Public Health England

Understanding inequalities in London's life expectancy and healthy life expectancy

A summary for London of:

Life expectancy at birth, 2010-12

Healthy life expectancy at birth, 2009-11

Slope index of inequality in life expectancy, 2009-11

The Segment Tool, 2009-11

About Public Health England

Public Health England's mission is to protect and improve the nation's health and to address inequalities through working with national and local government, the NHS, industry and the voluntary and community sector. PHE is an operationally autonomous executive agency of the Department of Health.

The London Knowledge and Information Team (London KIT) provide information with particular focus on the Greater London area.

Public Health England
London KIT
133-155 Waterloo Road
Wellington House
London SE1 8UG
Tel: 020 7654 8000
www.gov.uk/phe
Twitter: @PHE_uk
Facebook: www.facebook.com/PublicHealthEngland

Prepared by: London Knowledge and Intelligence Team
For queries relating to this document, please contact: LondonKIT@phe.gov.uk

Published January 2014
An informal PHE publication

Contents

Introduction

This summary presents recent data for London on three of the key measures included as overarching indicators in the Public Health Outcomes Framework (PHOF).

The overarching indicators within the PHOF are to:
- increase healthy life expectancy;
- reduce differences in healthy life expectancy and life expectancy between communities.

Life expectancy is reported within the PHOF to give context to figures on healthy life expectancy and inequality within local authorities. The latter is being measured in the PHOF by the slope index of inequality (SII) in life expectancy at birth.

The PHOF data tool was updated in November 2013, to include data for life expectancy and healthy life expectancy at birth, and the SII in life expectancy, all for the period 2009-11. This summary also includes more recent life expectancy data for 2010-12, and notes the impact that population revisions have had on life expectancy estimates from the Office for National Statistics (ONS). The PHOF data tool is available here: http://www.phoutcomes.info/

A new tool from PHE examines the gaps in life expectancy which are identified in the PHOF overarching indicators. The Segment Tool provides information on the causes of death that are driving inequalities in life expectancy at local area level, and provides charts and tables which segment the life expectancy gap in 2009-11 by major causes of death. This summary provides illustrations from the tool for London boroughs where life expectancy is lower than for England as a whole. The tool also includes analysis for all local authorities, breaking down the gap in life expectancy between the most and least deprived areas within each London borough.

Key points for London

Life expectancy at birth, 2010-12

- Life expectancy in London in 2010-12 was significantly higher than the England average for both sexes.
- For London boroughs in 2010-12, there was an inequality gap of 5 years between the borough with the highest male life expectancy (Kensington and Chelsea, 82.1 years) and the borough with the lowest (Tower Hamlets, 77.1 years).

- Tower Hamlets also had the lowest female life expectancy, along with Barking and Dagenham (82.0 years). This was 3.9 years less than in Richmond, the borough with the highest female life expectancy (85.9 years).

Healthy life expectancy at birth, 2009-11

- Healthy life expectancy (HLE) for both sexes in London in 2009-11 was slightly lower than for England as a whole, but not significantly lower.
- For London boroughs in 2009-11, there was an inequality gap of 14.6 years between the borough with the highest male HLE (Richmond, 70.3 years) and the borough with the lowest (Tower Hamlets, 55.7 years).
- Richmond also had the highest female HLE (72.1 years) and Tower Hamlets the lowest (54.1 years), resulting in an inequality gap of 18 years between London boroughs.
- For both sexes, Richmond had the highest HLE of all English upper tier local authorities in 2009-11. Tower Hamlets had the lowest female HLE in England, and the fourth lowest for male HLE.

Slope index of inequality in life expectancy at birth, 2009-11

- Inequality in male life expectancy within London boroughs, as measured by the slope index of inequality (SII), was highest in Westminster in 2009-11 (14.0 years) and lowest in Hackney (3.1 years).
- The SII for female life expectancy was highest in Camden (9.9 years) and lowest in Islington (2.1 years).
- In England in 2009-11, the four upper tier local authorities with the lowest SII for female life expectancy were all London boroughs: Islington, Tower Hamlets, Barking and Dagenham, and Redbridge.
- Hackney had the lowest SII for male life expectancy in England, with three other London boroughs among the lowest ten: Islington, Barking and Dagenham, and Lambeth.

Impact of population revisions on life expectancy

- The use of revised population estimates has had a big impact on life expectancy in some areas, with the biggest change in Kensington and Chelsea. When figures for 2008-10 were recalculated by ONS using latest population estimates based on the 2011 Census, life expectancy reduced there by 3.5 years for both sexes.
- This reduction in Kensington and Chelsea has narrowed the inequality gap in life expectancy between London boroughs. Previous data for 2008-10 (calculated with populations based on the 2001 Census) showed differences of around nine years between boroughs for both sexes. Latest data for 2010-12 indicate a gap between boroughs of 5 years for males and 3.9 years for females.

The Segment Tool, 2009-11

- There were 13 London boroughs where male life expectancy was lower than England as a whole in 2009-11. For 11 of these boroughs, excess mortality from cancer and circulatory diseases contributed over 40% of the inequality gap in life expectancy between the borough and England.
- For females, there were nine London boroughs where life expectancy was lower than England as a whole in 2009-11. For six of these boroughs, excess mortality from cancer and circulatory diseases contributed over 40% of the life expectancy gap with England.

Data sources

On 24th October 2013, the Office for National Statistics (ONS) released new figures for life expectancy based on data for 2010-12. This release also includes life expectancy trends, which have been recalculated using population estimates rebased following the 2011 Census. The ONS statistical bulletin and reference tables (which also include data for life expectancy at age 65) are available here: http://www.ons.gov.uk/ons/rel/subnational-health4/life-expectancy-at-birth-and-at-age-65-by-local-areas-in-england-and-wales/2010-12/stb-life-expectancy-at-birth-2010-12.html

On 18th September 2013, ONS released figures for healthy life expectancy (HLE) for upper tier local authorities, based on data for 2009-11. Figures include the proportion of life spent in 'good' health. The ONS statistical bulletin and reference tables are available here: http://www.ons.gov.uk/ons/rel/disability-and-health-measurement/healthy-life-expectancy-at-birth-for-upper-tier-local-authorities--england/2009-11/stb-hle--at-birth-for-upper-tier-local-authorities--england-2009-11.html

On 5th November 2013, ONS data for life expectancy and healthy life expectancy were incorporated by Public Health England (PHE) into an update of the Public Health Outcomes Framework (PHOF) data tool. The tool also includes data for the slope index of inequality (SII) in life expectancy at birth for upper tier local authorities, calculated by PHE. Data for 2009-11 can be found in the *Overarching Indicators* section of the tool: http://www.phoutcomes.info/

The Segment Tool was released by PHE on 24th January 2014: http://www.lho.org.uk/LHO_Topics/Analytic_Tools/Segment/TheSegmentTool.aspx

Definitions of the indicators summarised below are provided in the appendix to this report. A technical user guide to accompany the overarching indicators in the Public Health Outcomes Framework is also available here: http://www.phoutcomes.info/documents/PHOF_Overarching_user_guide_29-10-13.pdf

Due to the small size of its population, figures are not available for the City of London.

Latest results

Life expectancy at birth, 2010-12

Life expectancy at birth for London

In 2010-12, life expectancy at birth in London was 79.7 years for males and 83.8 years for females. For both sexes, life expectancy in London was significantly higher than the England average (79.2 years for males, 83.0 years for females).

Male life expectancy at birth in London in 2010-12 was lower than in the South East, the region with the highest male life expectancy (80.3 years). Female life expectancy at birth in London (83.8 years) was almost as high as in the South West, the region where it was highest (83.9 years). For both males and females, life expectancy was around two years higher in London than the North West and North East, the regions with the lowest life expectancy.

