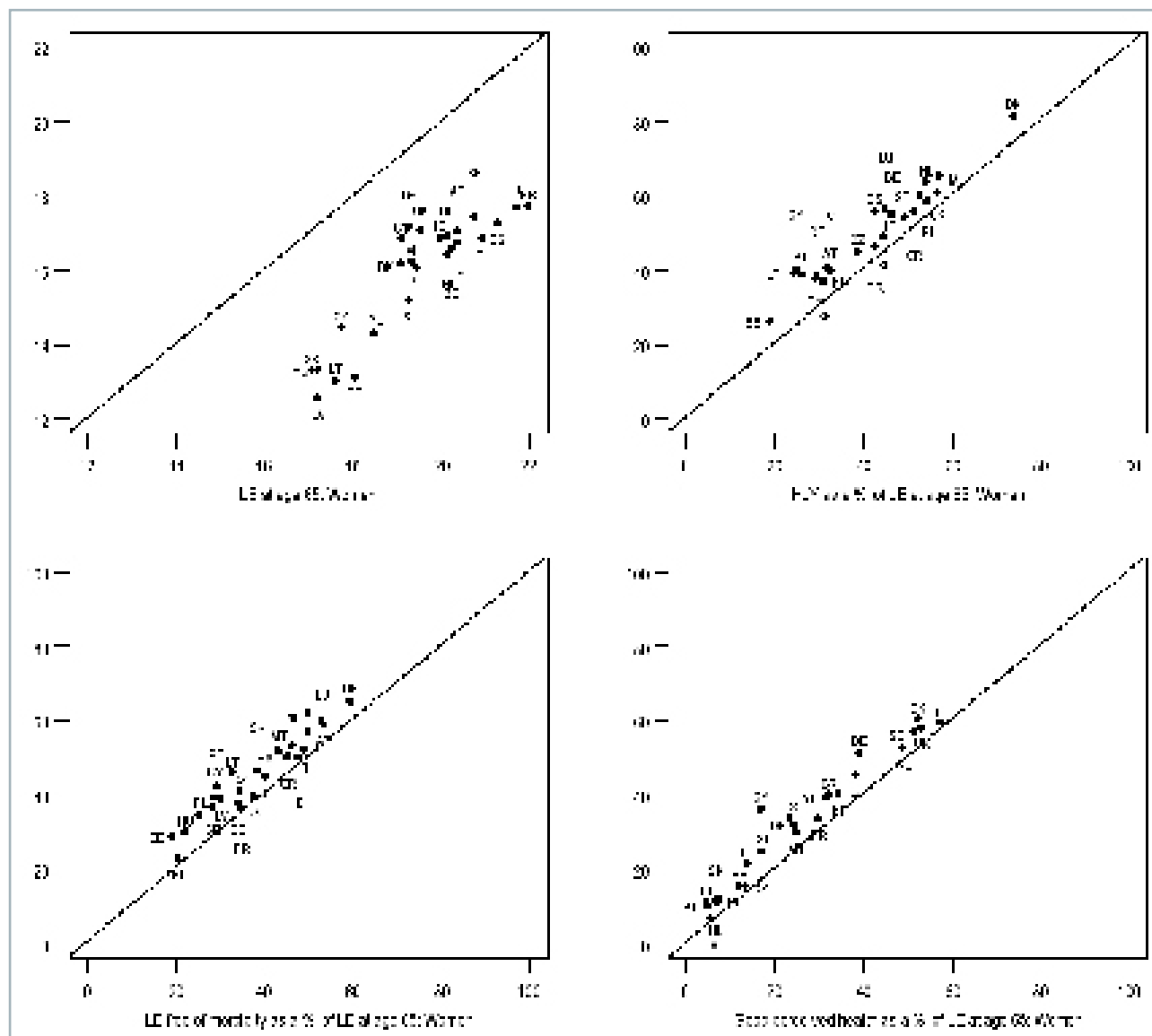


## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

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- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
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## EHEMU Country Reports June 2008

### HEALTH EXPECTANCY IN THE UNITED KINGDOM





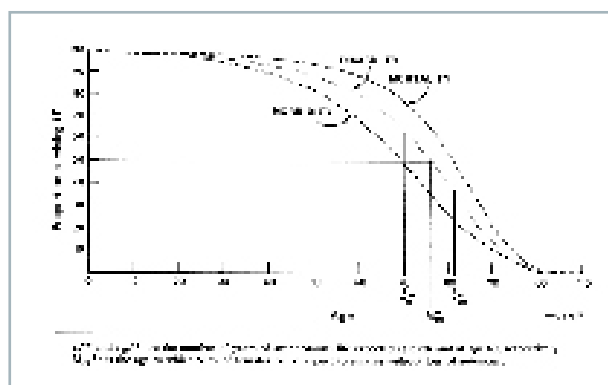
## What is health expectancy?

