

Statistical bulletin

Healthy Life Expectancy at Birth for Upper Tier Local Authorities, England: 2010 to 2012

The proportion of life spent in good health, broken down for counties, London boroughs, unitary authorities and metropolitan districts (excluding the City of London and Isles of Scilly).



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1. Main findings

- Healthy Life Expectancy (HLE) at birth in England was 63.4 years for males and 64.1 years for females.
- The highest HLE was in Richmond upon Thames for males at 70.0 years, and Wokingham for females at 71.0 years.
- The lowest HLE was in Tower Hamlets for males at 52.5 years, and Manchester for females at 55.5 years.
- Hammersmith and Fulham had the largest gender difference in HLE, with females expected to live 5.2 years longer in 'Good' general health than males.
- For females, HLE is significantly lower than the state pension age of 65, where it will be in 2018, in 68 authorities. For males it is significantly lower in 77 authorities.

2. Summary

Health Expectancies (HEs) divide predicted lifespan into time spent in given states of health. This adds a quality of life dimension to estimates of life expectancy (LE). The Office for National Statistics (ONS) routinely publishes two types of health expectancies. The first is Healthy Life Expectancy (HLE), which estimates lifetime spent in 'Very good' or 'Good' health based on how individuals perceive their health. The second is Disability-Free Life Expectancy (DFLE), which estimates lifetime free from a limiting persistent illness or disability. This is based upon a self-rated functional assessment of health.

HEs are used as high-level outcomes to contrast the health status of different populations at specific points in time. Changes in population health can be monitored over time, giving context to the impacts of policy changes and interventions, both nationally and locally. HEs are used increasingly in government and the private sector for developing policy and business planning to assess health and social care need, and gauge population level health improvement. They are also used for pension provision planning and state pension age reviews.

This bulletin is the second in the series of estimates of HLE at birth, across English regions and Upper Tier Local Authorities (UTLAs), for males and females. LE figures are presented alongside the HLE figures; these were previously published in the <u>ONS sub-national LE release (ONS, 2013c)</u>. The next update of this time series will provide figures for the period 2011-13.

3. Introduction

What are health expectancies?

As life expectancy continues to increase in the UK, it is important to measure what proportion of these additional years of life are being spent in favourable states of health or in poor health and dependency. HEs help us to address this question by adding a dimension of quality of life to estimates of LE. They are estimates of the average number of years a person would live in a given health state if he/she experienced the specified population's particular age-specific mortality and health status for that time period throughout the rest of his/her life.

The figures represent a snapshot of the mortality and health status of the entire population of a specified area in each time period. They are not, therefore, the number of years that a person will actually expect to live in the area in a given health state. This is because both mortality and health rates, and the exposure risks and treatment effects affecting them, are open to change in the future, and because of population movement into and out of the area.

Health expectancies are robust indicators of health related well-being and functional status. They are in part estimated through subjective self reports of general health, which can be influenced by an individual's expectations. These are known to vary across socio-demographic factors such as age, sex, <u>socio-economic position (749 Kb Pdf)</u> (ONS, 2010) and <u>area deprivation</u> (ONS, 2013b).

Self-reported general health and limiting persistent illness are linked (<u>ONS, 2012a</u>, Manor et al., 2001), having some predictive value in subsequent health care need and usage, and risk of death. Research evidence has shown people with poor self-rated health (both general health and limiting persistent illness) die sooner than those who report their health more positively (Mossey and Shapiro, 1982; Idler and Benyamini, 1997; Miilunpalo et al, 1997; DeSalvo et al, 2006; Bopp et al, 2012; Ng et al, 2012).

In terms of morbidity the evidence is more limited. However, studies have shown that self-rated health, measured in terms of general health and limiting illness, has some predictive value in the subsequent use of health and social care services. This is shown in increased physician visits (Miilunpalo et al., 1997), hospital admission and nursing home placement (Weinberger et al., 1986). Studies have also shown that self-rated health correlates well with retirement due to disability or poor health (Pietilainen et al., 2011; Dwyer and Mitchell, 1999) and poor health outcomes (Lee, 2000).