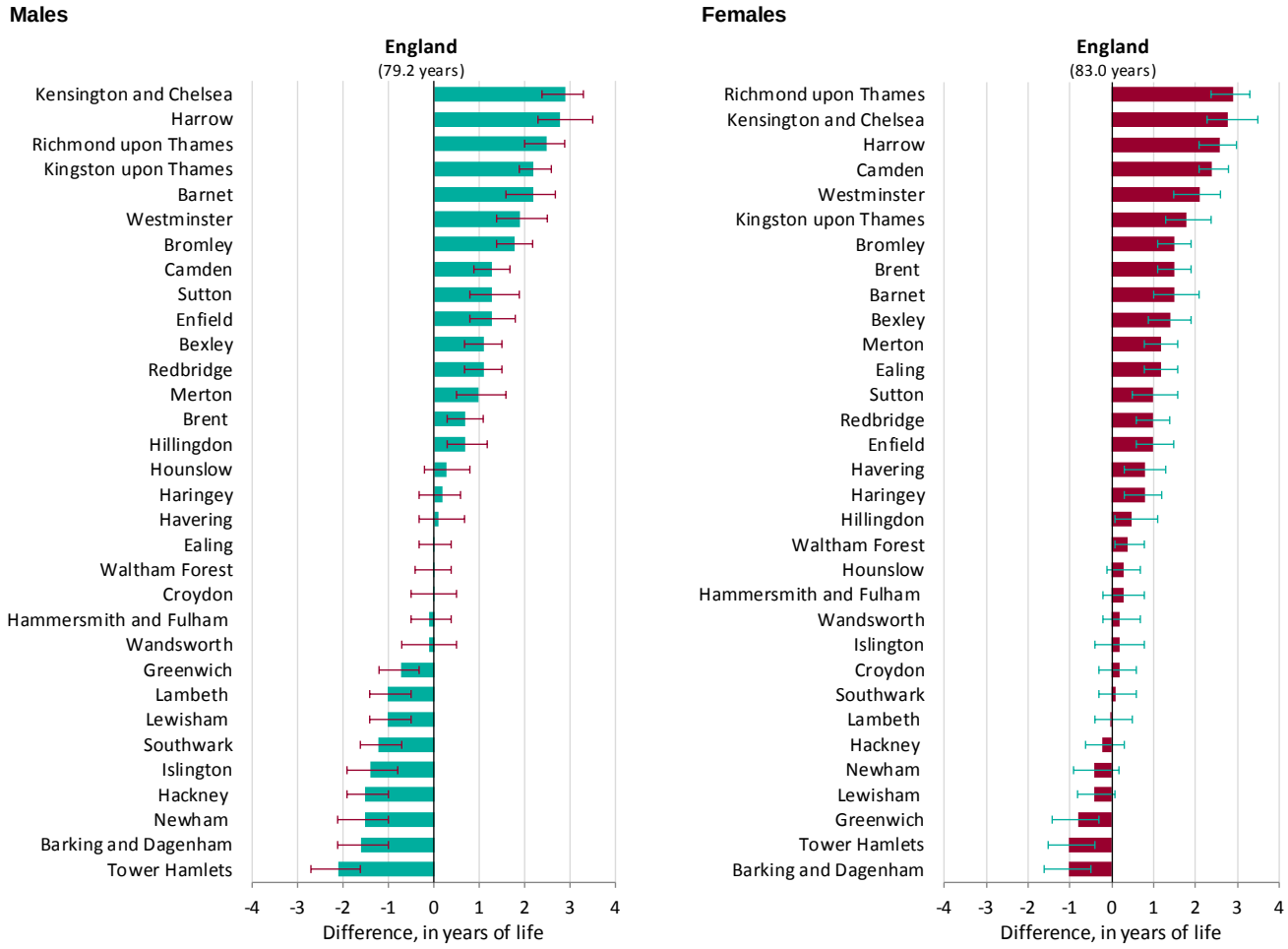
Between 2000-02 and 2010-12, life expectancy at birth in London increased by 3.9 years for males and by 3.0 years for females. The equivalent increases for England were 3.2 and 2.4 years, for males and females respectively. The increase in life expectancy between 2000-02 and 2010-12 was greater in London for both sexes, than for all other English regions.

Life expectancy at birth for London boroughs

For males in London in 2010-12, life expectancy at birth was lowest in Tower Hamlets (77.1 years) and highest in Kensington and Chelsea (82.1 years). There was therefore an inequality gap of 5 years between London boroughs. Female life expectancy was lowest in Tower Hamlets and Barking and Dagenham (82.0 years). There was an inequality gap of 3.9 years between these boroughs and Richmond upon Thames, the

borough with the highest female life expectancy (85.9 years). The inequality gap for females was thus narrower than for males. Charts 1m and 1f show the difference from the England value of life expectancy in London boroughs.

Chart 1: Male and female life expectancy at birth, difference from England, 2010-12, ranked



Source: Office for National Statistics

For neither sex were any London boroughs among the ten local authorities with the lowest life expectancy at birth in England in 2010-12. For males, Kensington and Chelsea, and Harrow, were among the ten local authorities with the highest life expectancy. These two boroughs joined Richmond among the ten local authorities with the highest female life expectancy in England in 2010-12.

Between 2000-02 and 2010-12, the biggest increase in life expectancy in London was in Camden for both sexes (6.2 years for males and 4.9 years for females). For males, the smallest increase over this period was 2.5 years in Croydon. The smallest increase in female life expectancy was 1.7 years in Hammersmith and Fulham.

Healthy life expectancy at birth, 2009-11

Healthy life expectancy at birth for London

In 2009-11, healthy life expectancy (HLE) at birth in London was 63.0 years for males and 63.8 years for females. For both sexes, although HLE in London was slightly lower than the value for England (63.2 years for males, 64.2 years for females) these differences were not statistically significant.

HLE in London in 2009-11 was around three years lower than in the South East, the region with the highest HLE for both sexes (65.7 years for males, 67.0 years for females). HLE was around three years higher in London than the North East, the region with the lowest HLE for both sexes.

Healthy life expectancy at birth for London boroughs

As shown in Charts 2m & 2f, for males and females in London in 2009-11, HLE at birth was lowest in Tower Hamlets (55.7 years for males, 54.1 years for females) and highest in Richmond upon Thames (70.3 years for males, 72.1 years for females). There was therefore an inequality gap in HLE between London boroughs of 14.6 years for males and 18.0 years for females, much greater than the gap in life expectancy itself.

