

Statistical bulletin

# Health state life expectancies, UK: 2016 to 2018

The number of years people are expected to spend in different health states among local authority areas in the UK.



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## 1 . Main points

- There were small increases in male and female life expectancy at birth in the UK between 2013 to 2015 and 2016 to 2018 (0.2% and 0.1% respectively); the size of these increases was substantially smaller than those observed during the first decade of the 21st century.
- England and Northern Ireland were the only UK constituent countries to show any significant improvements in life expectancy at birth between 2013 to 2015 and 2016 to 2018.
- Life expectancy at birth was highest in the four most southerly regions of England in 2016 to 2018 for both males and females; London showed the largest gain between 2013 to 2015 and 2016 to 2018.
- Across all regions, the gains in life expectancy at birth between the periods 2013 to 2015 and 2016 to 2018 were substantially smaller than in the two previous six-year periods for both males and females.
- Changes to healthy life expectancy at birth were smaller than life expectancy in the UK between 2009 to 2011 and 2016 to 2018, causing the years lived in poorer health to increase more than the years lived in good health.
- Healthy life expectancy at age 65 was improving at a faster rate than life expectancy for males and females in England and Wales, reducing the number of years lived in poorer health from age 65 since 2009 to 2011.
- Richmond-upon-Thames had the highest male healthy life expectancy at birth in the UK of 71.9 years, 18.6 years longer than males in Blackpool where it was only 53.3 years.
- In England, the lowest healthy life expectancy for females at birth was observed in Nottingham at 54.2 years, and the highest was in Wokingham at 72.2 years, a gap of 18 years; across the UK the local area gap was 19.1 years.
- Women in the UK who turned 65 in 2016 to 2018 could expect to live longer with a disability than men.

### Statistician's comment

"The size of the life expectancy gain between 2013 and 2018 is small by historical standards, but in line with the observed pattern of stalling improvements since 2011. A decade earlier, life expectancy was growing 6.5 times faster for males and 8.2 times faster for females."

"People in England and males in Northern Ireland saw their life expectancy improve, but there were no significant changes in Wales and Scotland. The size of London's gain continued to be notably larger than any other region."

"Meanwhile, there were reductions in the number of years lived in poorer states of health for both men and women at age 65 in Wales and England and for men in Northern Ireland."

ONS Spokesperson

## 2 . Life expectancy in the UK

For the most recent changes mentioned throughout this release we have compared the years 2013 to 2015 and 2016 to 2018, as these are the latest non-overlapping periods used in estimating life expectancies. Any change mentioned throughout this release is deemed to be statistically significant, unless otherwise stated.

Table 1: Summary statistics of latest life expectancy estimates; UK, constituent countries and regions, 2016 to 2018

	Males		Females			
	Life Expectancy in 2016 to 2018 (years)	Change since 2013 to 2015	Life Expectancy in 2016 to 2018 (years)		Change since 2013 to 2015	
			Months	Weeks	Months	Weeks
<b>UK</b>	79.3	* 1.7	7.4	82.9	* 1.1	4.6
<b>England</b>	79.6	* 2.0	8.8	83.2	* 1.3	5.4
<b>North East</b>	77.9	0.7	3.0	81.7	1.7	7.3
<b>North West</b>	78.3	* 2.3	9.9	81.9	1.1	4.7
<b>Yorkshire and the Humber</b>	78.7	1.3	5.5	82.4	1.0	4.3
<b>East Midlands</b>	79.4	1.8	7.9	82.9	-0.5	-2.2
<b>West Midlands</b>	78.9	1.5	6.5	82.7	-0.1	-0.4
<b>East</b>	80.3	-0.1	-0.6	83.7	0.2	1.0
<b>London</b>	80.7	* 5.9	25.6	84.5	* 5.6	24.5
<b>South East</b>	80.7	* 2.3	9.9	84.1	* 1.6	7.1
<b>South West</b>	80.2	1.3	5.5	83.8	-0.2	-1.0
<b>Wales</b>	78.3	-1.4	-6.0	82.3	0.4	1.7
<b>Scotland</b>	77.1	-0.7	-3.0	81.1	-0.6	-2.7
<b>Northern Ireland</b>	78.7	* 4.3	18.9	82.4	1.0	4.2

Source: Office for National Statistics

#### Notes

1. \* denotes areas where life expectancy has increased significantly based on non-overlapping confidence intervals [Back to table](#)

## In 2016 to 2018, life expectancy at birth in the UK showed a small but significant increase from the previous non-overlapping period of 2013 to 2015

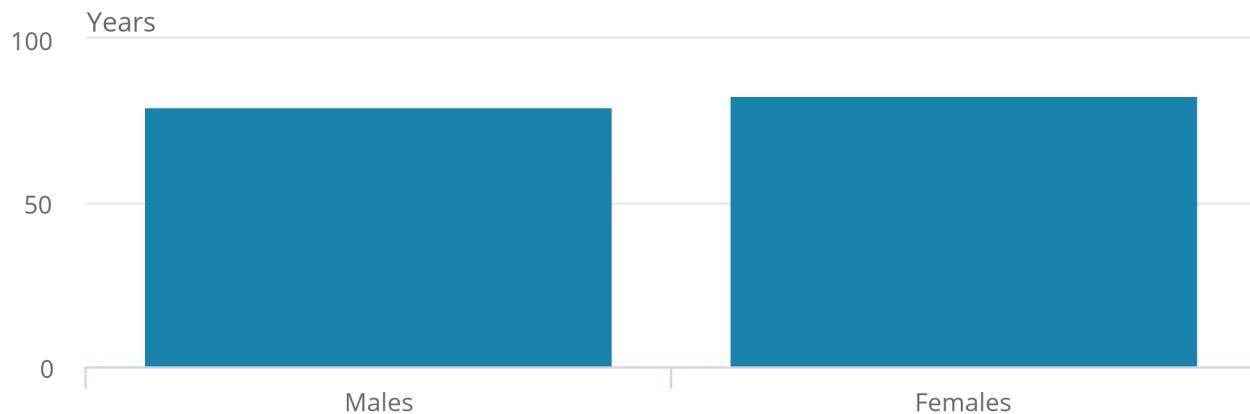
It now stands at its highest point for both males and females since the Office for National Statistics (ONS) rebased the subnational life expectancy estimates from 2001 to 2003.