Survey measurements of general health and limiting persistent illness are used globally to identify health inequality between administrative areas, inform unmet care and health service needs and to target and monitor the allocation of health care resources amongst population groups (<u>Marmot, 2010</u>). International organisations and networks such as the <u>World Health Organisation</u> (WHO, 2011), <u>Eurostat</u> (Eurostat, 2013) and the <u>Reves</u>. <u>Network on Health Expectancy</u> (Reves) use this information to compare morbidity across countries and to monitor trends over time.

This bulletin focuses solely on HLE. These estimates are, in part, subjective and based upon the following survey question.

• 'How is your health in general; would you say it was...' - Very good, Good, Fair, Bad or Very bad?

The responses to this question are dichotomised to define 'Good' general health and 'Not Good' general health: 'Good' general health is the combination of the very good and good responses, and 'Not Good' general health is the combination of fair, bad and very bad.

HLE is included in both of the two overarching indicators for the <u>Public Health Outcomes Framework</u> (PHOF). The first indicator is increased HLE, taking account of the quality as well as the length of life. The second is to reduce differences in LE and HLE between communities, through greater improvements in more disadvantaged communities. The vision for the indicators is "to improve and protect the nation's health and wellbeing, and improve the health of the poorest fastest" (page 9, DH, 2012).

The estimates of HLE at birth for England and for UTLAs are calculated using self-reports of general health status collected in the Annual Population Survey (APS). They rely on a method developed by ONS to derive general health state prevalence for persons under 16 years of age (<u>ONS, 2013a</u>) (see methods section). The England estimate in this bulletin is not comparable with the national health expectancy for the UK and Constituent Countries time series (<u>ONS, 2012a</u>). This is because the latter output uses a different data source to calculate general health prevalence, namely the General Household Survey (GHS), and the former imputes proxy responses of general health for those aged under 16. For UTLAs wanting to benchmark themselves against a national estimate of HLE, they should use the England estimate in this bulletin and future updates of this series. ONS will cross-validate these sub-national estimates using 2011 Census data, with findings due to be published in late 2014.

Changes in health expectancies over time are assessed by comparing non-overlapping time periods. Therefore estimates for 2010-12 should not be compared with estimates for 2009-11, as they will contain some of the same survey respondents.

Results are presented with 95% confidence intervals, to aid interpretation. Confidence intervals in this bulletin indicate the uncertainty surrounding LE and HLE estimates and enable more meaningful comparisons between authorities. When comparing the estimates of two areas, non-overlapping confidence intervals are indicative of statistical significance but to confirm this, a test of significance should be carried out. When the statistical significance is noted in the text, it is based on a statistical test of the difference (Jagger et al, 2007). All differences noted in the text have been calculated to more than one decimal place.

Quality information about ONS health expectancies (185.7 Kb Pdf) is available on the ONS website.

4. Interactive content

Animated map of Healthy Life Expectancy in England

5. Key comparisons

English regions

Healthy life expectancy (HLE) at birth in England was 63.4 years for males and 64.1 years for females. Across regions, a clear North-South divide was observed with regions in the South East, South West and East of England all having a significantly higher HLE than the England average. The West Midlands, North West, North East, and Yorkshire and The Humber all had significantly lower HLE than the England estimate (Table 1).

For both males and females, HLE was highest in the South East region (65.8 and 67.1 years respectively) and lowest in the North East region (59.5 and 60.1 years respectively). Therefore the inequality in HLE between regions was 6.4 years for males and 7.0 years for females. The inequality in LE between the North East and South East was much smaller than the inequality in HLE, at 2.5 years for males and 2.2 years for females.

HLE for males in the East Midlands, West Midlands, London, Yorkshire and the Humber, North East and North West was significantly below the male state pension age of 65. If we assess females against the same state pension age of 65, where it will be by 2018, the same is true.

The South East, South West and the East of England had a significantly higher HLE, compared with all other English regions for both males and females (Table 1). The North East was unique in that it had significantly lower HLE than all other regions for both males and females, including the North West and Yorkshire and The Humber. This suggests the health profile of the population of the North East remains distinct from other parts of England.