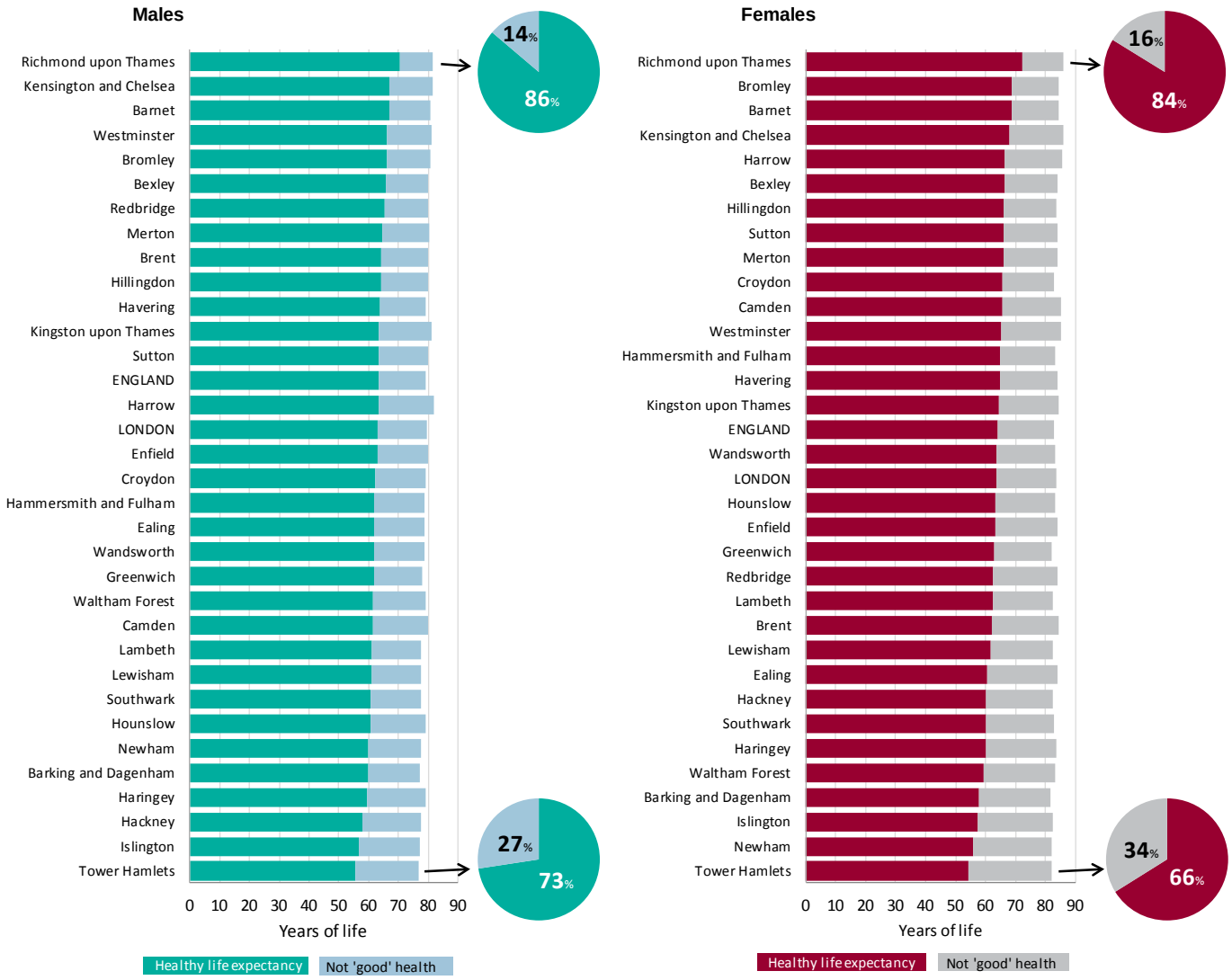
For males and females in London, the proportion of life spent in ‘good’ health in 2009-11 was also lowest in Tower Hamlets (72.6% of life for males, 66.1% of life for females) and highest in Richmond upon Thames (86.2% for males, 83.8% for females).

Tower Hamlets and Islington were among the ten local authorities with the lowest male HLE in England in 2009-11. Tower Hamlets had the lowest female HLE of all English local authorities in 2009-11, and Newham and Islington were also among the lowest ten.

Richmond upon Thames was the local authority with the highest HLE in England in 2009-11 for both sexes. The local authorities with the highest and lowest female HLE in England were thus both in London. Bromley and Barnet were also among the ten local authorities with the highest female HLE in England. Apart from Richmond, no other London boroughs were among the ten local authorities with the highest male HLE.

Trend data for healthy life expectancy are not available.

Chart 2: Male and female life expectancy at birth, years lived in good health (healthy life expectancy) and years lived not in good health, London, 2009-11, ranked by HLE



Source: Office for National Statistics

Slope Index of Inequality in life expectancy, 2009-11

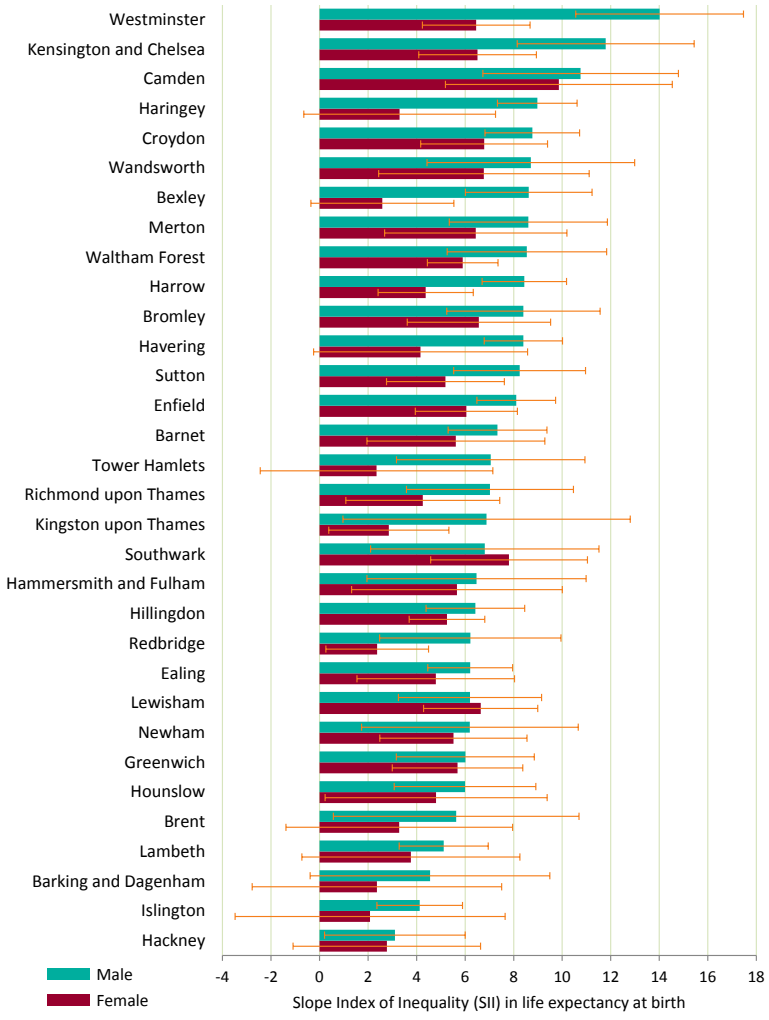
A slope index indicator of inequality in life expectancy within the whole of London has yet to be calculated, but provisional SII figures for London boroughs were released in the Public Health Outcomes Framework (PHOF) data tool in November 2013.

The SII is a measure of the social gradient in life expectancy. The SII represents the range in years of life expectancy across the social gradient from most to least deprived. The appendix contains further information about interpretation of the SII results and their method of calculation. Data for 2009-11 are currently provisional as they are based on deaths for 2009-11 but populations only for 2011. The mid-year population estimates for 2011 are derived from the 2011 Census and these populations have been multiplied by three to be used as the denominator for the period 2009-11. Final data will be based on rebased population estimates for 2009 and 2010 (not available at the time of production) together with the estimates for 2011. These are expected to be released in the May 2013 update of the PHOF data tool.

For males in London, the SII for 2009-11 was largest in Westminster, at 14.0 years, and smallest in Hackney at 3.1 years. For females, Camden had the largest SII at 9.9 years, with Islington smallest at 2.1 years. For both sexes, the SII in the borough with the largest inequality in life expectancy was almost five times the SII in the borough with the smallest inequality.

The SII values and their confidence intervals are shown in Chart 3. In only two

Chart 3: Slope Index of Inequality of life expectancy at birth (SII), London, 2009-2011, ranked by male SII



Source: PHE, Public Health Outcomes Framework

boroughs, Southwark and Lewisham, was the SII greater for females than males.

Westminster had the third highest SII for males of all upper tier local authorities in England in 2009-11. No other London boroughs were among the ten local authorities with the highest SII for males or females in England in 2009-11.