Health expectancies were first developed to address whether or not longer life is being accompanied by an increase in the time lived in good health (the compression of morbidity scenario) or in bad health (expansion of morbidity). So health expectancies divide life expectancy into life spent in different states of health, from say good to bad health. In this way they add a dimension of quality to the quantity of life lived.

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## The general model of health transition (WHO, 1984): observed mortality and hypothetical morbidity and disability survival curves for females, USA, 1980



There are in fact as many health expectancies as concepts of health. The commonest health expectancies are those based on self-perceived health, activities of daily living and on chronic morbidity.

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Further details on the MEHM, the European surveys and health expectancy calculation and interpretation can be found on [www.ehemu.eu](http://www.ehemu.eu).



This report is produced by the European Health Expectancy Monitoring Unit (EHEMU) as part of a country series. In each report we present:

- health expectancies based on activity limitation (HLY) for the country of interest and for the overall 25 European Union member states (EU25), using the SILC 2005 question on long term activity limitation. As the SILC has been only recently initiated, to document trends we provide previous HLY series based on the disability question of the 1995-2001 European Community Household Panel (ECHP)



dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2005

- a global analysis of health expectancies of European countries, based on the SILC 2005

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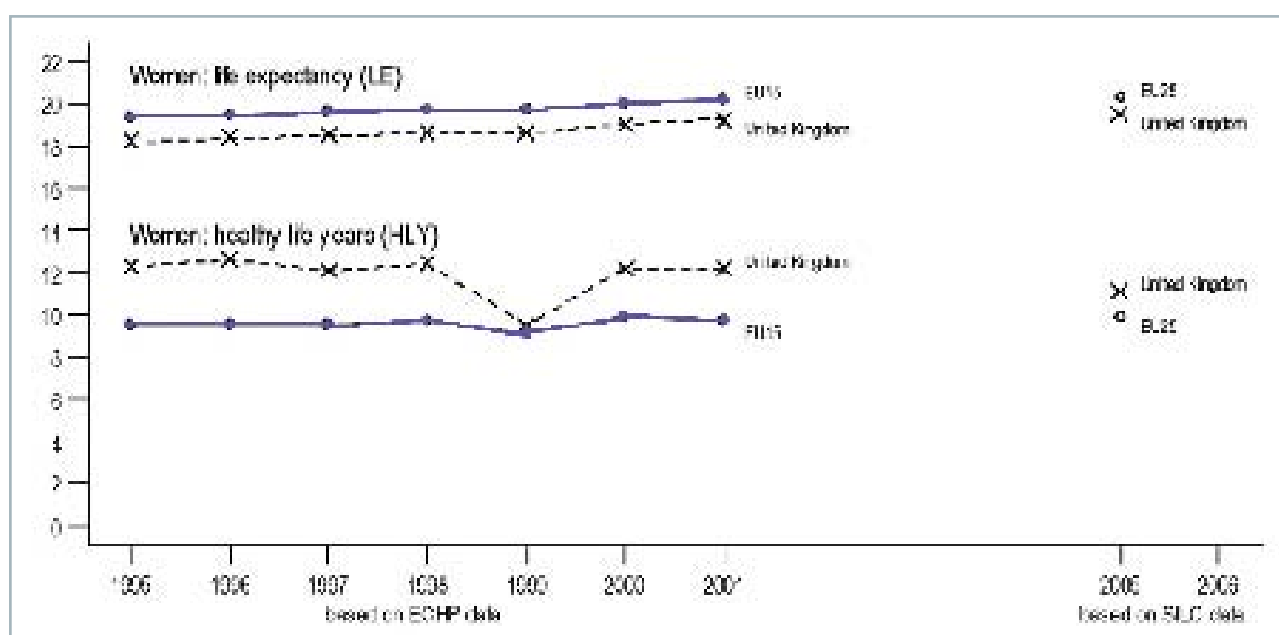
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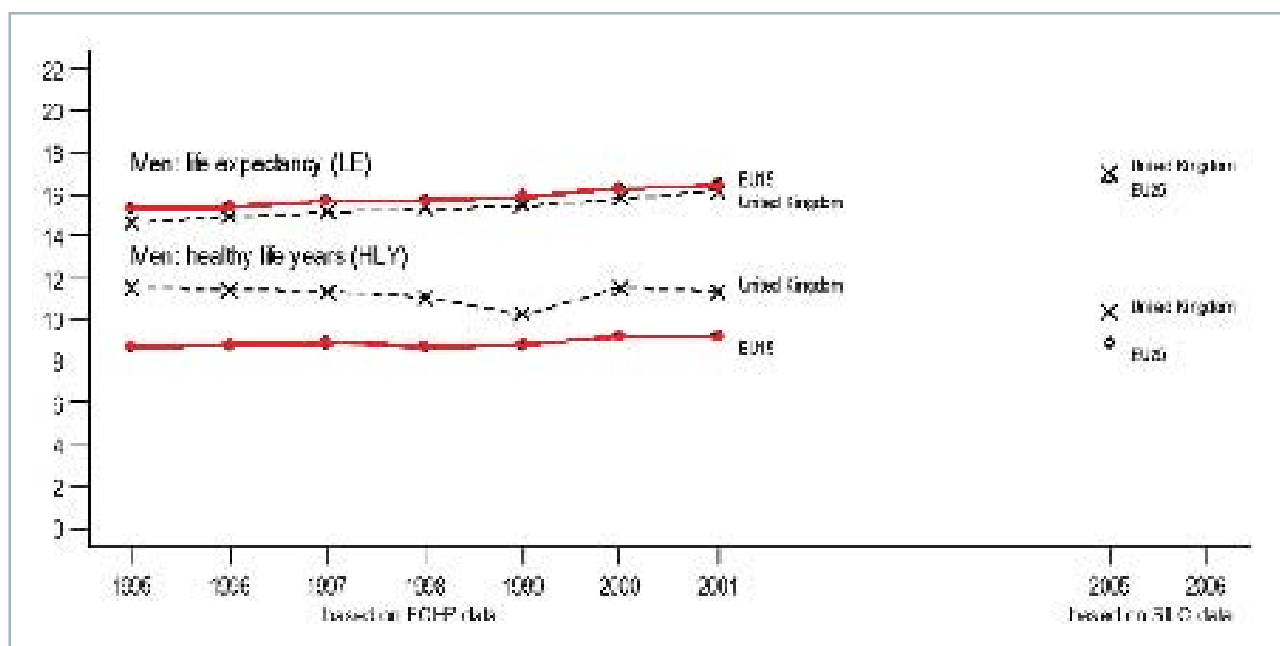
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Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for United Kingdom and the European Union (EU15 and EU25) based on ECHP (1995-2001) and SILC (2005)



United Kingdom	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Women: LE	18.2	18.4	18.5	18.6	18.6	19.0	19.2	-	-	-	19.5	
Women: HLY	12.3	12.6	12.1	12.4	9.5	12.2	12.2	-	-	-	11.1	
%HLY/LE	68%	68%	65%	67%	51%	64%	63%	-	-	-	57%	



United Kingdom	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Men: LE	14.6	14.9	15.1	15.3	15.4	15.8	16.1	-	-	-	17.0	
Men: HLY	11.5	11.4	11.3	11.0	10.2	11.5	11.3	-	-	-	10.3	
%HLY/LE	79%	77%	75%	72%	66%	73%	70%	-	-	-	60%	

