

## Health Expectancy in Bulgaria

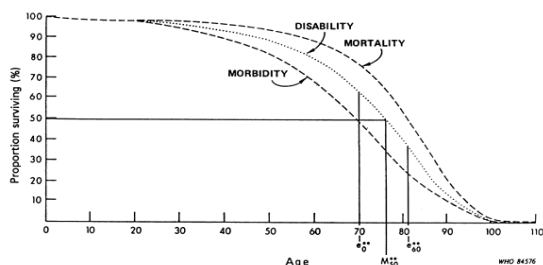
### What is health expectancy?

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



$e_0^{**}$  and  $e_{60}^{**}$  are the number of years of autonomous life expected at birth and at age 60, respectively.  $M_{50}^{**}$  is the age to which 50% of females could expect to survive without loss of autonomy.

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 Core Health Indicators (ECHI) to provide summary measures of disability (i.e., activity limitation), 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.eurohex.eu](http://www.eurohex.eu).

### What is in this report?

This report is produced by the European Health and Life Expectancy Information System (EHLEIS) as part of a country series. In each report we present:

- Life expectancies and Healthy Life Years (HLY) at age 65 for the country of interest and for the overall 28 European Union member states (EU28), using the SILC question on long term health related disability, known as the GALI (Global Activity Limitation Indicator), from 2008 to 2014. The wording of the question has been revised in 2008;
- Prevalence of activity limitation in the country of interest and in the European Union based on the GALI question by sex and age group;
- Health expectancies based on the two additional dimensions of health (chronic morbidity and self-perceived health) for the country of interest, based on SILC 2014;
- Prevalence of activity limitation in Europe (EU28) in 2005, 2008, 2011 and 2014.

### References

Jagger C., Gillies C., Moscone F., Cambois E., Van Oyen H., Nusselder W., Robine J.-M., EHLEIS Team. Inequalities in healthy life years in the 25 countries of the European Union in 2005: a cross-national meta-regression analysis. *The Lancet*. 2008;372(9656) 2124-2131

Robine J.-M., Jagger C., Mathers C.D., Crimmins E.M., Suzman R.M., Eds. *Determining health expectancies*. Chichester UK: Wiley, 2003.

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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).

\* Before the revision of 2008, the translations of the module used in some countries were not optimum (See Eurostat-EU Task Force on Health Expectancies common statement about the SILC data quality). This revision is being evaluated.