Hackney was the local authority with the lowest SII for males in England, with Islington, Barking and Dagenham, and Lambeth also among the lowest ten in 2009-11. The four local authorities with the lowest SII values for females in 2009-11 were all London boroughs - Islington, Tower Hamlets, Barking and Dagenham, and Redbridge - with Bexley and Hackney also among the lowest ten.

Comparable trend data for the SII in life expectancy have not yet been calculated. PHE hopes to include them in the May 2013 update of the PHOF data tool.

Impact of population revisions on life expectancy

Following the 2011 Census, ONS has been revising its time series of mid-year population estimates. ONS carries out this process of revision after every census, as the census provides the most complete information about the population. Population estimates for local authorities have been revised from 2002 to 2010 and ONS have used these to recalculate life expectancy figures it had previously published for periods from 2000-02 to 2008-10.

The use of revised population estimates based on the 2011 Census has slightly lowered life expectancy estimates for London for both sexes. In 2008-10, male life expectancy at birth for males was 79.0 years based on the previous populations and 78.8 years based on latest populations. For females in 2008-10, the use of revised population estimates reduced life expectancy from 83.3 years to 83.2 years.

The use of revised population figures has reduced estimates of life expectancy in some London boroughs and increased them in others. For males, when the latest figures for 2008-10 are compared with previous ONS results for the same period, there has been a fall in life expectancy for 19 boroughs. The biggest decrease caused by the use of revised population estimates was in Kensington and Chelsea (3.5 years) followed by Westminster (2.4 years). The biggest increase in life expectancy was in Waltham Forest (0.9 years).

For females, the use of revised population estimates led to a decrease in life expectancy in 2008-10 for 18 London boroughs. As with males, the biggest decrease was in Kensington and Chelsea (3.5 years) followed by Westminster and Hackney (fall of 1.3 years in both). The biggest increase in female life expectancy between the two sets of results for 2008-10 was 0.9 years in Camden.

The fall in life expectancy in Kensington and Chelsea due to the use of revised population estimates has reduced the inequality gap in life expectancy between London boroughs. The gap between the boroughs with the highest and lowest life expectancy had been 9.1 years for males and 8.7 years for females, calculated with data for 2008-10, with population estimates based on the 2001 Census. In 2010-12, the latest estimates calculated with populations based on the 2011 Census show that the inequality gap between London boroughs is now 5 years for males and 3.9 years for females.

Segmenting the life expectancy gap, 2009-11

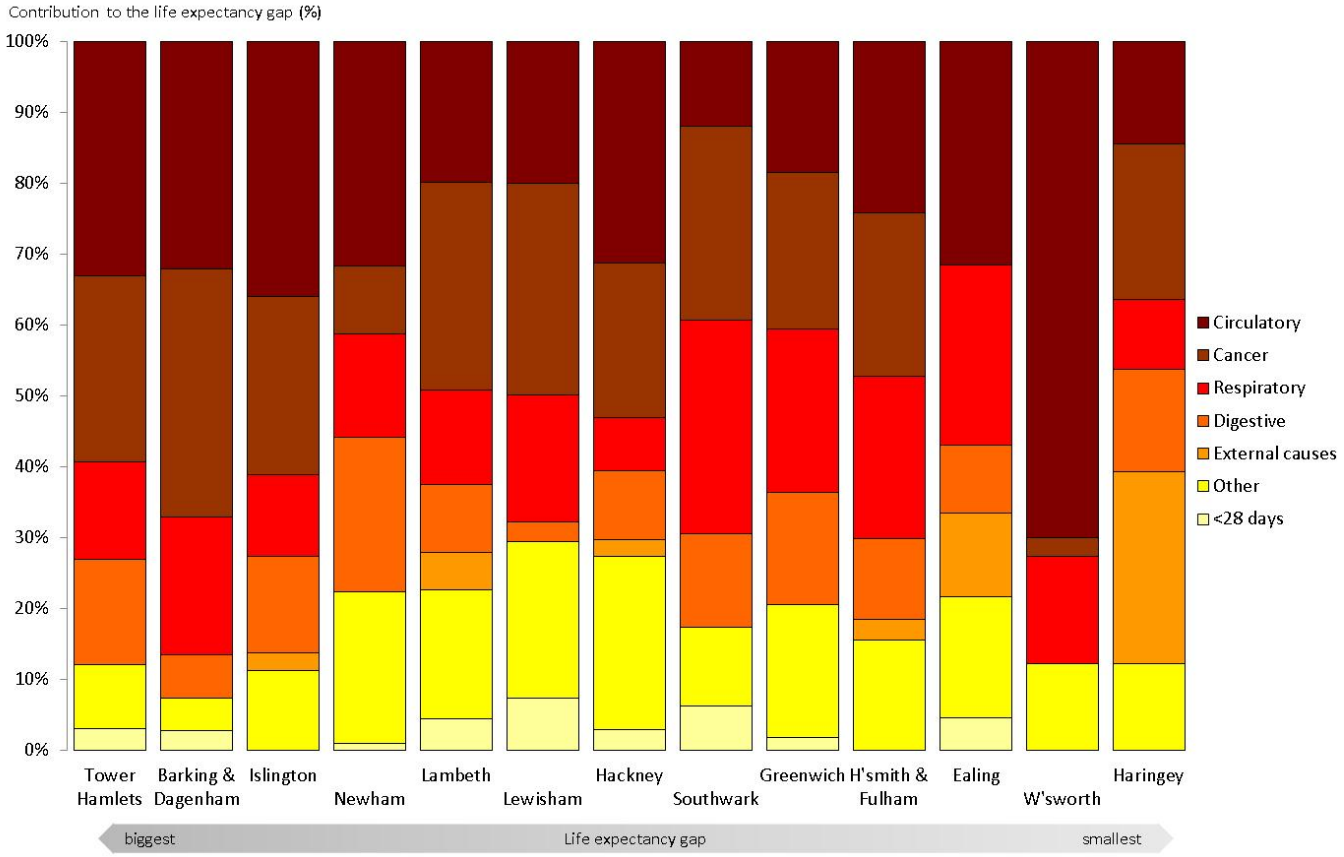
The Segment Tool provides information on the causes of death that are driving inequalities in life expectancy at local area level, and provides charts and tables which segment the life expectancy gap in 2009-11 by major causes of death. The percentage contribution of the causes of death to the life expectancy gap and the number of excess deaths that this results from are provided, for two comparisons:

1. The gap between the local authority as a whole and England as a whole. This option is only available if the selected area has a lower life expectancy than England.
2. The gap between the most deprived quintile of the selected local authority and the least deprived quintile of the local authority. This option is available for all areas.

For males in London, there were 13 local authorities where life expectancy was lower than England as a whole in 2009-11. For these 13 areas, Chart 4m below contains ‘scarf’ charts to show the breakdown of the gap between the local authority as a whole and England. The chart is ordered from the local authority with the largest gap in life expectancy on the left, to the local authority with the smallest gap on the right. Variation in the causes of death driving the life expectancy gap exists between the 13 London boroughs where life expectancy is lower than England. However, cancer and circulatory diseases contribute to a large proportion of the total gap in many of the areas. Excess mortality from these two conditions contribute to over 40% of inequality in life expectancy in 11 of the 13 London boroughs displayed.

Excess deaths are the number of additional deaths which occur in the borough in the three year period 2009-11, over and above the number which would occur if the borough had the same mortality rate as England for that cause of death. In Tower Hamlets, for example, there were over 100 excess deaths in 2009-11 from circulatory disease amongst males (Table 1m).

