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Healthy life expectancy in Europe

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Since 2005, Eurostat has used European Statistics on Income and Living Conditions (EU-SILC) to calculate annual estimates of life expectancy without activity limitations, known as “healthy life years” for each member state of the European Union. Following the release of Eurostat’s latest figures, this article presents the findings of several studies covering the period 2005-2010.

Life expectancy at birth is still increasing in Europe, thanks mainly to lower mortality at advanced ages. But are the years gained spent in good health, or with disabilities and in a state of dependence? This question is important, not only for the organization of healthcare and personal services, but also for social and economic reasons: it is not possible to foster older people’s active participation in social life, to increase the employment rate at ages 50-65 or to raise the retirement age unless the persons concerned are healthy and self-sufficient. Estimating the number of healthy years that people can expect to live provides crucial information for policy makers. In 2004-2005, life expectancy without activity limitation was added to the European Union’s structural indicators. Now calculated annually by Eurostat, it is used to set targets for the European active healthy ageing strategy, which is aiming for a two-year increase in healthy life years in EU-27 by 2020. [1]

How are healthy life years measured?

The EU-SILC surveys, coordinated by Eurostat, collect health data on the populations of European Union countries via three questions that are detailed in Box 1. They concern “perceived health”, “chronic morbidity” and “activity limitations”. The three types of health expectancy presented here are obtained by

matching the frequencies of persons reporting health problems against the life table. Of course, these data are partially driven by the respondents’ subjectivity and health may be perceived differently from one country to another; this is an important factor to be considered in studies of this kind. But they provide crucial information on changes over time by sex or by country, and on trends specific to the health dimensions under study.

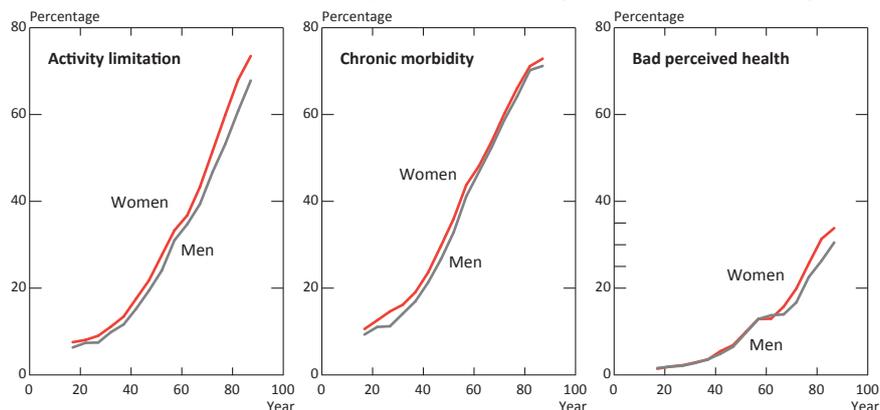
Throughout Europe, whatever the measures used, health problems are observed to increase with age (Figure 1). Women more often report health problems than men, especially at advanced ages. While European women aged 65 have a much longer life expectancy than men of the same age (an additional 3.5 years), their life expectancy without activity limitation is very similar (0.2 years more), as is their life expectancy without chronic morbidity (0.9 years) or in good perceived health (0.3 years). Chronic diseases are relatively frequent after age 65. According to self-reported data, European women at this age spend 64% of their remaining life years with a chronic disease (61.5% for European men). But these years spent with

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Figure 1. Prevalence* of health problems in EU-27 in 2010 by sex and age

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*: Percentage of persons reporting an activity limitation, chronic morbidity or bad or very bad health

Sources: EU-SILC, Mini European Health Module, Eurostat, Joint-Action EHLEIS, www.eurohex.eu

Box. Three measures of healthy life years in Europe

By decomposing years lived in the life table into years in good health and in poor health, [2] total life years and healthy life years can be distinguished for the various health statuses for which data are available. [3] The Minimum European Health Module (MEHM) included in the annual Statistics on Income and Living Conditions Survey (EU-SILC) comprises three general questions which each reflect a specific dimension of health.

Perceived health is a subjective indicator strongly correlated with mortality risk and healthcare consumption. The wording of the question in the health surveys is one of the most harmonized since the 1980s: "How is your health in general? Very good / good / fair / bad / very bad".

Self-reported **chronic morbidity** depends on the respondents' level of knowledge of their state of health; it reflects their perception of disorders that may be benign or severe (diagnosed or otherwise) and a need of care. The question used was developed by WHO Europe in the 2000s "Do you have any long-standing illness? Yes/No".

Activity limitations, an indicator of disability, corresponds to limitations in the activities of daily living due to a health problem. This indicator extends beyond situations of dependence and severe disability. It reveals difficulties more often affecting the general population and persons at younger ages. The question was developed for the European health monitoring programme [4]: "For at least the past six months, to what extent have you been limited because of a health problem in activities people usually do? Severely limited? Limited, but not severely? Not limited at all?".