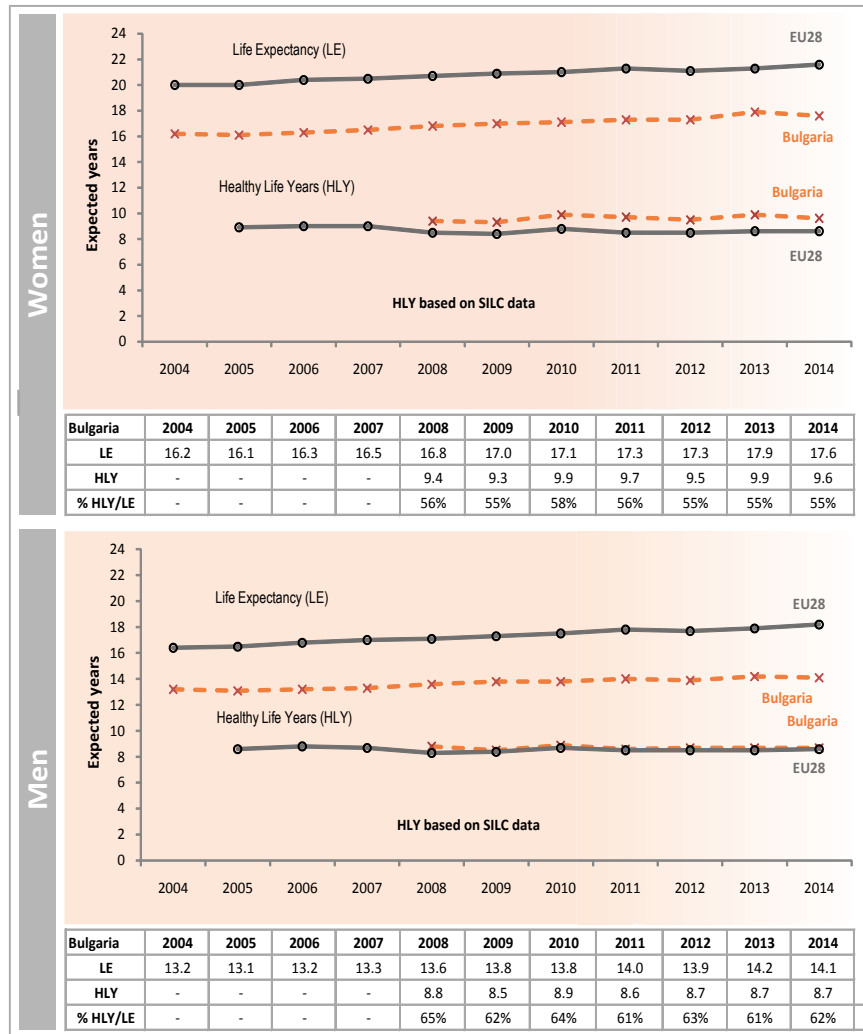
## Life expectancy (LE) and Healthy Life Years (HLY) at age 65 for Bulgaria and the European Union (EU28) based on SILC (2005-2014)

### Key points:

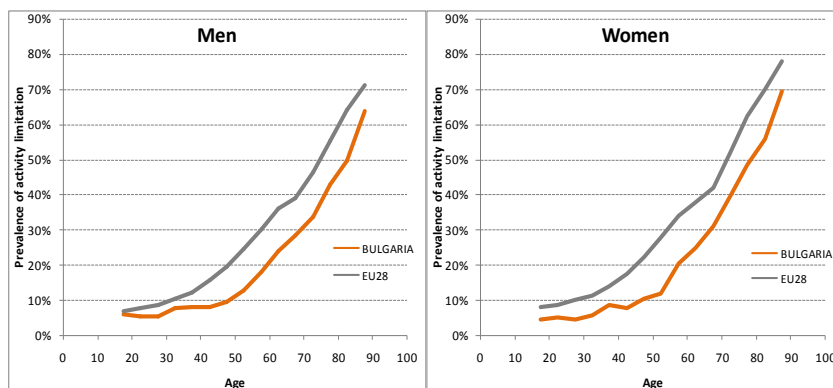
Bulgarian life expectancy (LE) at age 65 has increased by 1.4 years for women and 0.9 year for men over the period 2004-2014. By 2014 LE for men and women was below the EU28 average (21.6 for women and 18.1 for men).

Because Bulgaria joined the European Union in 2007, health expectancy based on activity limitation (HLY) is not available before 2007.

The HLY series, initiated in 2008 with the SILC data, shows that in 2014 women and men at age 65 can expect to spend 55% and 62% of their life without *self-reported long-term activity limitations* respectively. The HLY value for Bulgaria is above the EU28 average (8.6 for women and men) by 1.0 years for women and by 0.1 year for men in 2014. These results should be interpreted with great caution as the wording of the SILC questions was clearly different in Bulgaria compared to other EU countries. Between 2008 and 2014 HLY remained almost stable for men and women.