Chart 4m: Scarf charts showing the breakdown of the life expectancy gap between the local authority and England, males, 2009-11



Source: Public Health England Segment Tool

Table 1m: Number of excess deaths by cause, London local authorities, males, 2009-11

			Tower Hamlets	Barking and Dagenham	Islington	Newham	Lambeth	Lewisham	Hackney	Southwark	Greenwich	Hammersmith and Fulham	Ealing	Wandsworth	Haringey
	Life expectancy gap between LA and England (years)		2.2	1.7	1.7	1.4	1.3	1.3	1.2	1.2	1.1	0.3	0.2	0.1	0.0
Number of excess deaths	Cancer	Lung cancer	54	59	27	24	46	43	16	42	51	7	..	10	..
		Other cancers	23	37	22	..	28	38	23	24	..	14	..	..	18
	Circulatory	CHD	59	64	52	53	..	29	39	..	25	..	35	..	..
		Stroke	15	4	16	27	..	24	18	..	19	..	..	16	..
		Other cardiovascular	32	10	10	15	46	7	3	28	12	25	24	86	12
	Respiratory	Pneumonia	..	11	4	13	..	26	..	7	3	..	27	..	..
		Chronic obstructive airways disease	41	51	25	34	37	35	16	69	57	25	0	25	0
		Other respiratory disease	..	..	..	..	..	..	..	..	..	..	22	..	11
	Digestive	Chronic liver disease including cirrhosis	7	3	11	8	..	2	..	9	5	10	8	..	13
		Other digestive	32	10	19	53	24	6	15	19	34	..	9	..	..
	External	Suicide	..	..	3	..	..	..	2	..	..	..	14	..	1
		Other external	..	..	3	..	9	..	..	..	..	1	4	..	19
	Other	Infectious and parasitic diseases	18	0	11	20	14	0	13	18	5	14	12	4	11
		Mental and behavioural disorders	..	13	..	..	..	20	..	14	43	6	..	..	..
		Other	5	..	23	41	33	44	29	..	16	..	26	16	..
	< 28 days	Deaths under 28 days	6	4	..	2	6	10	3	8	2	..	4	..	..

'..' There are no excess deaths for this cause of death

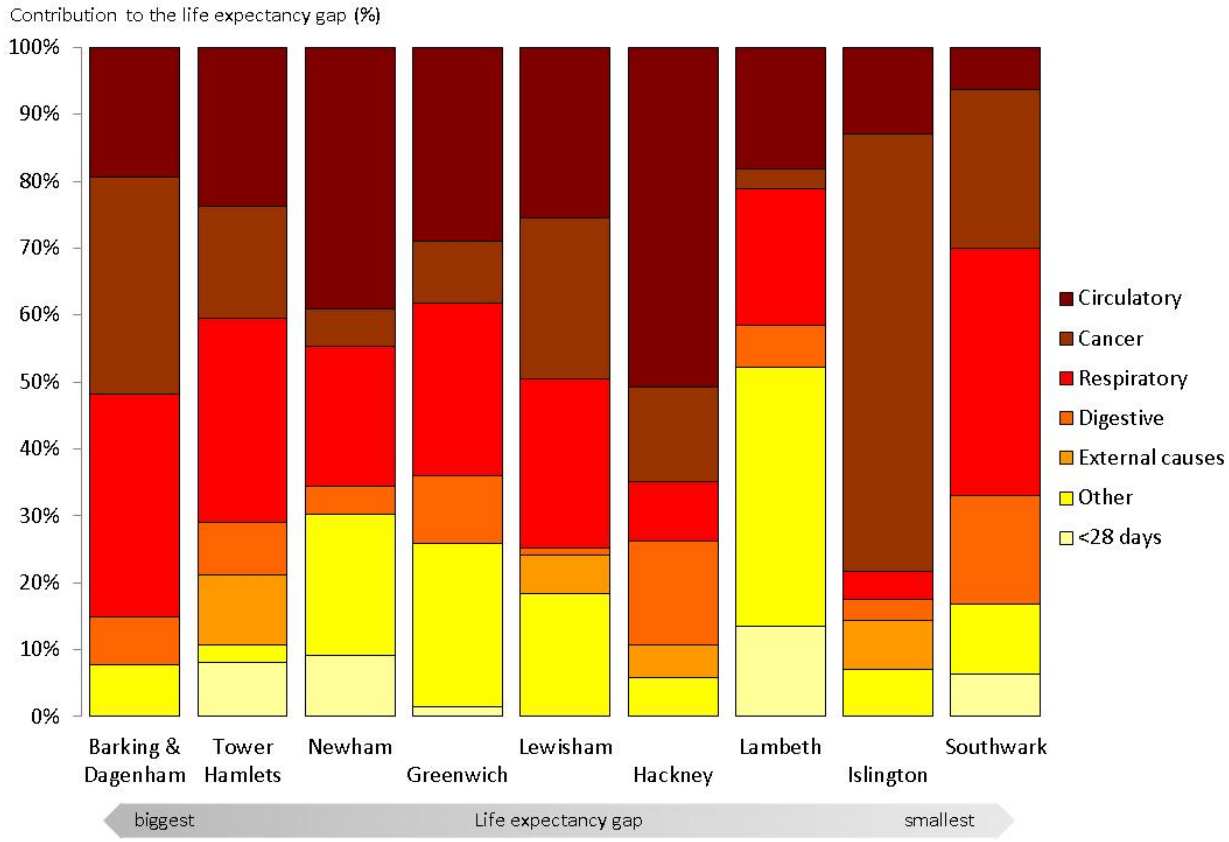
Source: Public Health England Segment Tool

For females in London, there were nine local authorities where life expectancy was lower than England as a whole in 2009-11. As with males, variation between local authorities exists. However, excess mortality from cancer and circulatory diseases contribute to over 40% of the life expectancy gap in 6 of the 9 boroughs.

Table 1f shows the number of excess deaths by cause of death amongst females in the period 2009-11. In Islington, for example, there were almost 90 excess deaths from cancer in these three years.

Inequalities within London boroughs are not illustrated, but scarf charts and tables of excess deaths are available from the tool at:
http://www.lho.org.uk/LHO_Topics/Analytic_Tools/Segment/TheSegmentTool.aspx

Chart 4f: Scarf chart showing the breakdown of the life expectancy gap between the local authority and England, females, 2009-11



Source: Public Health England Segment Tool

Table 1f: Number of excess deaths by cause, London local authorities, females, 2009-11

			Barking and Dagenham	Tower Hamlets	Newham	Greenwich	Lewisham	Hackney	Lambeth	Islington	Southwark
	Life expectancy gap between LA and England (years)		1.3	1.0	0.9	0.8	0.6	0.6	0.6	0.3	0.2
Number of excess deaths	Cancer	Lung cancer	30	29	4	17	5	18	4	48	22
		Other cancers	41	5	13	21	31	..	..	40	9
	Circulatory	CHD	27	26	26	13	4	49	7	..	..
		Stroke	..	..	9	..	21	..	..	..	..
		Other circulatory	12	11	18	35	9	15	18	17	3
	Respiratory	Pneumonia	35	..	9	..	37	3	11	2	..
		Chronic obstructive airways disease	56	52	29	54	11	8	23	7	42
		Other respiratory disease	..	4	..	..	..	..	..	..	..
	Digestive	Chronic liver disease including cirrhosis	..	..	..	1	..	..	4	1	..
		Other digestive	13	14	5	24	0	19	3	2	17
	External	Suicide	..	..	..	..	5	2	..	5	..
		Other external	..	20	..	..	..	4	..	..	..
	Other	Infectious and parasitic diseases	7	4	15	..	..	1	19	8	14
		Mental and behavioural disorders	5	..	..	60	..	..	5	..	..
		Other	..	..	9	..	20	..	28	..	..
	< 28 days	Deaths under 28 days	..	9	10	1	..	..	11	..	4

'..' There are no excess deaths for this cause of death

Source: Public Health England Segment Tool

Appendix A - Tables

Table A1 below summarises data for life expectancy, HLE and the SII in life expectancy, all for the same time period, 2009-11. Life expectancy figures for 2010-12 are presented in Table A2. Table A3 presents HLE data for 2009-11, and this also includes life expectancy for 2009-11, in order to show the proportion of life spent in 'Good' health. Table A4 includes SII figures for 2009-11.