Interpreting estimates and differences between countries

Cross-country differences in health expectancies may be due partly to slight changes in the meaning of certain questions when they are translated from one language to another. Since 2008 questions have been translated in accordance with a scientific protocol. Only a small group of countries still does not have appropriate question wordings. [5] Beyond this unique effort to standardize the EU-SILC health questions, non-measurable cultural differences in the perception and understanding of questions may also contribute to differences between European countries. Nonetheless, within each country, poor health reported via these various indicators generally correlates with more objective indicators (healthcare consumption, mortality risks), so the analysis of these indicators on a Europe-wide scale does produce meaningful results.

The survey sample size is another source of uncertainty: in 2010, 405,120 Europeans were interviewed in the EU-SILC survey (of which 92,982 aged 65 and above), ranging from 39,855 in Italy to 5,766 in Denmark. Cross-country comparisons or changes over time must take account of the statistical confidence intervals of the estimates, provided in the supplementary material.

disease are not perceived as years of bad health (accounting for 24.5% and 20.3% of the years lived by women and men, respectively) or activity limitations (representing, in their most severe forms, 23.9% of life expectancy above age 65 for women and 19.4% for men).

More years lived in poor health?

Looking at the 25 countries for which health data have been available since 2005 (Bulgaria and Romania did not join the European Union until 2007), we see that life expectancy at age 65 in EU-25 increased by one year between 2005 and 2010, and that years in poor perceived health beyond age 65 decreased substantially for both men and women (by 0.5 years for men and 1.1 years for women), despite an increase in years with chronic morbidity (1.6 for men and 1.3 years for women). Years without activity limitation remained unchanged (Figure 2). This paradox can be explained in part by more systematic detection and improved management of health problems, whose prevalence may thus increase without necessarily producing a rise in reported activity limitations or a negative perception of health.

Inequalities between member states that vary across the health indicators considered

In the European Union as a whole, mean life expectancy at age 65 stood at 17.4 years for men and 20.9 years for women, averaged over the three years 2008-2010, with a difference of 5.5 years for men between France (18.7 years) and Latvia (13.2 years) and of 6.3 years for women between France (23.2 years) and Bulgaria (16.9

Figure 2. Life expectancy at age 65 in EU-27 in 2010

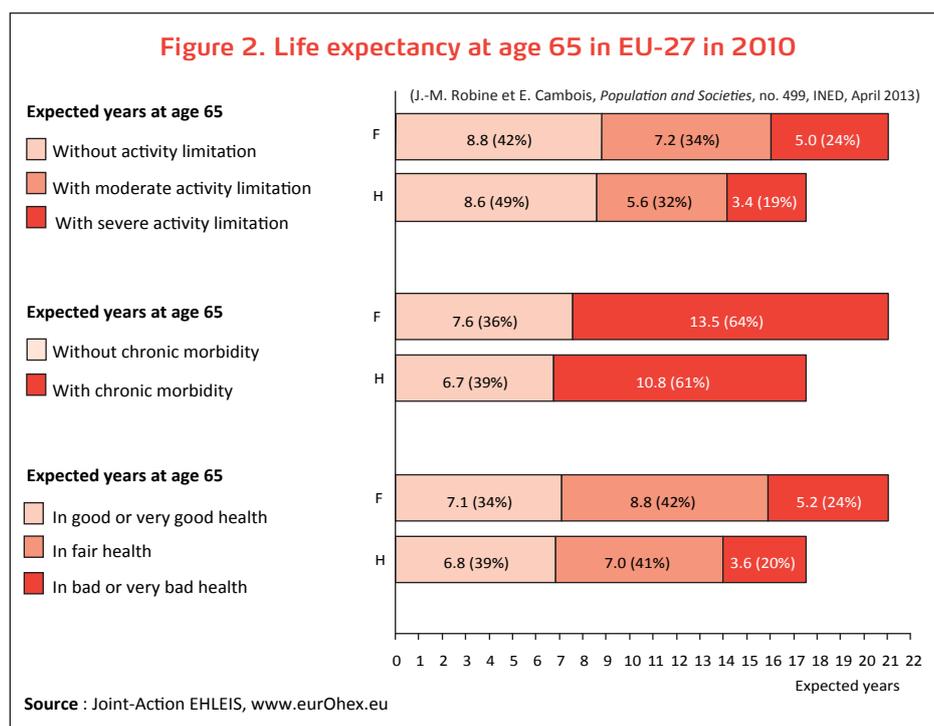


Table. Life expectancy at age 65 in the European Union countries by health status (2008-2010)