**Figure 1: Female life expectancy at birth in the UK is 3.6 years higher than male life expectancy in 2016 to 2018**

Life expectancy, UK, 2016 to 2018

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Life expectancy, UK, 2016 to 2018



**Source: Office for National Statistics**

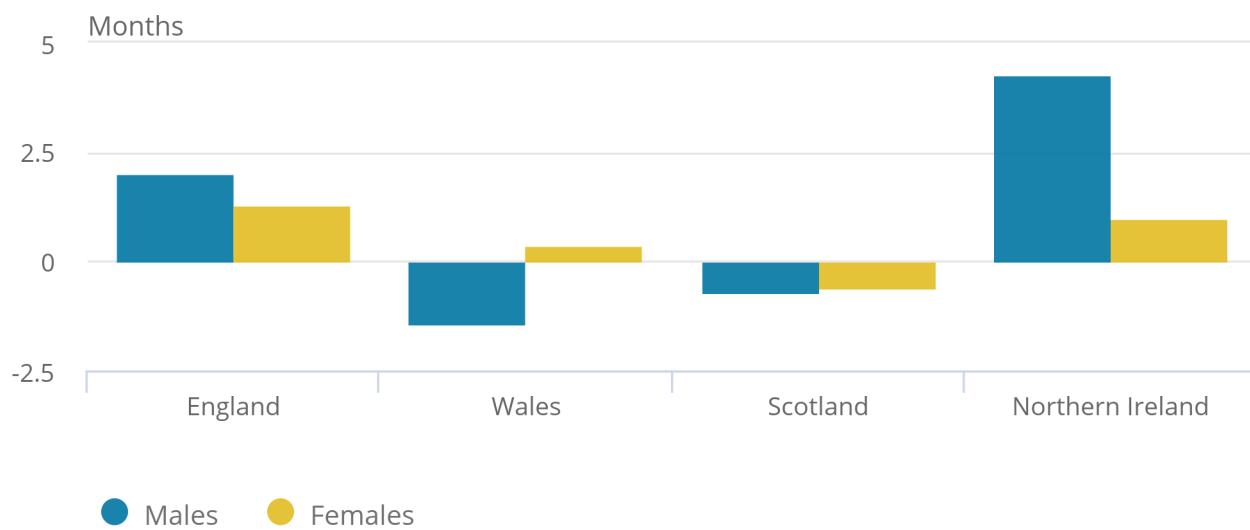
For males, life expectancy at birth increased by two months in England, and 4.3 months in Northern Ireland between 2013 to 2015 and 2016 to 2018. In England a significant improvement in female life expectancy at birth was observed between these two periods, with an increase of 1.3 months.

**Figure 2: Male and female life expectancy at birth in England improved slightly, with male life expectancy also increasing in Northern Ireland**

Life expectancy, constituent countries, between 2013 to 2015 and 2016 to 2018

## Figure 2: Male and female life expectancy at birth in England improved slightly, with male life expectancy also increasing in Northern Ireland

Life expectancy, constituent countries, between 2013 to 2015 and 2016 to 2018



Source: Office for National Statistics

Notes:

1. Gain in life expectancy in months was calculated by subtracting life expectancy at birth in 2013 to 2015 from that in 2016 to 2018 and multiplying by 365.25 and dividing by the average days per month factor 30.4375.

Since we rebased the subnational life expectancy estimates from 2001 to 2003, the UK's life expectancy has risen by 3.4 years for males (from 75.9 to 79.3 years), and by 2.5 years for females (from 80.5 to 82.9 years).

During the period 2001 to 2011, life expectancy increases were large by historical standards; for example, between 2001 to 2003 and 2004 to 2006 life expectancy increased by 12.3 months for males in the UK, and by 9.3 months for females.

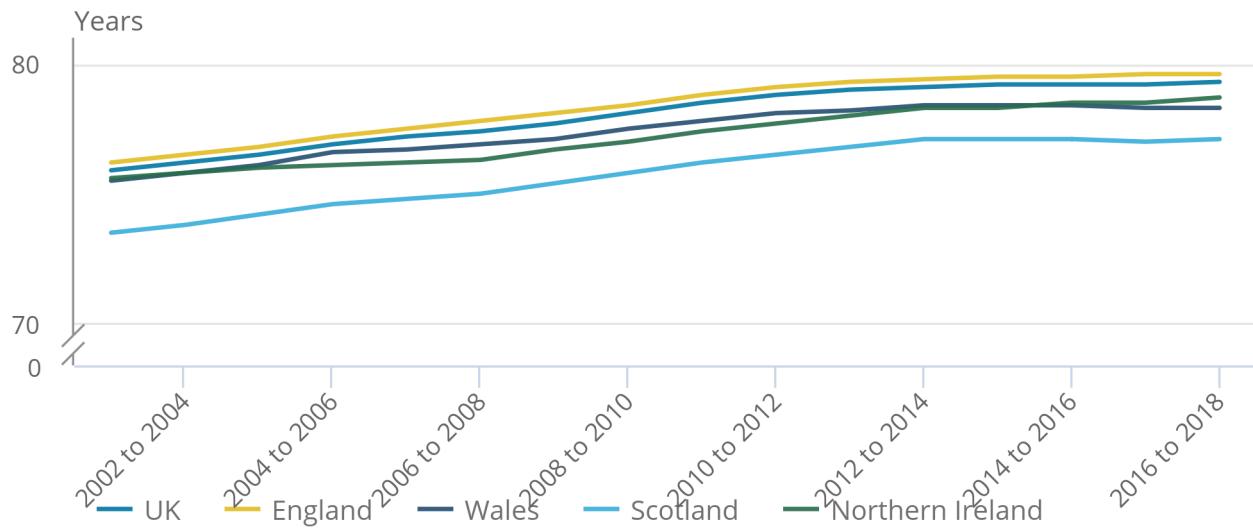
Since 2011, these improvements have begun to slow down; for example, between 2013 to 2015 and 2016 to 2018 life expectancy at birth improved by only 1.7 months for males and 1.1 months for females. The flattening of the time series lines illustrates clear slowdowns in country-specific improvements compared with the first decade.

**Figure 3a: Improvements in the life expectancy of males at birth in the UK have slowed since 2011**

Life expectancy, UK and constituent countries, between 2001 to 2003 and 2016 to 2018

**Figure 3a: Improvements in the life expectancy of males at birth in the UK have slowed since 2011**

Life expectancy, UK and constituent countries, between 2001 to 2003 and 2016 to 2018