Summary

Life expectancy at birth

Table A1 - Life expectancy and healthy life expectancy at birth, and slope index of inequality (years)
London, 2009-2011[1]

	MALES			FEMALES		Years
Local authority name	Life expectancy at birth	Healthy life expectancy at birth	Slope Index of Inequality	Life expectancy at birth	Healthy life expectancy at birth	Slope Index of Inequality
ENGLAND	78.9	63.2	9.7	82.9	64.2	7.2
LONDON	79.3	63.0	..	83.6	63.8	..
Barking and Dagenham	77.2	59.7	4.6	81.6	57.7	2.4
Barnet	80.8	66.8	7.3	84.2	68.7	5.6
Bexley	80.0	65.9	8.6	84.1	66.4	2.6
Brent	79.8	64.2	5.6	84.4	62.2	3.3
Bromley	80.7	66.1	8.4	84.5	68.8	6.6
Camden	79.9	61.3	10.8	85.0	65.8	9.9
City of London	..	..	..	..	..	..
Croydon	79.2	62.1	8.8	83.0	65.8	6.8
Ealing	78.7	61.8	6.2	83.9	60.6	4.8
Enfield	79.8	62.8	8.1	83.9	63.2	6.0
Greenwich	77.8	61.7	6.0	82.1	63.0	5.7
Hackney	77.7	58.0	3.1	82.3	60.3	2.8
Hammersmith and Fulham	78.6	61.9	6.5	83.4	65.0	5.7
Haringey	78.9	59.5	9.0	83.7	60.1	3.3
Harrow	81.7	63.2	8.4	85.4	66.4	4.4
Havering	79.1	63.7	8.4	84.0	64.8	4.2
Hillingdon	79.7	64.0	6.4	83.6	66.1	5.3
Hounslow	79.1	60.6	6.0	83.2	63.2	4.8
Islington	77.2	56.5	4.1	82.6	57.2	2.1
Kensington and Chelsea	81.6	66.9	11.8	86.1	67.8	6.5
Kingston upon Thames	81.1	63.5	6.9	84.5	64.4	2.9
Lambeth	77.6	61.1	5.1	82.3	62.3	3.8
Lewisham	77.6	60.9	6.2	82.3	61.7	6.6
Merton	80.4	64.5	8.6	84.0	65.9	6.4
Newham	77.5	59.7	6.2	82.0	55.7	5.5
Redbridge	79.9	65.5	6.2	83.8	62.4	2.4
Richmond upon Thames	81.5	70.3	7.0	86.0	72.1	4.3
Southwark	77.7	60.6	6.8	82.7	60.2	7.8
Sutton	79.9	63.3	8.2	84.1	65.9	5.2
Tower Hamlets	76.7	55.7	7.1	81.9	54.1	2.4
Waltham Forest	79.0	61.3	8.5	83.1	59.5	5.9
Wandsworth	78.8	61.7	8.7	83.1	63.8	6.8
Westminster	81.2	66.2	14.0	85.1	65.2	6.5

'..' not available

[1] 2009-2011 is the most recent period for which data are available for all indicators. Table 2 - life expectancy at birth 2010-12

Table A2 - Life expectancy at birth (years), London, 2010-2012, with 95% confidence intervals

	MALES			FEMALES		
Local authority name	Life expectancy at birth	Lower confidence limit	Upper confidence limit	Life expectancy at birth	Lower confidence limit	Upper confidence limit
ENGLAND	79.2	79.2	79.2	83.0	83.0	83.0
LONDON	79.7 *	79.6	79.8	83.8 *	83.7	83.9
Barking and Dagenham	77.6 **	77.1	78.2	82.0 **	81.5	82.5
Barnet	81.4 *	81.1	81.8	84.5 *	84.2	84.9
Bexley	80.3 *	79.9	80.7	84.4 *	84.0	84.8
Brent	79.9 *	79.5	80.3	84.5 *	84.1	84.9
Bromley	81.0 *	80.6	81.4	84.5 *	84.2	84.9
Camden	80.5 *	80.0	81.1	85.4 *	84.9	86.0
City of London	..	..	..	..	..	..
Croydon	79.2	78.9	79.6	83.2	82.8	83.5
Ealing	79.2	78.8	79.6	84.2 *	83.8	84.5
Enfield	80.5 *	80.1	80.9	84.0 *	83.6	84.4
Greenwich	78.5 **	78.0	78.9	82.2 **	81.8	82.7
Hackney	77.7 **	77.1	78.2	82.8	82.2	83.3
Hammersmith and Fulham	79.1	78.5	79.7	83.3	82.8	83.9
Haringey	79.4	78.9	79.9	83.8 *	83.3	84.2
Harrow	82.0 *	81.6	82.5	85.6 *	85.1	86.0
Havering	79.3	78.9	79.8	83.8 *	83.4	84.2
Hillingdon	79.9 *	79.5	80.4	83.5 *	83.1	83.9
Hounslow	79.5	79.0	80.0	83.3	82.9	83.8
Islington	77.8 **	77.3	78.4	83.2	82.7	83.7
Kensington and Chelsea	82.1 *	81.5	82.7	85.8 *	85.2	86.3
Kingston upon Thames	81.4 *	80.8	81.9	84.8 *	84.3	85.3
Lambeth	78.2 **	77.8	78.7	83.0	82.5	83.5
Lewisham	78.2 **	77.8	78.7	82.6	82.1	83.0
Merton	80.2 *	79.7	80.8	84.2 *	83.7	84.7
Newham	77.7 **	77.3	78.2	82.6	82.2	83.1
Redbridge	80.3 *	79.9	80.7	84.0 *	83.7	84.4
Richmond upon Thames	81.7 *	81.2	82.1	85.9 *	85.5	86.4
Southwark	78.0 **	77.6	78.5	83.1	82.7	83.6
Sutton	80.5 *	80.0	81.0	84.0 *	83.6	84.4
Tower Hamlets	77.1 **	76.5	77.6	82.0 **	81.5	82.5
Waltham Forest	79.2	78.7	79.7	83.4	82.9	83.9
Wandsworth	79.1	78.7	79.6	83.2	82.8	83.6
Westminster	81.1 *	80.6	81.7	85.1 *	84.6	85.6

* Significantly higher than the England at the 95% confidence level
** Significantly lower than the England at the 95% confidence level
'..' not available

Source: Office for National Statistics: http://www.ons.gov.uk/ons/rel/subnational-health4/life-expectancy-at-birth-and-at-age-65-by-local-areas-in-england-and-wales/2010-12/rft-table-1.xls

Healthy life expectancy at birth

Table A3m - Life Expectancy and Healthy Life Expectancy for males at birth, London[1], 2009-2011, with 95% confidence intervals