The inequality between the North and South can also be seen when looking at the proportion of LE spent in a favourable health state. Males in the South East are expected to live 82.0% of their life in 'Good' general health compared with 76.4% for men in the North East region. The same inequality was present among females, where the difference between the two regions was 6.4 percentage points: 80.0% of life expectancy spent in 'Good' general health in the South East, compared with 73.6% in the North East. For each gender, those living in the southern regions not only enjoy longer life expectancies but also greater proportions of their longer lives in a favourable health state compared with their counterparts living in the North.

Table 1: Life Expectancy (LE) and Healthy Life Expectancy (HLE) for males and females at birth[1] by region[2], 2010-12

England

Years, percentage

LE HLE Lower 95% confidence interval	Upper 95% confidence interval	Proportion of life spent in 'Good' health (%)
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Males					
South East	80.3	65.8	65.4	66.3	82.0
South West	80.0	65.2	64.7	65.7	81.5
East	80.1	64.9	64.4	65.4	81.0
London	79.7	63.2	62.8	63.7	79.4
East Midlands	79.1	63.2	62.6	63.7	79.9
West Midlands	78.7	62.3	61.8	62.8	79.2
North West	77.7	61.3	60.9	61.7	78.8
Yorkshire and The Humber	78.3	61.2	60.7	61.7	78.1
North East	77.8	59.5	58.9	60.0	76.4
England	79.2	63.4	63.2	63.5	80.0
Females					
South East	83.8	67.1	66.6	67.5	80.0
East	83.7	66.1	65.5	66.7	79.0
South West	83.9	66.0	65.4	66.5	78.7
East Midlands	82.9	63.6	63.0	64.3	76.7
London	83.8	63.6	63.1	64.1	75.9
West Midlands	82.7	62.7	62.2	63.3	75.8
Yorkshire and The Humber	82.2	62.0	61.5	62.6	75.5
North West	81.7	61.8	61.3	62.2	75.6
North East	81.6	60.1	59.5	60.7	73.6
England	83.0	64.1	63.9	64.3	77.2
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Source: Office for National Statistics

Notes:

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1. Excludes residents of communal establishments except NHS housing and students in halls of residence where inclusion takes place at their parents' address.

2. Regions are presented by gender sorted by HLE.

6. Upper Tier Local Authorities (UTLAs)

For males, the UTLA with the highest HLE was Richmond upon Thames in the London region, at 70.0 years. For females, Wokingham in the South East had the highest HLE, at 71.0 years. The lowest HLE for males was in Tower Hamlets at 52.5 years, and for females in Manchester at 55.5 years. The absolute inequality in HLE between local authorities using the range is notably larger than it is for LE. It is also larger for males (17.5 years) than for females (15.4 years).

For female HLE at birth, 9 of the top 10 UTLAs were located in the South of England and London, and one in the East Midlands. When looking at the bottom 10, there was a greater geographical spread than with the top 10; 6 were located in the North , 1 in the Midlands and 3 in London. For male HLE at birth, all UTLAs in the top 10 were located in the South of England and in London, while 7 in the bottom 10 were located in the North.

For both males and females 41 UTLAs had significantly lower HLE estimates than the England estimate. 58 UTLAs for males and 60 UTLAs for females had a significantly higher HLE than the England average.

The within region UTLA inequality varies considerably across the regions. For both genders, London had the greatest within region inequality at 17.5 years for males and 14.2 years for females. The smallest within region inequality was in the North East for both males (7.0 years) and females (4.6 years). The greater population diversity present in London is likely to be a contributing factor to the wider inequality found in the capital.

Table 2: Life Expectancy (LE) and Healthy Life Expectancy (HLE) for males at birth[1]; top and bottom 10 upper tier local authorities, 2010-12