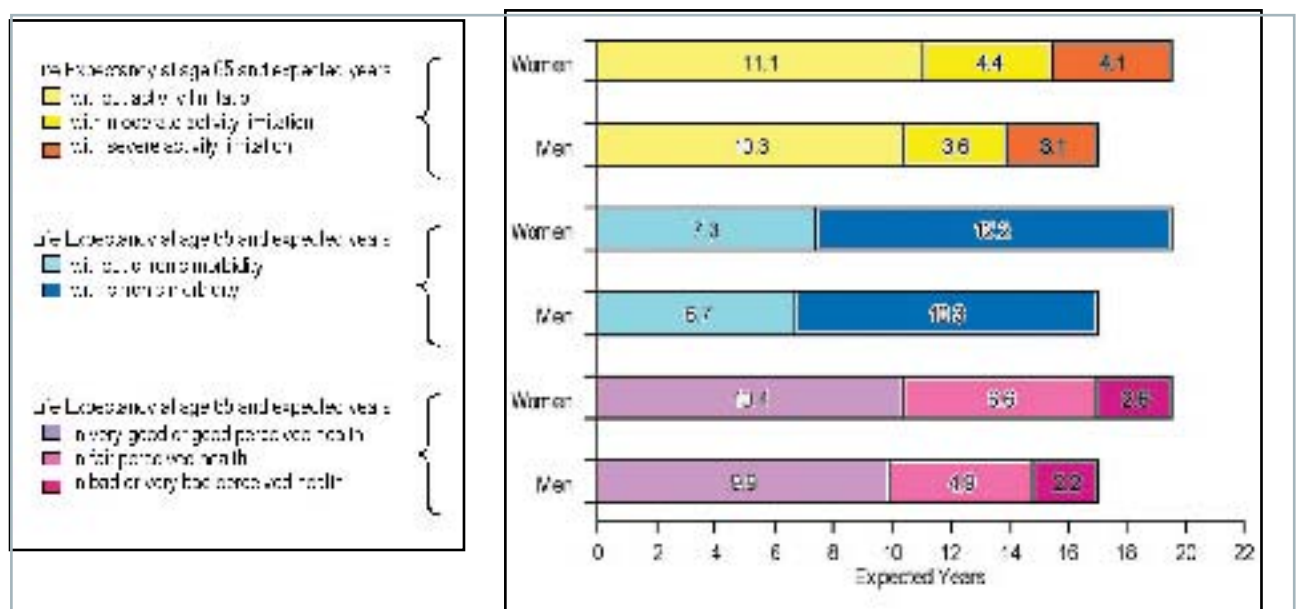
### Key points:

- UK life expectancy (LE) at age 65 has increased by 1.3 years for women and 2.4 years for men over the 1995-2005 period: LE for both sexes between 1995-2001 were below the EU15 average. In 2005 LE was slightly below the EU25 average for women but above for men.
- Over the 1995-2001 period, health expectancy based on activity limitation (HLY) at age 65 from the ECHP data was mostly stable. The proportion of HLY (or years without self-reported limitations due to health condition or disability), within the total expected years, decreased for both sexes, being close to 63% for women and 70% for men in 2001. Between 1995 and 2001 HLY in the UK was above the EU15 average.
- The new HLY series, initiated in 2005 with the SILC data, shows a lower value for the UK than previously but above the EU average being 1.2 years and 1.5 years above the EU25 average (and higher than EU15 average) for women and men respectively. Women and men at age 65 can expect to spend 57% and 60% of their life without self-reported long-term activity limitations respectively. Compared to earlier trends, the SILC question may result in people reporting limitations of different severity than previously and UK women and men may be more likely to report less severe problems than before but less likely than the EU25 as a whole.

These results should be interpreted cautiously because the UK data used between 1995 and 2001 came from a national survey: The British Household Panel Survey (BHPS) and not from the European survey (ECHP).



Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for United Kingdom (Health data from SILC 2005)



### Key points:

- In 2005, LE at age 65 in United Kingdom was 19.5 years for women and 17.0 years for men.
- Based on the SILC 2005, at age 65, women spent 57% (11.1 years) of their remaining life without activity limitation (corresponding to Healthy Life Years , HLY), 23% (4.4 years) with moderate activity limitation and 20% (4.1 years) with severe activity limitation.\*
- Men of the same age spent 60% (10.3 years) of remaining life without activity limitation compared to 21% (3.6 years) with moderate activity limitation and 19% (3.1 years) with severe activity limitation.\*
- Although for all the health expectancies the years of life spent in positive health were greater for women than men, women spent a larger proportion of their life in ill health.

These results should be interpreted cautiously given the lack of the institutional population and in some countries the small sample size. The sample size for United Kingdom comprised 2033 women and 1701 men aged 65+ years.

\* These may not sum to Life Expectancy due to rounding.