**Source:** Office for National Statistics

**Notes:**

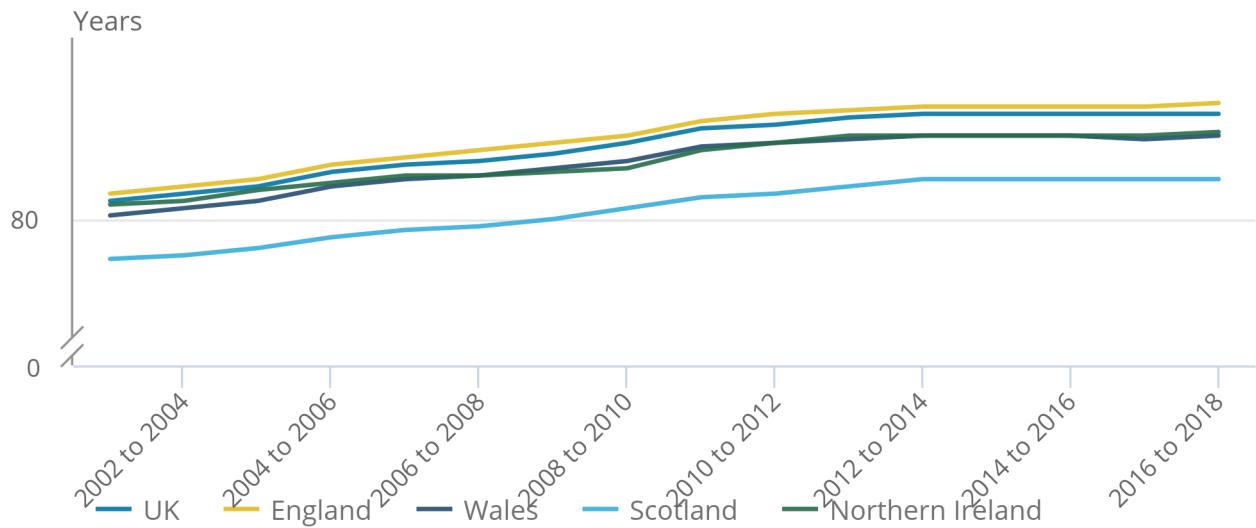
1. Axis does not start at 0.

**Figure 3b: Improvements in the life expectancy of females at birth in the UK have slowed since 2011**

Life expectancy, UK and constituent countries, between 2001 to 2003 and 2016 to 2018

### Figure 3b: Improvements in the life expectancy of females at birth in the UK have slowed since 2011

Life expectancy, UK and constituent countries, between 2001 to 2003 and 2016 to 2018



**Source:** Office for National Statistics

**Notes:**

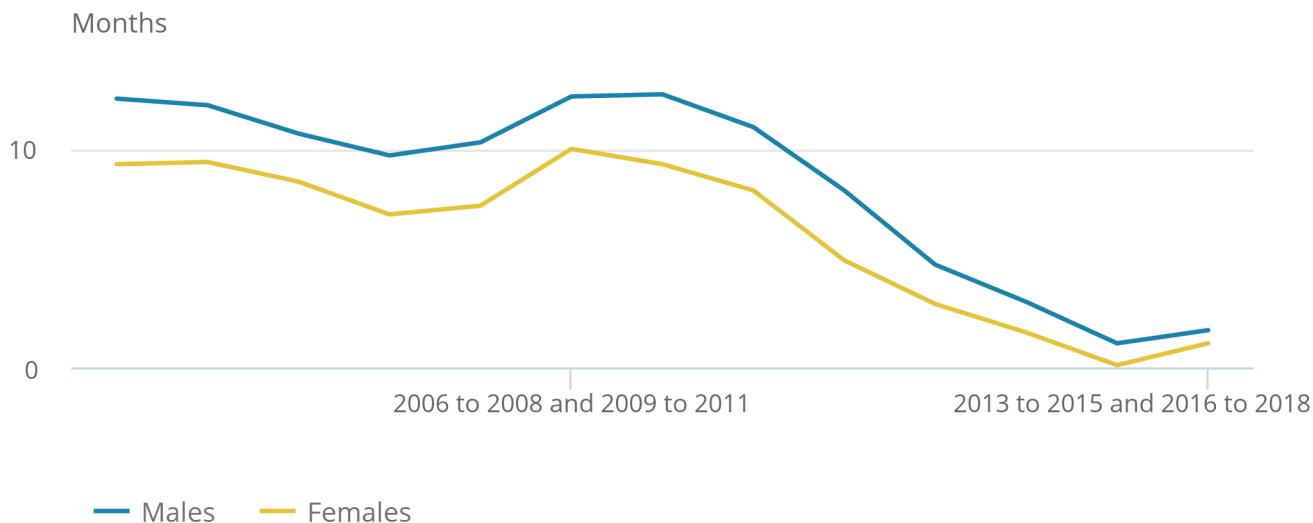
1. Axis does not start at 0.

### Figure 3c: Large gains previously seen in the UK's life expectancy at birth have decreased since 2012

Life expectancy gain in months, UK, between 2001 to 2003 and 2016 to 2018

### Figure 3c: Large gains previously seen in the UK's life expectancy at birth have decreased since 2012

Life expectancy gain in months, UK, between 2001 to 2003 and 2016 to 2018



Source: Office for National Statistics

Notes:

1. To report the gain in life expectancy at birth, temporally distinct adjacent periods are subtracted in a rolling pattern. The year 2001 to 2006 on the x-axis reflects the gains between 2001 to 2003 and 2004 to 2006, and similarly the year 2013 to 2018 reflects gains between 2013 to 2015 and 2016 to 2018.

The trajectory observed in more recent periods was also reflected in our [2018-based life expectancy projections up to 2068](#), which suggested a slower rate of improvement in the future because of more recent mortality trends.

Because life expectancy has increased at a broadly similar rate across all countries of the UK since 2001 to 2003, the gap between England, with the highest life expectancy of the UK's constituent countries, and Scotland with the lowest, has largely endured. There has been a slight increase in this gap in the most recent period for females, increasing from 1.8 years in 2001 to 2003, to 2.1 years in 2016 to 2018. The gap for males has decreased slightly from 2.7 years to 2.6 years.

## 3 . Regional outlook of life expectancy in the UK

## **Life expectancy at birth was highest in the four most southerly regions of England in 2016 to 2018, with London continuing to show the largest gain**

A north-south divide in length of life continues to be apparent during the current decade. In terms of life expectancy in 2016 to 2018, this geographical divide can be seen across regions of England.

The life expectancy at birth of males and females in the regions of London, the South East, South West and East of England were all significantly higher than the national average. Of these, life expectancy at birth significantly increased in London and the South East between 2013 to 2015 and 2016 to 2018. The region with the highest male and female life expectancy is London.

In contrast, life expectancies for the five other regions were significantly below the average for England. However, there was a significant improvement in male life expectancy at birth in the North West region.

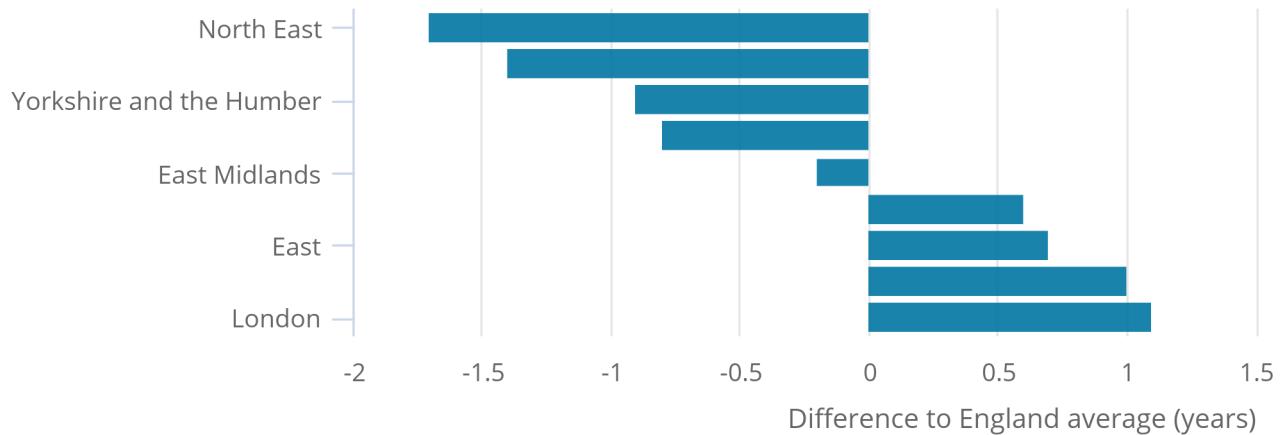
Life expectancy at birth in London was 80.7 years for males and 84.5 years for females in the most recent period. In terms of a comparison with the region with the lowest life expectancy – the North East – this is a difference of 2.8 years for both males and females.