England

Percentages,	Years
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	Local Authority	LE	HLE	Lower 95% confidence interval	Upper 95% confidence interval	Proportion of life spent in 'Good' health (%)		rank ²
Top 10	Richmond upon Thames	81.7	70.0*	67.4	72.7	85.8	3	1
	Buckinghamshire	81.0	69.8*	68.0	71.5	86.2	16	2
	Wokingham	81.6	69.2*	67.4	71.1	84.9	4	3
	Surrey	81.3	69.1*	67.9	70.3	85.0	7	4
	Barnet	81.4	68.9*	66.5	71.3	84.7	5	5
	Windsor and Maidenhead	81.1	68.4*	66.7	70.2	84.4	10	6
	Bedford	79.3	67.9*	65.2	70.6	85.6	61	7
	South Gloucestershire	81.0	67.7*	65.7	69.8	83.6	13	8
	West Berkshire	80.8	67.5*	65.6	69.4	83.5	17	9
	Bromley	81.0	67.4*	65.1	69.7	83.2	12	10
Bottom 10	Leicester	77.0	57.4**	55.5	59.3	74.6	136	141
	Tameside	76.3	57.4**	55.6	59.2	75.2	145	142
Barnsley Hartlepool	Barnsley	77.8	57.2**	55.5	59.0	73.5	115	143
	Hartlepool	77.4	56.9**	55.2	58.6	73.6	128	144
	Knowsley	76.6	56.9**	55.2	58.6	74.2	142	145
	Blackburn with Darwen	76.5	56.3**	54.6	58.0	73.6	144	146
	Manchester	74.8	55.9**	54.3	57.5	74.7	149	147
	Islington	77.8	55.5**	52.7	58.2	71.3	116	148
	Blackpool	74.0	54.5**	52.8	56.2	73.7	150	149
	Tower Hamlets	77.1	52.5**	49.6	55.5	68.2	134	150

Source: Office for National Statistics

Notes:

1. Excludes residents of communal establishments except NHS housing and students in halls of residence where inclusion takes place at their parents' address.

2. Upper tier local authorities have been ranked at the England level, based on HLE to more than one decimal place.

3. * Significantly higher than the England male HLE at birth.

4. ** Significantly lower than the England male HLE at birth.

 Table 3: Life Expectancy (LE) and Healthy Life Expectancy (HLE) for females at birth[1]; top and bottom

 10 upper tier local authorities, 2010-12

England

Percentages, Years

	Local Authority	LE	HLE	Lower 95% confidence interval	Upper 95% confidence interval	Proportion of life spent in 'Good' health (%)		
Тор 10	Wokingham	84.5	71.0*	68.9	73.0	83.9	15	1
	Richmond upon Thames	85.9	70.7*	67.8	73.5	82.2	1	2
	Rutland	84.7	70.3*	67.2	73.3	82.9	8	3
	Barnet	84.5	69.9*	67.4	72.3	82.7	16	4
	Windsor and Maidenhead	84.6	69.9*	67.8	71.9	82.6	12	5
	Oxfordshire	84.0	69.3*	67.5	71.1	82.5	36	6
	Surrey	84.5	69.1*	67.8	70.4	81.7	17	7
	Bath and North East Somerset	84.4	69.0*	67.0	71.0	81.7	20	8
	West Berkshire	84.6	68.8*	66.7	70.8	81.3	10	9
	Buckinghamshire	84.5	68.7*	66.8	70.6	81.3	18	10
Bottom 10	Knowsley	80.7	57.5**	55.7	59.3	71.2	141	141
	Barking and Dagenham	82.0	57.3**	54.5	60.1	69.9	114	142
	Leicester	81.8	57.3**	55.3	59.3	70.0	118	143
	Rochdale	80.8	57.2**	55.4	59.1	70.8	139	144
	Tower Hamlets	82.0	57.2**	53.7	60.6	69.7	111	145
	Tameside	80.6	56.6**	54.6	58.5	70.2	142	146
	Barnsley	81.5	56.5**	54.6	58.3	69.3	128	147
	Kingston upon Hull, City of	80.5	56.5**	54.5	58.4	70.2	145	148
	Newham	82.6	56.4**	53.7	59.2	68.3	89	149
	Manchester	79.5	55.5**	53.7	57.4	69.8	150	150

Source: Office for National Statistics

Notes:

1. Excludes residents of communal establishments except NHS housing and students in halls of residence where inclusion takes place at their parents' address.

2. Upper tier local authorities have been ranked at the England level, based on HLE to more than one decimal place.

3. * Significantly higher than the England male HLE at birth.

4. ** Significantly lower than the England male HLE at birth.

The <u>interactive maps</u> published alongside this bulletin clearly show the North-South divide for both sexes. A darker shade on the maps represents lower HLE, and the lighter shades represent higher HLE.