Country	Life expectancy at age 65							
	Total		Without activity limitation		Without chronic morbidity		In good perceived health	
	M	F	M	F	M	F	M	F
Austria	17.7	21.2	8.0	7.9	7.7	8.2	7.4	7.3
Belgium	17.5	21.1	10.5	10.2	10.6	11.2	9.3	9.4
Bulgaria	13.7	16.9	8.7	9.5	7.3	7.6	2.9	2.1
Cyprus	18.1	20.8	9.8	8.3	6.4	5.3	6.9	5.1
Czech Rep.	15.3	18.9	8.0	8.5	6.6	7.0	3.1	3.0
Denmark	16.8	19.5	11.7	12.4	10.7	11.4	10.0	10.5
Estonia	13.9	19.2	4.9	5.1	3.5	3.4	2.2	2.4
Finland	17.4	21.5	8.4	9.0	5.1	5.2	6.4	6.9
France	18.7	23.2	8.9	9.8	6.3	7.8	6.9	7.6
Germany	17.7	20.8	6.6	6.8	5.8	7.2	6.3	6.4
Greece	18.1	20.1	8.6	7.9	7.8	7.2	7.2	5.9
Hungary	14.0	18.2	5.6	6.0	3.7	4.2	2.1	2.1
Ireland	17.7	19.0	10.4	10.0	8.6	8.2	11.1	11.9
Italy	18.4	22.1	8.6	8.1	10.1	11.0	5.3	4.6
Latvia	13.2	18.1	4.8	5.4	4.5	5.1	1.7	1.7
Lithuania	13.5	18.4	6.1	6.7	5.0	5.3	1.2	1.0
Luxembourg	17.4	21.3	10.7	11.8	10.7	11.4	8.0	9.2
Malta	17.4	20.6	11.3	11.7	6.4	7.0	5.3	5.2
Netherlands	17.6	20.9	9.6	9.9	9.0	10.3	10.6	11.2
Poland	14.9	19.3	6.9	7.6	4.8	4.7	2.1	1.7
Portugal	17.1	20.6	6.8	5.6	6.5	6.4	2.4	1.5
Romania	14.0	17.2	7.0	6.7	7.7	7.5	3.7	2.9
Slovakia	14.0	17.9	3.3	2.8	5.0	4.8	2.3	1.8
Slovenia	16.5	20.7	8.3	8.8	5.6	7.0	4.7	4.4
Spain	18.2	22.3	9.5	8.7	7.7	7.9	7.6	6.9
Sweden	18.2	21.1	13.6	14.7	9.7	10.1	11.4	12.4
UK	18.0	20.7	10.9	11.7	6.8	7.8	10.7	11.9
EU 27	17.4	20.9	8.4	8.6	7.0	7.8	6.6	6.6
MAX	18.7	23.2	13.6	14.7	10.7	11.4	11.4	12.4
MIN	13.2	16.9	3.3	2.8	3.5	3.4	1.2	1.0
Differences	5.5	6.3	10.3	11.9	7.2	8.1	10.2	11.4

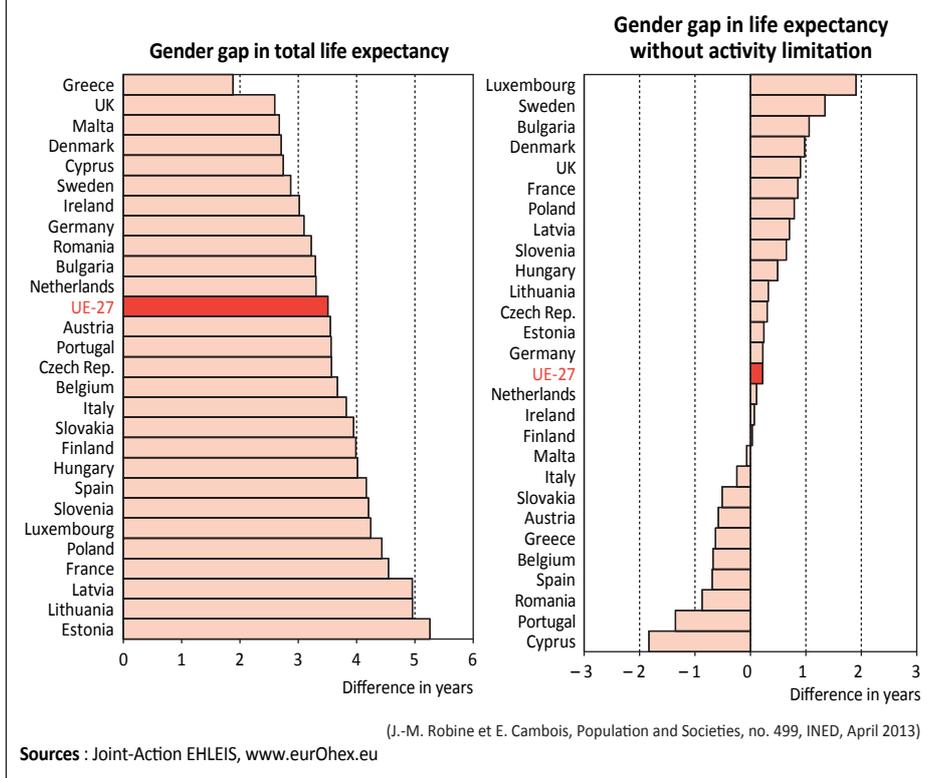
Source : Joint-Action EHLEIS, www.eurOhex.eu