Percentage, Years

Local authority name	Life expectancy at birth	Healthy life expectancy at birth		Lower confidence interval	Upper confidence interval	Proportion of life spent in 'Good' health (%)
ENGLAND	78.9	63.2		63.1	63.4	80.1
LONDON	79.3	63.0		62.5	63.4	79.4
Barking and Dagenham	77.2	59.7	**	57.4	62.0	77.4
Barnet	80.8	66.8	*	64.3	69.2	82.7
Bexley	80.0	65.9	*	63.7	68.1	82.4
Brent	79.8	64.2		61.4	66.9	80.4
Bromley	80.7	66.1	*	63.7	68.4	81.9
Camden	79.9	61.3		58.6	64.0	76.8
City of London	..	..		..	..	..
Croydon	79.2	62.1		59.5	64.6	78.3
Ealing	78.7	61.8		59.5	64.1	78.6
Enfield	79.8	62.8		60.4	65.1	78.6
Greenwich	77.8	61.7		59.4	64.1	79.3
Hackney	77.7	58.0	**	55.3	60.6	74.6
Hammersmith and Fulham	78.6	61.9		59.4	64.5	78.8
Haringey	78.9	59.5	**	56.8	62.1	75.4
Harrow	81.7	63.2		60.7	65.6	77.3
Havering	79.1	63.7		61.4	66.1	80.6
Hillingdon	79.7	64.0		61.6	66.5	80.4
Hounslow	79.1	60.6	**	58.2	63.0	76.6
Islington	77.2	56.5	**	53.8	59.2	73.2
Kensington and Chelsea	81.6	66.9	*	64.2	69.5	81.9
Kingston upon Thames	81.1	63.5		60.7	66.3	78.3
Lambeth	77.6	61.1		58.5	63.7	78.7
Lewisham	77.6	60.9		57.9	63.8	78.4
Merton	80.4	64.5		61.7	67.3	80.2
Newham	77.5	59.7	**	57.1	62.3	77.0
Redbridge	79.9	65.5		63.2	67.7	81.9
Richmond upon Thames	81.5	70.3	*	67.9	72.6	86.2
Southwark	77.7	60.6		57.8	63.3	78.0
Sutton	79.9	63.3		60.7	65.9	79.2
Tower Hamlets	76.7	55.7	**	52.4	58.9	72.6
Waltham Forest	79.0	61.3		59.0	63.6	77.6
Wandsworth	78.8	61.7		58.5	64.8	78.2
Westminster	81.2	66.2	*	63.6	68.9	81.5

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

* Significantly higher than the England level HLE at the 95% confidence level

** Significantly lower than the England level HLE at the 95% confidence level

'..' Not available

Source: ONS: http://www.ons.gov.uk/ons/rel/disability-and-health-measurement/healthy-life-expectancy-at-birth-for-upper-tier-local-authorities--england/2009-11/rft-hle-table-1.xls

Table A3f - Life Expectancy and Healthy Life Expectancy for females at birth, London[1], 2009-2011, with 95% confidence intervals

Percentage, Years

Local authority name	Life expectancy at birth	Healthy life expectancy at birth		Lower confidence interval	Upper confidence interval	Proportion of life spent in 'Good' health (%)
ENGLAND	82.9	64.2		64.0	64.3	77.4
LONDON	83.6	63.8		63.3	64.3	76.3
Barking and Dagenham	81.6	57.7	**	55.2	60.3	70.7
Barnet	84.2	68.7	*	66.1	71.2	81.6
Bexley	84.1	66.4		64.1	68.7	78.9
Brent	84.4	62.2		59.4	65.1	73.8
Bromley	84.5	68.8	*	66.2	71.4	81.5
Camden	85.0	65.8		62.6	69.0	77.4
City of London	..	..		..	..	..
Croydon	83.0	65.8		63.3	68.2	79.2
Ealing	83.9	60.6	**	57.5	63.8	72.3
Enfield	83.9	63.2		60.8	65.5	75.3
Greenwich	82.1	63.0		60.4	65.6	76.7
Hackney	82.3	60.3	**	57.3	63.3	73.2
Hammersmith and Fulham	83.4	65.0		62.2	67.8	77.9
Haringey	83.7	60.1	**	57.1	63.1	71.8
Harrow	85.4	66.4		63.6	69.1	77.7
Havering	84.0	64.8		62.4	67.3	77.2
Hillingdon	83.6	66.1		63.4	68.8	79.1
Hounslow	83.2	63.2		60.5	65.9	76.0
Islington	82.6	57.2	**	53.8	60.7	69.3
Kensington and Chelsea	86.1	67.8	*	65.0	70.6	78.7
Kingston upon Thames	84.5	64.4		61.5	67.2	76.2
Lambeth	82.3	62.3		59.1	65.4	75.7
Lewisham	82.3	61.7		58.5	64.9	75.0
Merton	84.0	65.9		63.2	68.6	78.5
Newham	82.0	55.7	**	53.1	58.2	67.9
Redbridge	83.8	62.4		60.0	64.8	74.5
Richmond upon Thames	86.0	72.1	*	69.4	74.8	83.8
Southwark	82.7	60.2	**	57.4	63.1	72.8
Sutton	84.1	65.9		63.2	68.6	78.4
Tower Hamlets	81.9	54.1	**	51.4	56.9	66.1
Waltham Forest	83.1	59.5	**	56.7	62.3	71.6
Wandsworth	83.1	63.8		60.9	66.6	76.7
Westminster	85.1	65.2		62.3	68.1	76.6

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

* Significantly higher than the England level HLE at the 95% confidence level

** Significantly lower than the England level HLE at the 95% confidence level

'..' Not available

Source: ONS: http://www.ons.gov.uk/ons/rel/disability-and-health-measurement/healthy-life-expectancy-at-birth-for-upper-tier-local-authorities--england/2009-11/rft-hle-table-1.xls

Slope index of inequality in life expectancy at birth

Table A4 - Slope Index of Inequality, London, 2009-2011, with 95% confidence intervals

	MALES			FEMALES		
Local authority name	Slope Index of Inequality	Lower confidence limit	Upper confidence limit	Slope Index of Inequality	Lower confidence limit	Upper confidence limit
Barking and Dagenham	4.6	-0.4	9.5	2.4	-2.8	7.5
Barnet	7.3	5.3	9.4	5.6	2.0	9.3
Bexley	8.6	6.0	11.2	2.6	-0.4	5.5
Brent	5.6	0.6	10.7	3.3	-1.4	8.0
Bromley	8.4	5.2	11.6	6.6	3.6	9.5
Camden	10.8	6.7	14.8	9.9	5.2	14.5
City of London	..	..	..	..	..	..
Croydon	8.8	6.8	10.7	6.8	4.2	9.4
Ealing	6.2	4.5	8.0	4.8	1.5	8.0
Enfield	8.1	6.5	9.7	6.0	3.9	8.2
Greenwich	6.0	3.2	8.8	5.7	3.0	8.4
Hackney	3.1	0.2	6.0	2.8	-1.1	6.6
Hammersmith and Fulham	6.5	2.0	11.0	5.7	1.3	10.0
Haringey	9.0	7.3	10.6	3.3	-0.7	7.3
Harrow	8.4	6.7	10.2	4.4	2.4	6.3
Havering	8.4	6.8	10.0	4.2	-0.2	8.6
Hillingdon	6.4	4.4	8.5	5.3	3.7	6.8
Hounslow	6.0	3.1	8.9	4.8	0.2	9.4
Islington	4.1	2.4	5.9	2.1	-3.5	7.7
Kensington and Chelsea	11.8	8.1	15.4	6.5	4.1	8.9
Kingston upon Thames	6.9	1.0	12.8	2.9	0.4	5.3
Lambeth	5.1	3.3	7.0	3.8	-0.7	8.3
Lewisham	6.2	3.3	9.2	6.6	4.3	9.0
Merton	8.6	5.3	11.9	6.4	2.7	10.2
Newham	6.2	1.7	10.7	5.5	2.5	8.6
Redbridge	6.2	2.5	10.0	2.4	0.3	4.5
Richmond upon Thames	7.0	3.6	10.5	4.3	1.1	7.4
Southwark	6.8	2.1	11.5	7.8	4.6	11.0
Sutton	8.2	5.5	11.0	5.2	2.8	7.6
Tower Hamlets	7.1	3.2	10.9	2.4	-2.4	7.1
Waltham Forest	8.5	5.3	11.8	5.9	4.4	7.4
Wandsworth	8.7	4.4	13.0	6.8	2.4	11.1
Westminster	14.0	10.6	17.5	6.5	4.2	8.7

'..' not available

Source: Public Health England: http://www.phoutcomes.info

Appendix – Indicator definitions

Life expectancy at birth

This is the average number of years a person would expect to live based on contemporary mortality rates. The figures in this summary reflect mortality among those living in London in 2010-12. For a particular area, it is an estimate of the average number of years a newborn baby would live **if** he or she experienced the age-specific mortality rates for that area for 2010-12 throughout his or her life. The figures are not therefore the number of years a baby born in the area could actually expect to live. This is because the mortality rates of the area are likely to change in the future and because many of those born in the area will live elsewhere for at least some part of their lives.