Figures 1 and 2 show the relationship between LE and HLE. There is a linear trend between living longer (LE) and living longer in a 'Good' health state (HLE) for both males and females. If this pattern is put into context of the state pension age (using 65 for both males and females, where it will be by 2018), when using 95% confidence intervals, there were 77 UTLAs where male HLE was significantly lower than the current state pension age, and 68 where female HLE was significantly lower than their future state pension age. In fact only 17 UTLAs for males had significantly higher HLE than the state pension age, for females HLE was significantly higher in 27 UTLAs.

HLE in all UTLAs in the North East was significantly lower than the state pension age for both males and females, apart from Darlington for males. This emphasises the need to improve the health of those living in the North East.

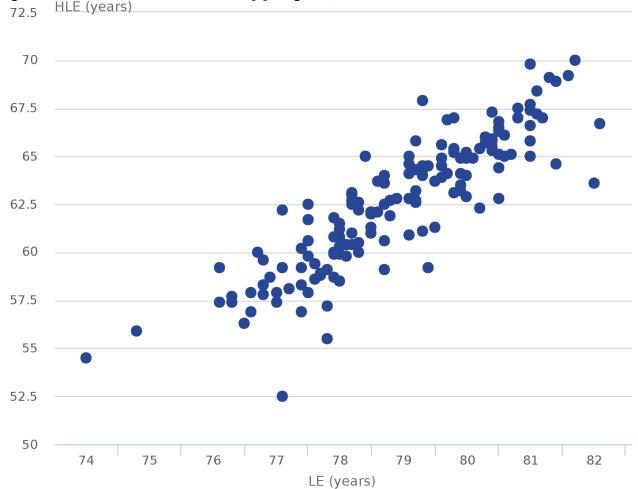
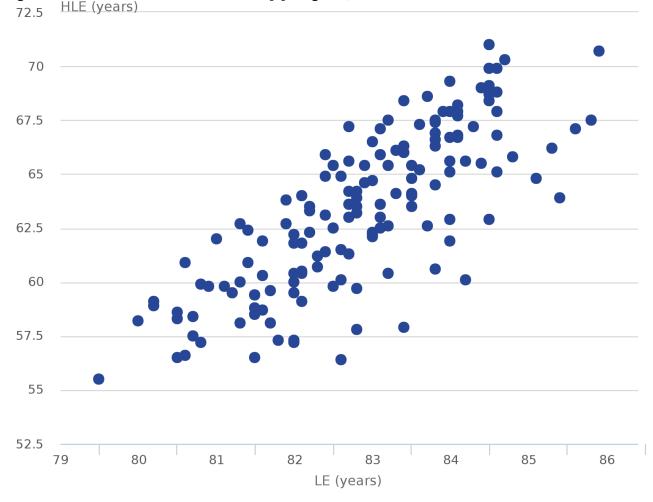


Figure 1: LE and HLE for males at birth [1]: England, 2010-12

Source: Annual Population Survey (APS) - Office for National Statistics

Notes:

- 1. Excludes residents of communal establishments except NHS housing and students in halls of residence where inclusion takes place at their parents' address.
- 2. State pension age = 65.



Source: Annual Population Survey (APS) - Office for National Statistics

Notes:

- 1. Excludes residents of communal establishments.
- 2. Age 65 has been used as the State Pension Age for females where it will be by 2018.
- 3. State pension age = 65.

7. Gender differences

In every UTLA, LE was longer for females than for males. The smallest gender inequality in LE was in Southendon-Sea and Cheshire East, with females expected to live 2.9 years longer than males. The largest gender inequality in LE was in Blackpool, where females expect to live 6.0 years longer than males.

The gender differences in HLE were less regular in pattern than for LE: while in every UTLA LE for females exceeded that for males, HLE was higher for males in almost a quarter of authorities.

The largest difference in HLE between males and females was seen in Hammersmith and Fulham, where females can expect to live 5.2 years longer in a state of 'Good' general health than males. This was followed by Islington at 4.9 years. In Hammersmith and Fulham, it is the low HLE of males rather than the high HLE of females which drives this inequality.

The largest difference between males and females, where males have higher HLE, was in Waltham Forest where males can expect to live an additional 4.8 years in 'Good' health compared to females. Here, it is the lower HLE for females in Waltham Forest which drives this gender inequality.