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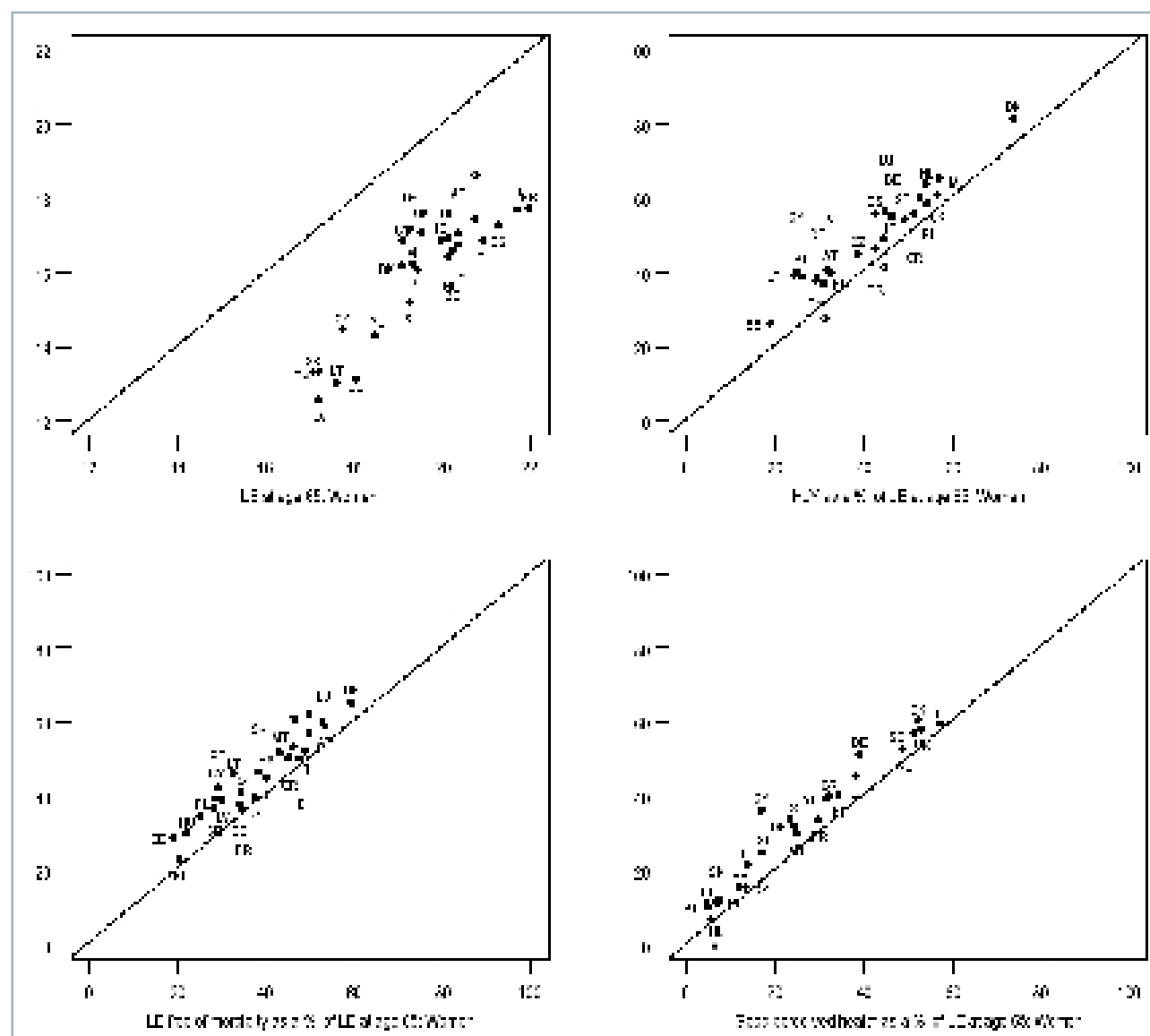


## European health expectancies at age 65 for 2005

The figure below shows life expectancy at age 65 and different health expectancies as a proportion of life expectancy at age 65 for the EU25 in 2005 with the values for men plotted against those for women. The key points are:

- LE at age 65 varies by almost 9 years in Europe from 12.5 years for men in Latvia to 22.0 years for women in France. LE for women is always higher than that for men – around 3 years on average.
- The proportion of LE free of activity limitation (corresponding to the HLY), in good perceived health and free from chronic morbidity varies by country from 19% to 81%, 4% to 60% and 19% to 65% respectively, providing other perspectives of health in Europe. Even ignoring potential outliers there still appears to be considerable cross-national variation.
- Whatever the health expectancy considered men and women give the same picture of their country in terms of proportion of life spent healthy.
- In all countries women live longer but spend less of their life healthy, a difference of 7% on average.