**Figure 4a: Life expectancy is higher for males in London, South East, South West, and the East of England compared to the England average in 2016 to 2018**

Life expectancy, English regions and England average, 2016 to 2018

Figure 4a: Life expectancy is higher for males in London, South East, South West, and the East of England compared to the England average in 2016 to 2018

Life expectancy, English regions and England average, 2016 to 2018



**Source:** Office for National Statistics

**Notes:**

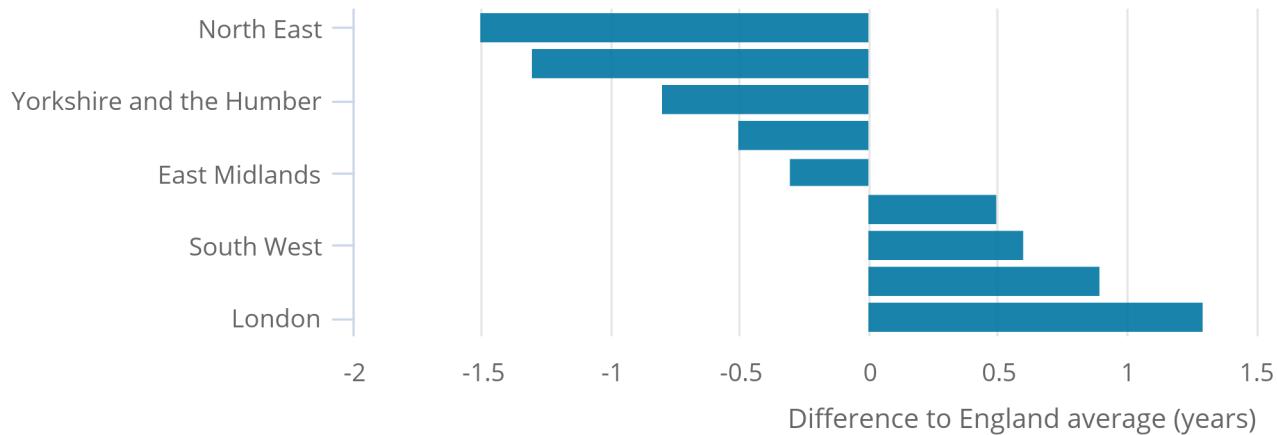
1. The England average (79.6 years) is represented by 0.

**Figure 4b: Life expectancy is higher for females in London, South East, South West, and the East of England compared to the England average in 2016 to 2018**

Life expectancy, English regions and England average, 2016 to 2018

Figure 4b: Life expectancy is higher for females in London, South East, South West, and the East of England compared to the England average in 2016 to 2018

Life expectancy, English regions and England average, 2016 to 2018



Source: Office for National Statistics

Notes:

1. The England average (83.2 years) is represented by 0.

## Life expectancy at birth in London continues to grow at a faster rate than other regions

London continues to show the largest increases in life expectancy among regions in England between 2013 to 2015 and 2016 to 2018 (Figures 5a and 5b). The figures also illustrate how the regional pattern mirrors that at national level where increases in life expectancy have begun to stall markedly.

London and the South East were the only regions where life expectancy significantly improved between 2013 to 2015 and 2016 to 2018 for both males and females. London has avoided the sharper slowdowns experienced by other regions, such as for females in the East Midlands and the South West (Figure 5b).

**Figure 5a: Life expectancy for males has increased at a lower rate across all regions for the most recent period**

Life expectancy gain in months, English regions, between 2001 to 2003 and 2016 to 2018

**Figure 5a: Life expectancy for males has increased at a lower rate across all regions for the most recent period**

Life expectancy gain in months, English regions, between 2001 to 2003 and 2016 to 2018



Source: Office for National Statistics

Notes:

1. To report the gain in life expectancy at birth, temporally distinct adjacent periods are subtracted. The year 2001 to 2006 on the x-axis reflects the gains between 2001 to 2003 and 2004 to 2006, and similarly the year 2013 to 2018 reflects gains between 2013 to 2015 and 2016 to 2018.

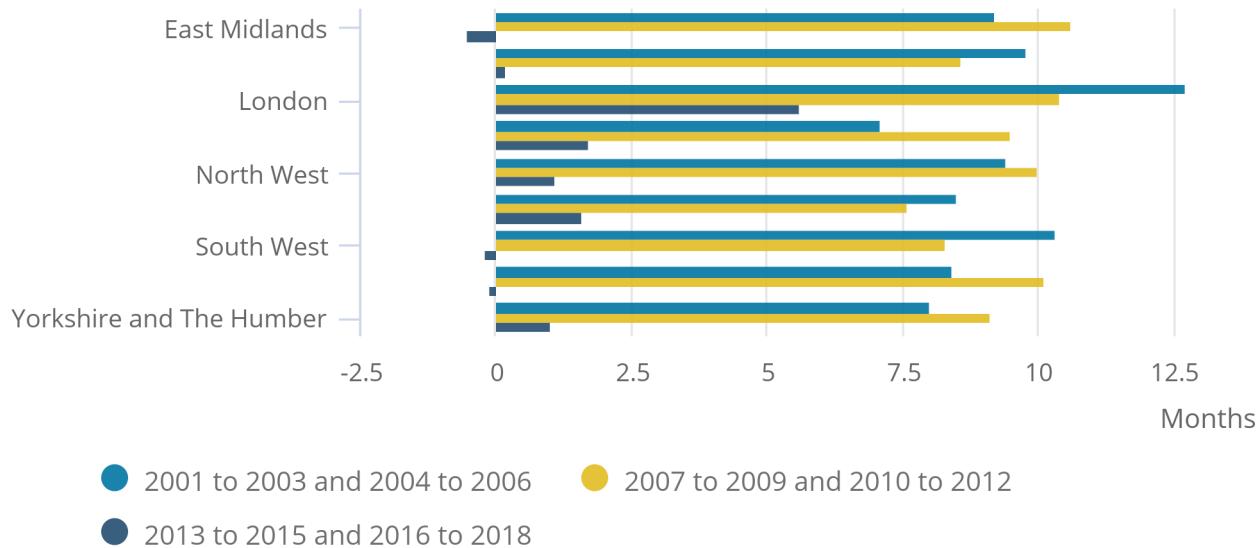
For males, there was a reduction of 62% in the life expectancy gain in London during 2013 to 2018 compared with 2001 to 2006. This is somewhat smaller than the percentage reduction that occurred in the East of England region, where the gain fell by more than 100%, representing a small, not significant fall in life expectancy between 2013 and 2018.