Interestingly, although within gender inequality is greater for HLE (17.5 years for males and 15.4 years for females) than LE (8.1 years for males and 6.4 years for females); between gender inequality is greater for LE, at 6.0 years in Blackpool compared with 5.2 years for HLE in Hammersmith and Fulham.

8. Conclusion

The importance of HLE as a summary measure of population health is reflected in its inclusion in the two highlevel outcomes in the <u>Public Health Outcomes Framework</u>.

The analysis provided in this bulletin adds a quality of life component to LE estimates. Results for UTLAs, regions and England are produced to allow comparisons across administrative areas at each time point. Producing the three levels of geography allows local areas to compare themselves to the England average, the regional average, with other local areas, and to assess their own progress over time.

This bulletin has shown a clear and persistent North-South divide in HLE, consistent with earlier findings in <u>DFLE</u> (ONS, 2014) at UTLA level. For both males and females, the longest durations of healthy life were found in prosperous parts of London and the South East region. The shortest durations remained in deprived parts of the North East, North West and London.

In addition, notable gender differences in LE and HLE were present although the pattern was less uniform in HLE. Female LE was higher than male LE across all the UTLAs analysed. However, gender differences in estimates of HLE were more varied, with males having a higher HLE than females in just less than a quarter of UTLAs.

Inequality in HLE across UTLAs was wider than it was for LE for both genders. For both males and females, the geographic inequality was more than twice as wide for HLE (17.5 years and 15.4 years respectively) than for LE (8.1 years and 6.4 years respectively).

It is important to track HLE as LE increases, to see whether these years of additional life are spent in states of good health or in poor health and dependency. Relevant to this are recent changes to state pension age in the UK, where people are expected to extend their working lives to take account of improvements in LE. The figures presented in this bulletin suggest the impact of increasing the state pension age differs greatly between populations in different areas of the country. Of the 150 UTLAs analysed, when assessed with 95% confidence intervals, males on average in 77 authorities had a significantly lower HLE than the state pension age (<u>assessed</u> at 65 for both genders, where it will be by 2018) while for females this was true in 68 authorities. In fact there were only 17 local authorities for men and 27 for females where HLE was significantly higher than the state pension age. Such information has relevance for healthy ageing and health care need, need for benefits during working age, and future pensions provision.

A consistent pattern of longer lives and smaller proportions of life spent in less favourable health states are associated with decreasing exposure to deprivation (ONS 2010, ONS 2013b). The English Index of Multiple Deprivation 2010 shows that the northern regions have higher concentrations of Lower Super Output Areas (LSOAs) in the most deprived decile (DCLG, 2011). This is consistent with the findings in this bulletin, which show those in the northern regions and northern authorities predominantly had lower LE and HLE than those in the South. The importance health agencies place on deprivation as a determinant of health is shown by its high prominence in health strategy documents, such as the Public Health Outcomes Framework. Tackling exposure to deprivation is therefore a key goal in reducing the health divide between the least and most advantaged areas, while continuing to bring about health improvement for all.

9. Methods

Calculating healthy life expectancy

The data used in calculating the prevalence of good general health was obtained from the Annual Population Survey (APS). It was aggregated over a three-year period to achieve sufficiently large sample sizes to enable meaningful statistical comparison.

However, as the size of each UTLA varies, the number of respondents sampled in some UTLAs was a lot smaller than for others. For these authorities with relatively small sample sizes, such as the London borough of Tower Hamlets, the estimates are more susceptible to large fluctuations because of the impact of random variation.

The prevalence of 'Good' general health among males and females resident in private households in England was compared across regions and UTLAs, which include unitary authorities, London boroughs and metropolitan districts in England, but excludes the City of London and the Isles of Scilly. HLE was then calculated using the Sullivan method, which combines prevalence data with mortality and mid-year population estimates (MYPE) over the same period and geographical coverage to calculate estimates of LE and HLE at birth by sex (<u>ONS Life Table</u> <u>Template (192.5 Kb Excel sheet)</u>, Jagger, 1999). <u>The MYPEs used to estimate HLE for this bulletin are the revised backdated estimates based on the 2011 census</u> (ONS 2013d).

The APS provides prevalence information for those aged 16 years and over. We are able to estimate HLE at birth by directly imputing health prevalence at age 16 -19 for those under 16 (ONS, 2013a).