Healthy life expectancy at birth

This is a measure of the average number of years a person would expect to live in good health based on contemporary mortality rates and prevalence of self-reported good health. Figures reflect the prevalence of good health and mortality among those living in an area in 2009-11. For a particular area, it is an estimate of the average number of years a newborn baby would live in good general health **if** he or she experienced the age-specific mortality rates and prevalence of good health for that area in 2009-11 throughout his or her life. The figures are not therefore the number of years a baby born in the area could actually expect to live in good general health. This is because the health prevalence and mortality rates of the area are likely to change in the future and because many of those born in the area will live elsewhere for at least some part of their lives.

The prevalence of good health is derived from responses to a question on general health in the Annual Population Survey (APS) conducted by ONS. Respondents were asked to assess their own general health, in response to the question “How is your health in general; would you say it was…Very good / Good / Fair / Bad or Very bad?” The responses “Very good” and “Good” are categorised as ‘Good’ general health and “Fair”, “Bad” or “Very bad” as ‘Not Good’ general health.

Healthy life expectancy is a measure of a population’s general health, it does not provide an indicator of functional health status, such as whether daily activities are restricted because of health problems. The figures are based on people living in private households; they exclude residents of communal establishments except NHS housing and students in halls of residence where inclusion takes place at their parents' address.

Slope index of inequality

The Slope Index of Inequality (SII) is a measure of the social gradient in life expectancy, i.e. how much life expectancy varies with deprivation. It takes account of health inequalities across the whole range of deprivation within an area and summarises this in a single number. This represents the range in years of life expectancy across the social gradient from most to least deprived.

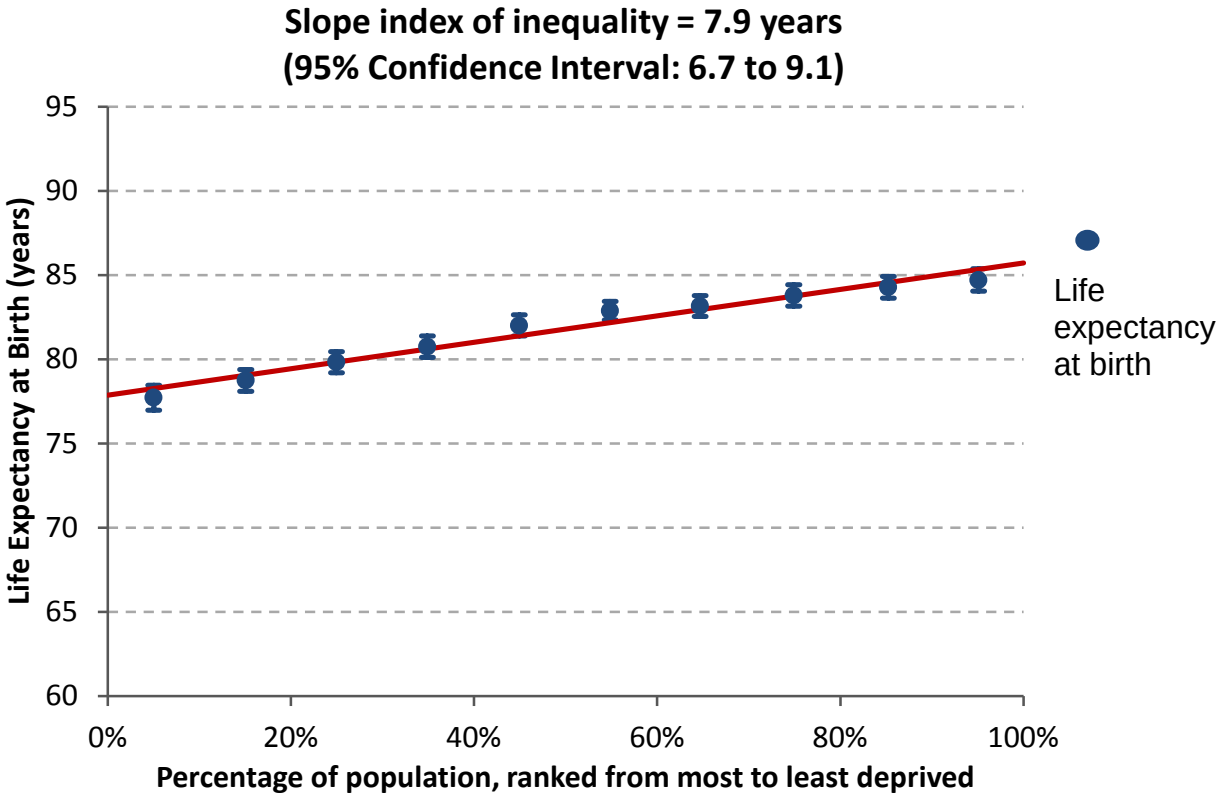
The chart in Figure 1 illustrates how the SII is calculated. Within each London borough, the population has been divided by level of deprivation. This has been done by ranking Lower Super Output Areas (LSOAs) from most to least deprived. These have then been divided into 10 groups, or deprivation deciles, with approximately equal numbers of LSOAs in each. Decile 1 contains people living in the most deprived parts of the borough and Decile 10 contains people in the least deprived parts. Life expectancy at birth has been calculated for each of these deciles, illustrated by the blue dots in Figure 1.

In Figure 1, the life expectancy figures have been plotted to take account of their population size. The red line on the chart is a linear regression line of best fit for the data, calculated by the least squares method. The SII is simply the gradient of that line, or the difference between the top of the line (at 100% on the horizontal axis) and the bottom (0% on the horizontal axis). In the example in Figure 1, the regression line goes from 78.0 to 85.9 years. This gives an SII of 7.9 years (with a 95% confidence interval of 6.7 to 9.1 years). The range in life expectancy across the social gradient from most to least deprived in this local authority is therefore 7.9 years.

The SII gives a description of the extent of inequality in each local authority, and is broadly comparable between areas. Some areas have more diverse populations than others, in terms of deprivation. Because life expectancy and deprivation are so strongly correlated, local authorities with a wider range of deprivation will tend to have greater ranges of life expectancy and therefore a larger SII.

While the SII is broadly comparable between areas, the deprivation deciles are defined separately for each local authority based on the local range of deprivation in the area. The most deprived 10% of the population in a local authority with a high level of deprivation might not therefore be comparable with the most deprived 10% of the population in a more affluent local authority. When interpreting the SII figures it is therefore important to consider them in the context of the local authority's overall life expectancy at birth.

Figure 1 – Life expectancy by deprivation decile and the slope index of inequality



Life expectancy at birth figures for each deprivation decile within London boroughs (and other upper tier English local authorities) are available as a data download from the PHOF data tool:
http://www.phoutcomes.info/public-health-outcomes-framework#gid/1000049/pat/6/ati/102/page/7/par/E12000004/are/E06000015

The PHOF data tool also includes an SII figure for England to indicate the extent of inequalities in life expectancy across the whole country. The SII for England should not be considered as a comparator for local authority figures, however. The SII for England takes account of the full range of deprivation and mortality across the whole country. This does not therefore provide a suitable benchmark with which to compare local authority results, which take into account the range of deprivation and mortality within much smaller geographies.

The Segment Tool

The tool contains a set of Frequently Asked Questions and a technical document, which detail the methods of calculation used in the tool, and guidance on interpretation of the tools:
http://www.lho.org.uk/LHO_Topics/Analytic_Tools/Segment/TheSegmentTool.aspx