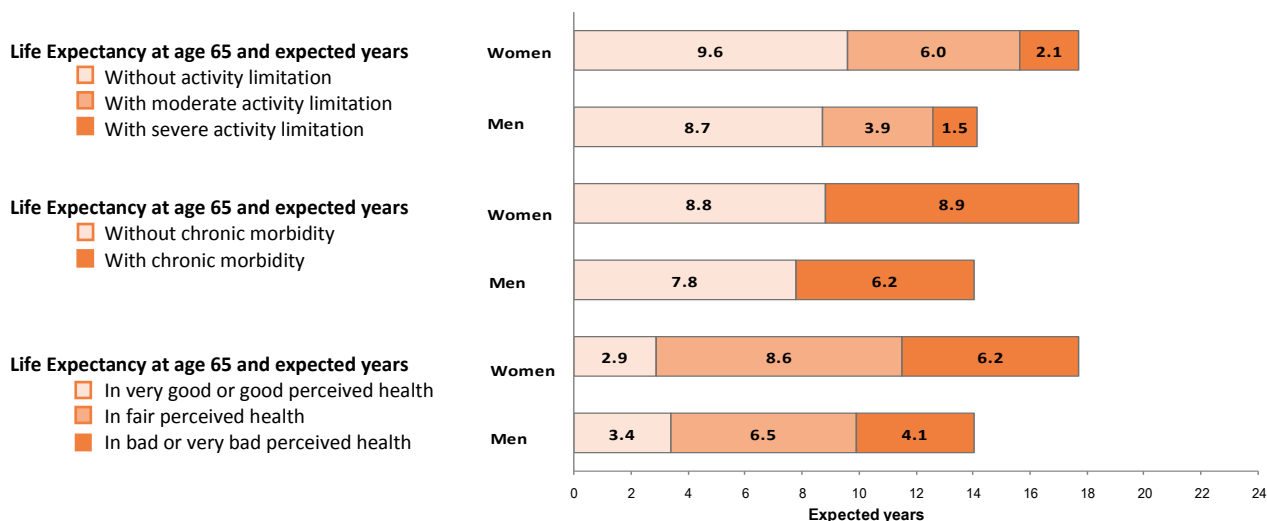
## Prevalence of activity limitation in Bulgaria and in the European Union (EU28) based on the GALL question, by sex and age group (SILC, Mean 2012-2014)



Reports of limitation in usual activities strongly increase with age in the European Union and women systematically report slightly more activity limitation than men. Compared to the mean trajectory by age observed in the European Union in the 3 years (2012-2014), Bulgaria tends to display lower prevalence rates of activity limitation at all ages for both sexes.

These results should be interpreted with caution as samples sizes in the SILC survey vary remarkably; for instance in 2014 they ranged from 5758 in Denmark to 40274 in Italy. In 2014, the sample size for Bulgaria comprised 5641 women and 4967 men aged 16 years and over.

## Life and health expectancies at age 65 based on activity limitation (Healthy Life Years), chronic morbidity and perceived health for Bulgaria (Health data from SILC 2014)



### Key points:

In 2014, LE at age 65 in Bulgaria was 17.6 years for women and 14.1 years for men.

Based on the SILC 2014 at age 65, women spent 9.6 years (55% of their remaining life) without activity limitation (corresponding to Healthy Life Years (HLY)), 6.0 years (34%) with moderate activity limitation and 2.1 years (12%) with severe activity limitation.\*

Men of the same age spent 8.7 years (62% of their remaining life) without activity limitation compared to 3.9 years (28%) with moderate activity limitation and 1.5 years (10%) with severe activity limitation.\*

Although the total years lived by men, the years lived without activity limitation and the years lived without chronic morbidity were less than those for women, the number of years lived in very good or good perceived health was greater for men than women.

Compared to 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, such as people living in nursing homes.