**Figure 5b: Life expectancy for females has increased at a lower rate across all regions for the most recent period**

Life expectancy gain in months, English regions, between 2001 to 2003 and 2016 to 2018

**Figure 5b: Life expectancy for females has increased at a lower rate across all regions for the most recent period**

Life expectancy gain in months, English regions, between 2001 to 2003 and 2016 to 2018



Source: Office for National Statistics

Notes:

1. To report the gain in life expectancy at birth, temporally distinct adjacent periods are subtracted. The year 2001 to 2006 on the x-axis reflects the gains between 2001 to 2003 and 2004 to 2006, and similarly the year 2013 to 2018 reflects gains between 2013 to 2015 and 2016 to 2018.

For females, the contrast was even greater. In London, the gain between 2013 and 2018 was 56% smaller than between 2001 and 2006. In the East Midlands, it was 106% smaller, which shows that females in London had less of a stalling in improvement than other regions.

## 4 . Life expectancy at a local level in the UK

## **The gap in life expectancy at birth between local areas of the UK was 10.5 years for males in 2016 to 2018 and 8.4 years for females**

There were large spatial gaps in life expectancy at birth across all the constituent countries of the UK. In England in 2016 to 2018, there was a 9.4-year gap in male life expectancy at birth between Westminster (83.9 years) and Blackpool (74.5 years). In Scotland, this gap was smaller at 7.3 years between East Renfrewshire (80.7 years) and Glasgow City (73.4 years). In Wales, the gap was 4.5 years between Monmouthshire (80.8 years) and Blaenau Gwent (76.3 years), while in Northern Ireland, the gap was 3.9 years between Lisburn and Castlereagh (80.2 years) and Belfast (76.3 years).

For females, the local area gap in life expectancy at birth in England was 7.5 years between Camden (87.0 years) and Blackpool (79.5 years), meaning Blackpool was lowest in England for males and females. In Scotland, the gap stood at 4.9 years between East Renfrewshire (83.6 years) and Glasgow City (78.7 years). In Wales, the gap was 3.6 years between Monmouthshire (84.2 years) and Blaenau Gwent (80.6 years), while in Northern Ireland it was 2.2 years between Lisburn and Castlereagh (83.2 years) and Belfast (81.1 years).

The noteworthy scale of increases seen in life expectancies across large numbers of local areas in the UK since 2001 have largely diminished in recent years, which reflects the national and regional outlook.

Between 2001 to 2003 and 2004 to 2006, the life expectancy of males increased in 199 areas out of 380 (52%) in the UK, and for 129 (34%) areas for females. Again, in the midpoint of the time series between 2007 to 2009 and 2010 to 2012, the life expectancy of males increased in 193 (51%) areas, and in 136 (36%) areas for females. In comparison, between 2013 to 2015 and 2016 to 2018, life expectancy increased in only 17 (4%) areas for males, and in 14 (4%) areas for females.

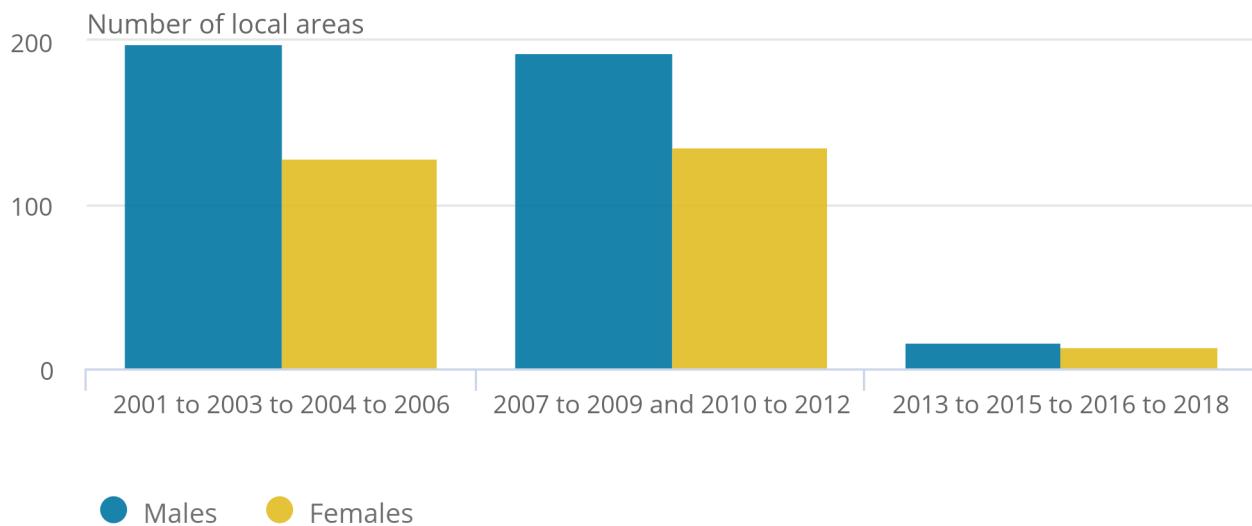
Figure 6 provides a comparison of the number of authorities achieving a significant gain between three discrete non-overlapping periods. The statistical significance for Figure 6, Table 1 and Table 2 have been assessed using z-scores. More information about this z-test can be viewed in Appendix 1 of the [Sullivan guide](#).

**Figure 6: The number of local areas achieving a significant increase in life expectancy at birth has declined substantially in recent years**

Statistically significant increase in life expectancy, local areas, between 2001 to 2003 and 2016 to 2018

Figure 6: The number of local areas achieving a significant increase in life expectancy at birth has declined substantially in recent years

Statistically significant increase in life expectancy, local areas, between 2001 to 2003 and 2016 to 2018



Source: Office for National Statistics

Notes:

1. Local areas for England are lower tier local authorities for life expectancy. Local areas in Wales are unitary authorities. Local areas in Scotland are council areas. Local areas in Northern Ireland are local government districts.
2. 2001 to 2006 on the x-axis reflects the number with a significant gain between 2001 to 2003 and 2004 to 2006, which is the first non-overlapping comparison in the time series. The period 2007 to 2012 reflects the number with a significant gain between 2007 to 2009 and 2010 to 2012, which is the midpoint in the time series. The period 2013 to 2018 reflects the number with a significant gain between 2013 to 2015 and 2016 to 2018, which is the most recent non-overlapping periods in the time series.
3. Statistical significance has been assessed using z-scores. More information about this z-test can be viewed in Appendix 1 of the [Sullivan guide](#).