Health expectancies as a proportion of life expectancy at age 65 based on activity limitation (Healthy Life Years), perceived health and chronic morbidity for the EU25 (Source: SILC 2005)









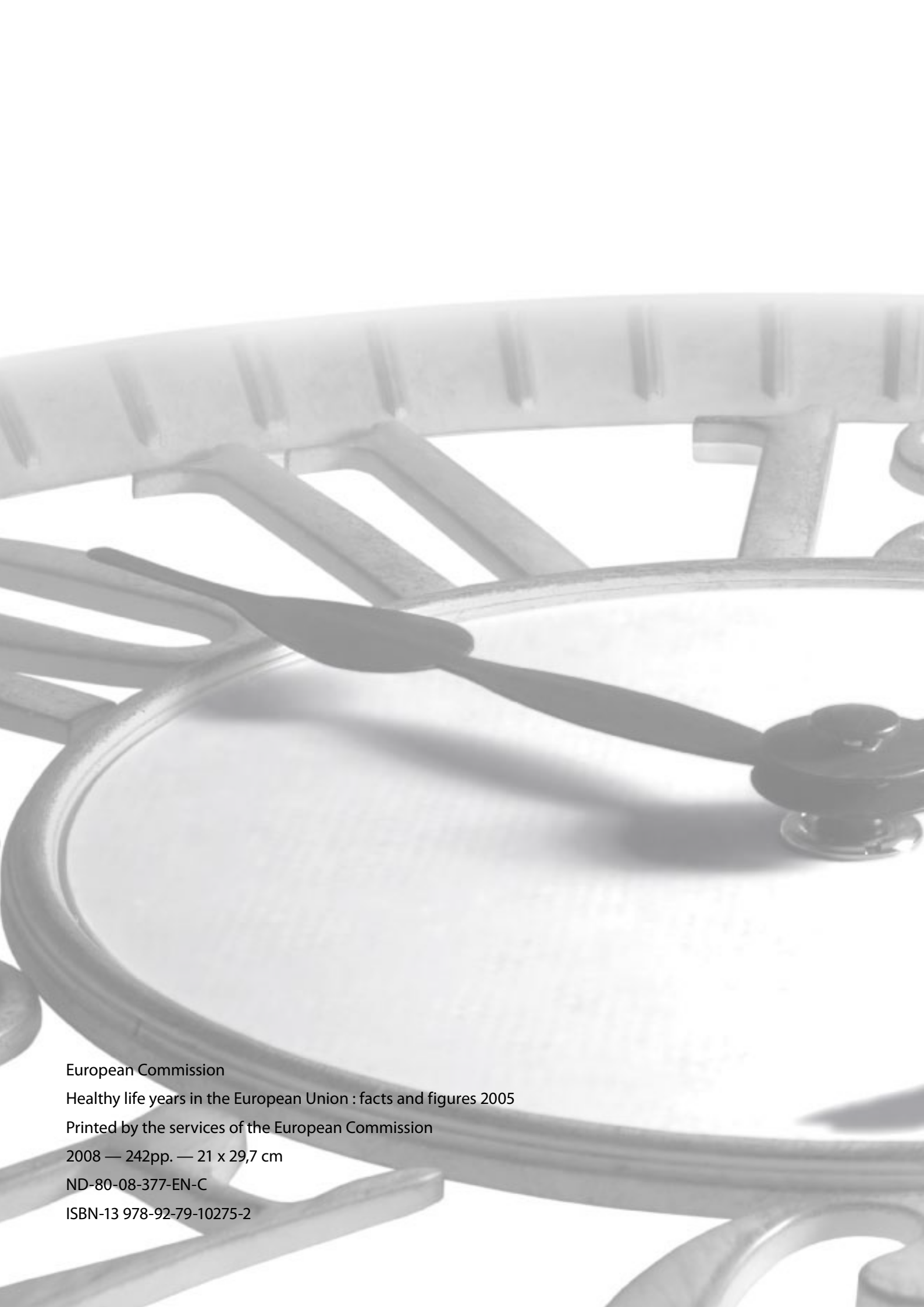












European Commission

Healthy life years in the European Union : facts and figures 2005

Printed by the services of the European Commission

2008 — 242pp. — 21 x 29,7 cm

ND-80-08-377-EN-C

ISBN-13 978-92-79-10275-2