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

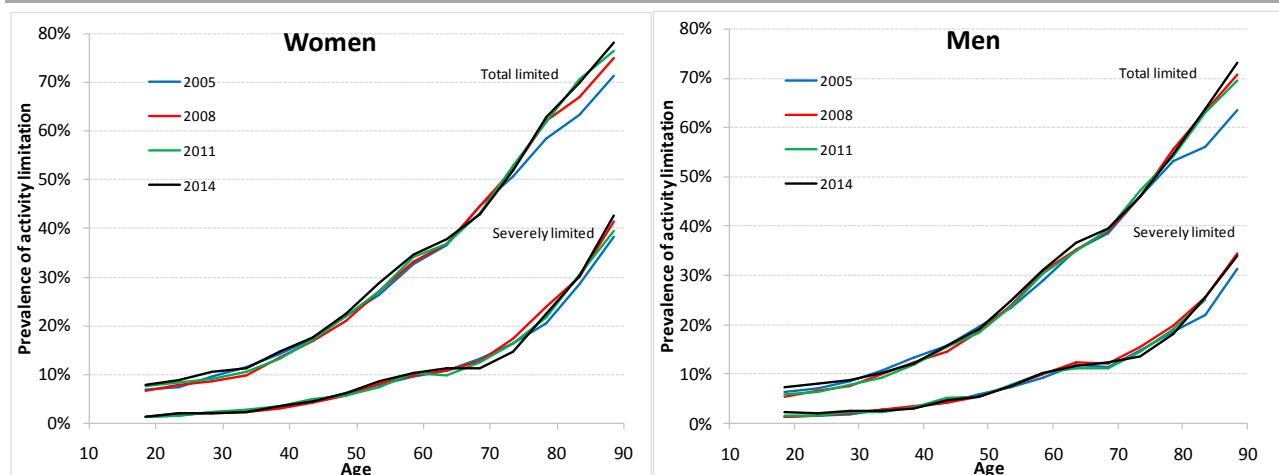
## Publications and reports on health expectancies for Bulgaria

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# Prevalence of activity limitation in Europe (EU28) in 2005, 2008, 2011 and 2014

Thanks to the EU-SILC survey, we now have 10 years of experience in measuring disability within the European Union. The survey really started in 2005 with 25 Member States (MS). In 2008, a coordinated revision of the translation of the GALI was made by some countries to better reflect the original standard. An evaluation made by Eurostat shows that in 2012 the translation of the GALI fully follows the English standard in 18 MS, partially in 8 others and still not in 5 MS. Progressively EU-SILC involved 27 then 28 MS but all the estimations provided below have been estimated for the EU28. The prevalence of disability among women and men is displayed by age and level of severity of the reported disability, from the age group 16-19 to 85+, for the calendar years 2005, 2008, 2011 and 2014.

## Prevalence of activity limitation in Europe (EU28), by sex and age group, SILC EU28, 2005, 2008, 2011 and 2014



The revision of the translation of the GALI in 2008 significantly changed the age trajectory of the prevalence of disability, increasing the report of disability among the oldest participants in the EU-SILC survey, especially for those reporting being not severely limited in usual activities. Beyond this change between 2005 and 2008, the general pattern of the age trajectory remains almost unchanged over time. In particular, and especially for the severe limitation, we observed less rapid increase of the prevalence around the retirement age. Among men and women, the age standardized prevalence of reported disability increases over time (Table).

## Standardized prevalence of activity limitation at age 15 and over (in %), SILC EU28, 2005, 2008, 2011 and 2014

The standardized rate of disability varies little over the years, even between 2005 and 2008 (period of changes in the instrument in some MS). Overall, these rates disclose a small increase over time in the prevalence of reported disability across the European Union.

	2005	2008	2011	2014
<b>Men</b>	23,0	23,1	23,0	23,9
(3-year gap)		(0,1)	(-0,1)	(0,8)
<b>Women</b>	27,8	28,2	28,6	29,3
(3-year gap)		(0,3)	(0,4)	(0,7)

## BRIDGE-Health (Bridging Information and Data Generation for Evidence-based Health Policy and Research)

The **European Health and Life Expectancy Information System (EHLEIS)** is part of **BRIDGE-Health** which aims to prepare the transition towards a sustainable and integrated EU health information system within the third EU Health Program, 2014-2020 ([www.bridge-health.eu](http://www.bridge-health.eu)).