There were 10 local areas which experienced a significant fall in male or female life expectancy at birth between 2013 to 2015 and 2016 to 2018 which we represent in weeks (Table 2). We also show the local areas which had the largest gains in life expectancy between 2013 to 2015 and 2016 to 2018 for males and females (Table 3).

Table 2. Local areas in the UK having a significant fall in life expectancy at birth between 2013 to 2015 and 2016 to 2018

Local area	Life expectancy in 2013 to 2015	Life expectancy in 2016 to 2018	Change in weeks
<b>Males</b>			
Norwich	79.5	78.1	-72
East Lindsey	79	77.8	-64
Dundee City	75.1	74	-61
Canterbury	80.2	79.2	-52
Central Bedfordshire	81.7	81	-38
<b>Females</b>			
Hart	86.7	85.1	-84
Lincoln	81.9	80.5	-72
Torbay	83.3	82.3	-51
Southend-on-Sea	83.1	82.1	-49
Plymouth	82.8	82.1	-35

Source: Office for National Statistics

#### Notes

1. Local areas for England are lower tier local authorities for life expectancy. Local areas in Wales are unitary authorities. Local areas in Scotland are council areas. Local areas in Northern Ireland are local government districts. [Back to table](#)
2. Statistical significance has been assessed using z-scores. More information about this z-test can be viewed in Appendix 1 of the Sullivan guide. [Back to table](#)

Table 3: Top five local areas for increases in life expectancies at birth of males and females in the UK between 2013 to 2015 and 2016 to 2018

Local area	Life expectancy in 2013 to 2015	Life expectancy in 2016 to 2018	Change in weeks
<b>Males</b>			
<b>Westminster</b>	82.2	83.9	91
<b>Gedling</b>	79.4	80.9	75
<b>Cotswold</b>	81.1	82.5	74
<b>Adur</b>	79.8	81.2	73
<b>East Renfrewshire</b>	79.3	80.7	73
<b>Females</b>			
<b>Mole Valley</b>	84.7	86.3	83
<b>Breckland</b>	82.9	84.3	74
<b>Burnley</b>	80	81.4	69
<b>Tandridge</b>	83.9	85	60
<b>Richmond upon Thames</b>	85.4	86.4	52

Source: Office for National Statistics

#### Notes

1. Local areas for England are lower tier local authorities for life expectancy. Local areas in Wales are unitary authorities. Local areas in Scotland are council areas. Local areas in Northern Ireland are local government districts. [Back to table](#)
2. Statistical significance has been assessed using z-scores. More information about this z-test can be viewed in Appendix 1 of the Sullivan guide. [Back to table](#)

Male life expectancy at birth increased the most in Westminster by 91 weeks (1.7 years) as highlighted in Table 3, and now has the highest male life expectancy in the UK at 83.9 years. This is in line with regional improvements, where London shows the largest increase of all the regions.

For females, life expectancy increased the most in Mole Valley, by 83 weeks (1.6 years), and dropped the most in Hart by 84 weeks (1.6 years). Both local authorities are in the South East and are among areas with high local area life expectancies.

Changes at this lower geographical scale should be approached with caution, as estimates based on smaller populations can lead to larger random fluctuations in the data between time periods.

The area with the highest female life expectancy in 2016 to 2018 was Camden at 87.0 years. Again, this aligns with the larger improvements seen in London compared to other England regions. Four out of the five highest female life expectancies at a local level were areas in London.

Life expectancy at age 65 years and other ages for the UK, constituent countries, regions of England and local areas of the UK are also available in the accompanying data tables.

Figure 7 is a dynamic interactive map which tracks male and female life expectancy at birth and at age 65 years for local areas of the UK.

**Figure 7: Life expectancy at birth and age 65 by sex across local areas in the UK, between 2001 to 2003 and 2016 to 2018**

## 5 . Healthy and disability-free life expectancy in the UK

Table 4: Summary statistics of latest healthy and disability free life expectancy estimates; UK, constituent countries and regions, 2016 to 2018

	Males		Females	
	Healthy life expectancy in 2016 to 2018 (years)	Disability free life expectancy in 2016 to 2018 (years)	Healthy life expectancy in 2016 to 2018 (years)	Disability free life expectancy in 2016 to 2018 (years)
<b>UK</b>	63.1	62.6	63.6	61.6
<b>England</b>	63.4	62.9	63.9	61.9
<b>North East</b>	59.4	58.3	59.7	58.0
<b>North West</b>	61.6	60.5	62.5	60.2
<b>Yorkshire and the Humber</b>	61.5	61.0	62.1	60.0
<b>East Midlands</b>	62.8	62.1	61.9	60.3
<b>West Midlands</b>	61.8	62.4	62.3	61.2
<b>East</b>	64.1	64.1	64.7	63.0
<b>London</b>	64.2	65.0	64.4	63.2
<b>South East</b>	65.6	65.0	66.9	64.1
<b>South West</b>	65.0	63.5	65.3	62.0
<b>Wales</b>	61.4	59.9	62.0	59.3
<b>Scotland</b>	61.9	61.2	62.2	60.7
<b>Northern Ireland</b>	61.7	60.9	61.8	61.0

Source: Office for National Statistics

Although the healthy life expectancy (HLE) at birth for males has slightly increased in the UK since 2009 to 2011, the size of this growth has failed to keep up with the increases seen in life expectancy. If the UK experienced the same self-reported health and mortality rates that were observed during 2016 to 2018, males could expect to live 63.1 years in good health, compared with 62.7 years in 2009 to 2011. In comparison, male life expectancy has increased from 78.5 years in 2009 to 2011 to 79.3 years in 2016 to 2018, meaning the years lived in poorer states of health have increased by almost half a year since 2009 to 2011.

The healthy life expectancy of females showed no significant change over the same period, and in 2016 to 2018 females could expect to live 63.6 years in good health. Between 2009 to 2011 and 2016 to 2018, female life expectancy significantly increased, causing the years lived in poorer states of health to increase by almost three-quarters of a year (Figure 8).