years) (Table). For healthy life expectancies, the gaps are even wider, reaching more than 10 years for life expectancy without activity limitation (10.3 years for men and 11.9 years for women) and for life expectancy in good perceived health (10.2 and 11.4 years). The gap in life expectancy without chronic morbidity is 7.2 years for men and 8.1 years for women. The differences between countries vary across health indicators. Sweden has the longest life expectancy without activity limitation and in good perceived health. Luxembourg and Denmark share first place for life expectancy without chronic morbidity. Slovakia ranks lowest for life expectancy without activity limitation, Estonia for life expectancy without chronic morbidity, and Lithuania for life expectancy in good perceived health.

These disparities, complex to interpret, are due partly to differences in the perception of these problems and in health expectations (Box), but also to differences in exposure to health problems and in their management, i.e. differences in mortality and morbidity. Reducing these cross-country differences would be a large step forward in achieving the target of a two-year increase in healthy life years by 2020. [6]

While women outlive men in all countries, the gender gap ranges from 1.9 years in Greece to 5.3 years in Estonia, with a European average of 3.5 years (Figure 3). During their longer lifetime, women spend more years with activity limitations than men, but there are three distinct profiles of differences

Figure 3. Life expectancy gender gap at age 65 in the 27 countries of the European Union in 2010



the links between health trends and macroeconomic indicators (health spending, national wealth, etc.) [7].

References

[1] European Commission, 2011, http://ec.europa.eu/research/innovation-union/index_en.cfm?section=active-healthy-ageing&pg=about

[2] Daniel F. Sullivan, 1971, "A single index of mortality and morbidity", *Health Services Reports*, 86, pp. 347-354.

[3] World Health Organization, 1984, *The Uses of Epidemiology in the Study of the Elderly*, Geneva, World Health organization, 84 p.

[4] Jean-Marie Robine, Carol Jagger and Euro-REVES, 2003, "Creating a coherent set of indicators to monitor health across Europe: the Euro-REVES 2 project", *European Journal of Public Health*, 13(3), pp. 6-14.

[5] Eurostat, 2012, *A Synthesis Report on the 2012 Consultation on Further Harmonisation and Documentation on the EU-SILC1 PHO302 Variable*, Eurostat, Unit F-5: Education, Health and Social Protection, Luxembourg.

for life expectancy without activity limitation. In the first, women live more years than men without activity limitations, and in the second, the two sexes are equal; women's additional years are shared between good and bad health. In the third profile, less frequently observed in existing studies, women live without activity limitations for substantially fewer years than men. Variations are thus observed across Europe in terms of health, but also of gender differentials in health.

Not surprisingly, European diversity is mirrored in the statistics on reported health statuses. Years of life in good and bad health are not equally distributed within the European Union, and the gradient differs according to the health dimension considered. Progress in life expectancy, shared by all EU countries, is associated, on average, with more years of self-reported chronic morbidity and activity limitations, but also with more years of perceived good health. As yet, the statistical series for the European Union are still relatively short. As the series become longer, new analyses will be performed to explain these trends and obtain more detailed conclusions. In particular, patterns will be studied in different population groups, along with

[6] Carol Jagger et al., 2013, "Mind the gap – reaching the European target of a two year increase in healthy life years in the next decade", *European Journal of Public Health* (March 13) doi:10.1093/eurpub/ckt030.

[7] Carol Jagger, Clare Gillies, Francesco Moscone et al., 2008, "Inequalities in healthy life expectancies in EU25: a cross-national meta-regression analysis", *The Lancet*, 9656, p. 2124-2131.

Abstract

Each year since 2005, Eurostat has calculated life expectancy without activity limitations, known as "healthy life years". While life expectancy at age 65 increased by one year in the European Union between 2005 and 2010, the years lived in poor perceived health decreased (by 0.5 years for men and 1.1 years for women) despite an increase in years with chronic morbidity (1.6 years for men, 1.3 years for women). Years without limitation of activity remained unchanged. This paradox can be explained in part by more systematic detection and improved management of health problems, whose prevalence may thus increase without necessarily producing an increase in reported activity limitations or in negative perceptions of health.