The age band structure used for calculating HLE is not that outlined in the update to methodology to calculate health expectancies (ONS, 2013a) but the traditional age band structure of <1, 1-4, 5-9, 10-14, 15-19.....85+.

Results are presented with 95% confidence intervals in reference tables to help interpretation. Confidence intervals in this bulletin indicate the uncertainty surrounding HLE estimates and allow more meaningful comparisons between areas. When comparing the estimates of two areas, non-overlapping confidence intervals are indicative of statistical significance but to confirm this, a test of significance should be carried out. When the statistical significance is noted in the text, this is based on a statistical test of the differences (Jagger et al., 2007). All differences noted in this text have been calculated to more than one decimal place.

10. Interpretation of HLE

HLE at a given age for a specific period and population, such as males and females at birth residing in private households in UTLAs in 2010-12, is an estimate of the average number of years a person would live in a state of 'Good' general health if he/she experienced the specified population's age-specific mortality and health status rates for that time period throughout the rest of his/her life.

The figures reflect the mortality and health status of a population in a given time period residing in that area, rather than only those born in an area. It is not therefore the number of years that a person will actually expect to live in the various health states. This is because both the death rates and health status rates of the specified population are likely to change in the future, because of changes to health risk determinants such as smoking levels in the population, and some of those in the specified population may live elsewhere for part of their lives.

Health expectancies are indicators of health status that take into account the differences in the age structures of populations. Results are comparable by age, sex and between specified populations.

11. Feedback

If you have any comments or suggestions, we'd like to hear them. Please fill in our <u>online survey</u> or email us at <u>hle@ons.gsi.gov.uk</u>.

12. References

Bopp M, Braun J, Gutzwiller F, Faeh D and Swiss National Cohort Study Group (2012) 'Health risk or resource? Gradual and independent association between self-rated health and mortality persists over 30 years', PLoS ONE 7, available at: <u>http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0030795</u>

Department of Communities and Local Government (2011) <u>The English Indices of Deprivation 2010, DCLG</u>: London

DeSalvo KB, Bloser N, Reynolds K, He J, Muntner P (2006) 'Mortality prediction with a single general self-rated health question. A meta-analysis', Journal of General Internal Medicine 21, pp 267–275

DH (2012) <u>Improving outcomes and supporting transparency</u>. Part 1A: A public health outcomes framework for <u>England 2013-2016</u>. Department of Health

Department for Work and Pensions (2013) State Pension Age Timetable

Dwyer D S and Mitchell O S (1999) 'Health problems as determinants of retirement: Are self-rated measures endogenous?', Journal of Health Economics 18, pp 173-193

Eurostat (2013) Healthy Life Years and Life Expectancy at birth, by sex, available at: <u>http://epp.eurostat.ec.</u> <u>europa.eu/portal/page/portal/product_details/dataset?p_product_code=TSDPH100</u>

Idler EL and Benyamini Y (1997) 'Self-rated health and mortality: a review of twenty-seven Community studies', Journal of Health and Social Behaviour 38, pp 21–37

Jagger C (1999) 'Health Expectancy Calculation by the Sullivan Method: A Practical Guide', NUPRI Research Paper Series No 68, Tokyo

Jagger C, Cox B, Le Roy S and EHEMU (2007) Health Expectancy Calculation by the Sullivan Method: A Practical Guide Third Edition available at: <u>http://www.eurohex.eu/pdf/Sullivan_guide_final_jun2007.pdf</u>

Lee, Y (2000) '<u>The predictive value of self assessed general, physical, and mental health on functional decline</u> and mortality in older adults' Journal of Epidemiology and Community Health, 54, pp 123-129

Manor O, Matthews S and Power C (2001) 'Self-rated health and limiting longstanding illness: inter-relationships with morbidity in early adulthood', International Journal of Epidemiology 30, pp 600-607

Marmot M (2010) 'Fair Society, Healthy Lives, The Marmot Review, Strategic review of Health Inequalities in England post–2010', The Marmot Review, available at: <u>http://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review</u>

Miilunpalo S, Vuori I, Oja P, Pasanen M and Urponen H (1997) 'Self-Rated Health Status as a Health Measure: The Predictive Value of Self-Reported Health Status on the Use of Physician Services and on Mortality in the Working-Age Population', Journal of Clinical Epidemiology 50, pp 517-528