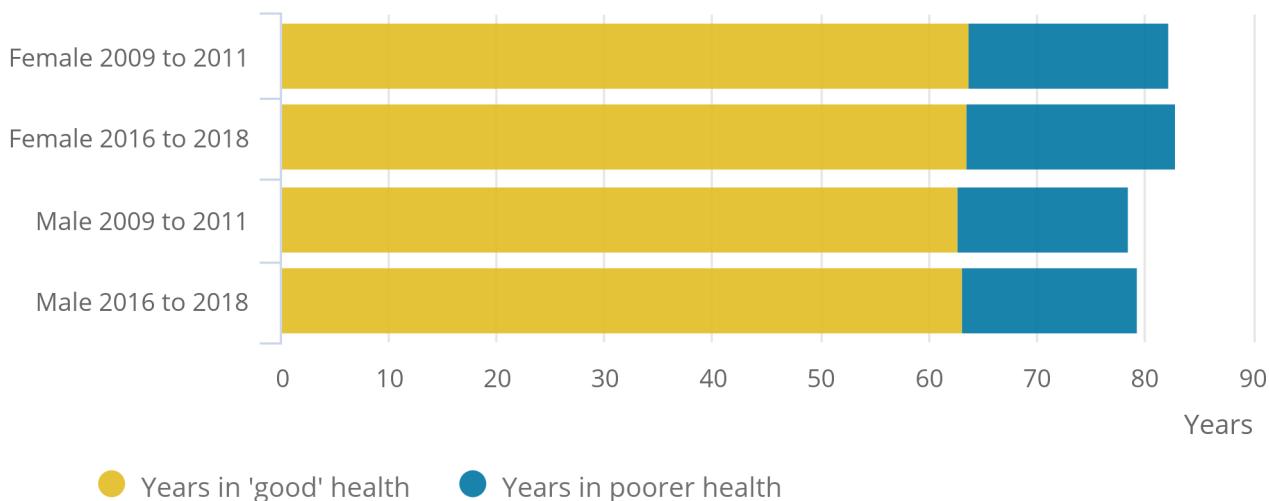
Because of these changes in life expectancy and healthy life expectancy, the proportion of life spent in good health in the UK has decreased, from 79.9% to 79.5% for males, and from 77.4% to 76.7% for females.

#### Figure 8: The years spent in poorer health has increased for both males and females in the UK

Healthy life expectancy, UK, between 2009 to 2011 and 2016 to 2018

#### Figure 8: The years spent in poorer health has increased for both males and females in the UK

Healthy life expectancy, UK, between 2009 to 2011 and 2016 to 2018



Source: Office for National Statistics

#### Notes:

1. Survey respondents who answered their general health as "very good" and "good" were classified as having good health. Those who answered "fair", "bad" and "very bad" were classified as having poorer health.

Although males in Scotland have the lowest life expectancy across the UK (77.1 years), the proportion of life spent in "good" health is higher at 80.3% than other countries of the UK.

In Wales, males also have a life expectancy that is lower than the UK at 78.3 years, but they can expect to spend a lower proportion of their lives in "good" health at 78.4%, dropping from 78.8% in 2009 to 2011.

In 2016 to 2018 females in England had the highest life expectancy of countries in the UK at 83.2 years and could expect to spend the highest proportion of their lives in good health (76.8%). This proportion dropped from 77.4% in 2009 to 2011. The proportion of life spent in good health for females dropped across all countries of the UK between 2009 to 2011 and 2016 to 2018.

Scotland and Northern Ireland showed the largest absolute reductions in the proportion of life females can expect to live in good health, falling to 76.7% and 75.0% respectively. This drop has moved Scotland from having the highest proportion in 2009 to 2011, to now being level with the UK average. Northern Ireland's decrease means that females there can now expect to live the lowest proportion of life in good health compared with the other countries of the UK. All figures on proportion of life spent in good health are available in accompanying datasets.

## **Disability free life expectancy at birth was highest in England in 2016 to 2018 for both males and females, and lowest in Wales**

Disability-free life expectancy (DFLE) is a summary measure of functional health status, estimating the number of years of life expected to be lived without activity restriction because of a physical or mental health condition.

In 2016 to 2018, male DFLE at birth was highest in England at 62.9 years, but males in Scotland could expect to spend the largest proportion of their lives disability-free at 79.5%. The lowest male DFLE at birth in 2016 to 2018 for constituent countries was in Wales at 59.9 years, where males could expect to spend the lowest proportion of life disability free (76.5%).

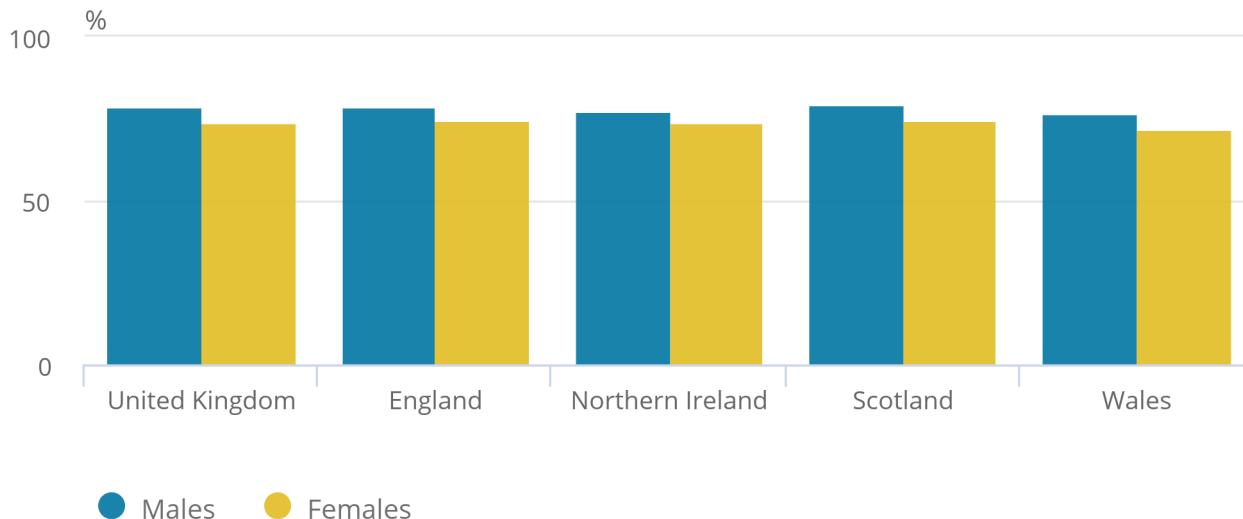
The pattern was similar for females in 2016 to 2018. DFLE at birth in England was highest at 61.9 years, and lowest in Wales at 59.3 years. Females in Scotland could expect to live the highest proportion of life disability-free at 74.9%, and females in Wales the lowest at 72.1%.

**Figure 9: Males and females in Scotland can expect to spend the highest proportion of life disability-free compared with other countries of the UK**

Disability-free life expectancy, UK and constituent countries, 2016 to 2018

Figure 9: Males and females in Scotland can expect to spend the highest proportion of life disability-free compared with other countries of the UK

Disability-free life expectancy, UK and constituent countries, 2016 to 2018



At age 65 years, healthy life expectancy (HLE) for males in 2016 to 2018 was highest in England at 10.6 years and lowest in Wales at 9.8 years. For females, HLE was highest in England at 11.1 years, and lowest in Northern Ireland at 10.0 years. Since 2009 to 2011 when the current series began, it is possible to compare whether healthy life years gained exceeded or fell short of life years gained. Figures 10a and 10b show the gain in weeks of healthy life expectancy at age 65 years compared with life expectancy by country and sex since 2009 to 2011.