Mossey J M and Shapiro E (1982) 'Self-Rates Health: A Predictor of Mortality Among the Elderly', American Journal of Public Health 72, pp 800-808

Ng N, Hakimi M, Santosa A, Byass P, Wilopo SA and Wall S (2012) 'Is self-rated health an independent index for mortality among older people in Indonesia?', PLoS ONE 7, available at: <u>http://www.plosone.org/article/info%</u> <u>3Adoi%2F10.1371%2Fjournal.pone.0035308</u>

ONS (2006) Health expectancies for local authorities in England and Wales, 2001. Health Statistics Quarterly 32. Pp.87-96

ONS (2010) Inequalities in healthy life expectancy by social class and area type: England 2001-03. (749 Kb Pdf) Office for National Statistics

ONS (2012a) <u>Health Expectancies at Birth and at Age 65 in the United Kingdom, 2008–2010</u>. Office for National Statistics

ONS (2013a) <u>Update to the Methodology used to Calculate Health Expectancies. Health Statistics Quarterly</u> <u>Spring 56:1</u>. Office for National Statistics ONS (2013b) <u>Inequality in Disability-Free Life Expectancy by Area Deprivation: England, 2003–06 and 2007–10</u>. Office for National Statistics

ONS (2013c) Life Expectancy at birth and at age 65 by local areas in England and Wales, 2010-12. Office for National Statistics

ONS (2013d) <u>Population Estimates for England and Wales, Mid-2002 to Mid-2012 Revised (Subnational)</u>. Office for National Statistics

ONS (2014) <u>Sub-national health expectancies</u>, <u>Disability-Free Life Expectancy by Upper Tier Local Authority</u>: <u>England 2008-10</u>. Office for National Statistics

Public Health Outcomes Framework (2013), available at: <u>https://www.gov.uk/government/organisations/public-health-england/series/public-health-outcomes-framework</u>

Pietilainen O, Laaksonen M, Rahkonen O and Lahelma E (2011) 'Self-Rated health as a predictor of Disability Retirement – The contribution of ill-Health and Working Conditions' PLoS ONE, 6 (9): e25004. doi: <u>10.1371</u> /journal.pone.0025004

Reves (no date) <u>http://reves.site.ined.fr/en/</u>

Weinberger M, Darnell JC, Tierney WM, Martz BL, Hiner SL, Barker J and Neill PJ (1986) 'Self-rated health as a predictor of hospital admissions and nursing home placement in elderly public housing tenants' American Journal of Public Health, 76, pp 457–459

World Health Organisation (2011) World Report on Disability, available at: <u>http://www.who.int/disabilities</u> /world_report/2011/report/en/index.html

13. Background notes

- 1. Figures in the text may not sum due to rounding.
- 2. The significance test refers to a one tailed Z- test of the difference of the estimates as detailed in (Jagger et al 2007).
- 3. Analysis has been carried out at the UTLA level, which includes counties, London boroughs, unitary authorities and metropolitan districts based on the 2009 reorganisation. <u>Further information about the boundaries can be found on the ONS website</u>. There are 152 UTLAs in England; ONS exclude City of London and the Isles of Scilly from the analysis due to small death and population counts. Therefore results are presented for the 150 remaining UTLAs.
- 4. This bulletin comments on a North-South divide. The North includes the North East, North West and Yorkshire and The Humber regions, and the South includes the South East, South West and East of England regions. London is not included in the South due to its differing characteristics which include its transient population, access to services and limited rural population.
- For further information on the implications of differing survey sources, the continuity of the national health expectancies series and the child proxy imputation method, please see the update to methodology paper (<u>ONS, 2013a</u>).
- 6. Enquiries relating to these statistics should be made to:

Health Analysis Public Policy Analysis Division Office for National Statistics Cardiff Road Newport Wales NP10 8XG Tel: +44 (0) 1633 456396 Email: <u>hle@ons.gsi.gov.uk</u>

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Details of the policy governing the release of new data are available from the Media Relations Office.

- 7. Summary video podcasts explaining national and sub national health expectancies can be found on the <u>ONS YouTube channel</u>.
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