**Figure 10a: Men at age 65 years in England and Wales saw larger increases in healthy life expectancy compared to life expectancy since 2009 to 2011**

Life expectancy and healthy life expectancy, UK and constituent countries, between 2009 to 2011 and 2016 to 2018

Figure 10a: Men at age 65 years in England and Wales saw larger increases in healthy life expectancy compared to life expectancy since 2009 to 2011

Life expectancy and healthy life expectancy, UK and constituent countries, between 2009 to 2011 and 2016 to 2018



Source: Office for National Statistics

Notes:

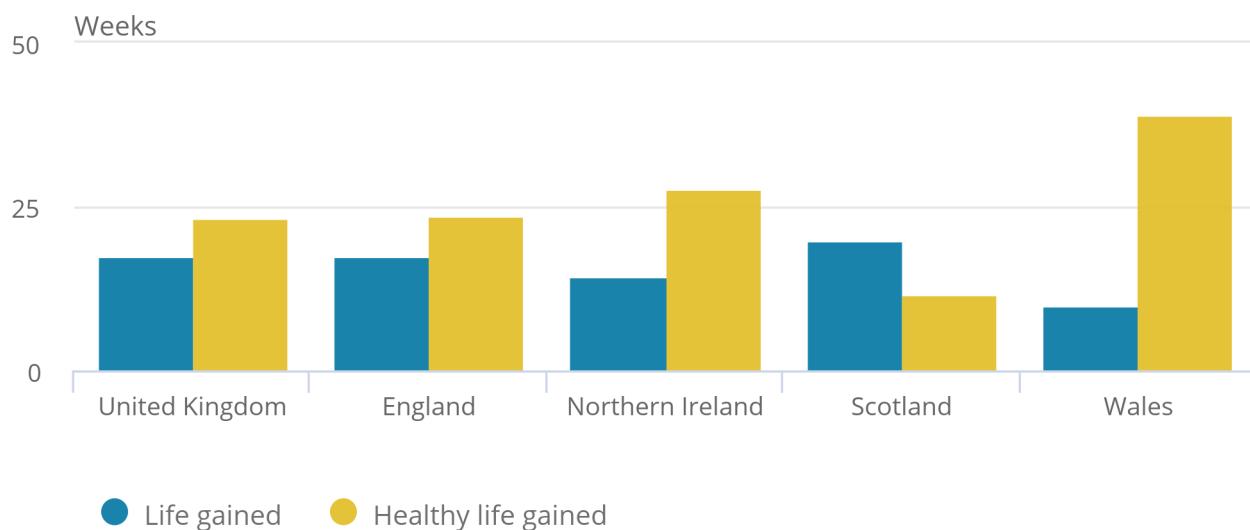
1. Gain in life expectancy in weeks was calculated by subtracting life expectancy at birth from 2013 to 2015 from 2016 to 2018 and multiplying by 52.1775.

**Figure 10b: Women at age 65 years in England, Wales and Northern Ireland saw larger increases in healthy life expectancy compared to life expectancy since 2009 to 2011**

Life expectancy and healthy life expectancy, UK and constituent countries, between 2009 to 2011 and 2016 to 2018

Figure 10b: Women at age 65 years in England, Wales and Northern Ireland saw larger increases in healthy life expectancy compared to life expectancy since 2009 to 2011

Life expectancy and healthy life expectancy, UK and constituent countries, between 2009 to 2011 and 2016 to 2018



Source: Office for National Statistics

Figure 10a shows that men aged 65 years in the UK (as well as in Wales and England) saw their years of healthy life growing faster than life expectancy. This means the years lived in “poorer states” of health from age 65 years has decreased for these countries. This was particularly noticeable in Wales where HLE was growing 80% faster than life expectancy. In Scotland and Northern Ireland, healthy life did not keep pace with life expectancy.

For females (Figure 10b), the growth in HLE at age 65 years in Wales was almost four times faster than life expectancy, and twice as fast in Northern Ireland, causing the years lived in poorer health at age 65 years to contract noticeably in these countries.

In 2016 to 2018, DFLE at age 65 years for males was highest in England at 9.9 years, and lowest in Wales at 8.6 years. In England and Scotland, males lived longer disability-free than with a disability, but in Wales and Northern Ireland this was reversed.

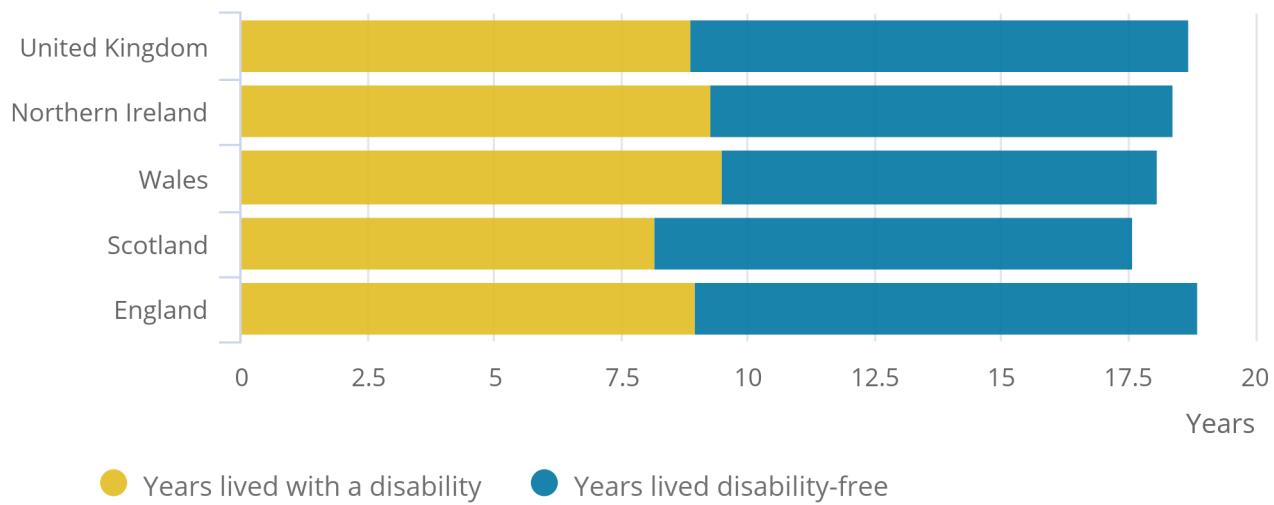
For females, DFLE was highest in England at 9.8 years and lowest in Wales at 8.6 years; in all countries, the years lived with a disability from age 65 years exceeded the years lived disability-free.

**Figure 11a: In 2016 to 2018, males aged 65 years in Northern Ireland and Wales could expect to live a higher number of years with a disability than disability-free**

Disability-free life expectancy, UK and constituent countries, 2016 to 2018

Figure 11a: In 2016 to 2018, males aged 65 years in Northern Ireland and Wales could expect to live a higher number of years with a disability than disability-free

Disability-free life expectancy, UK and constituent countries, 2016 to 2018



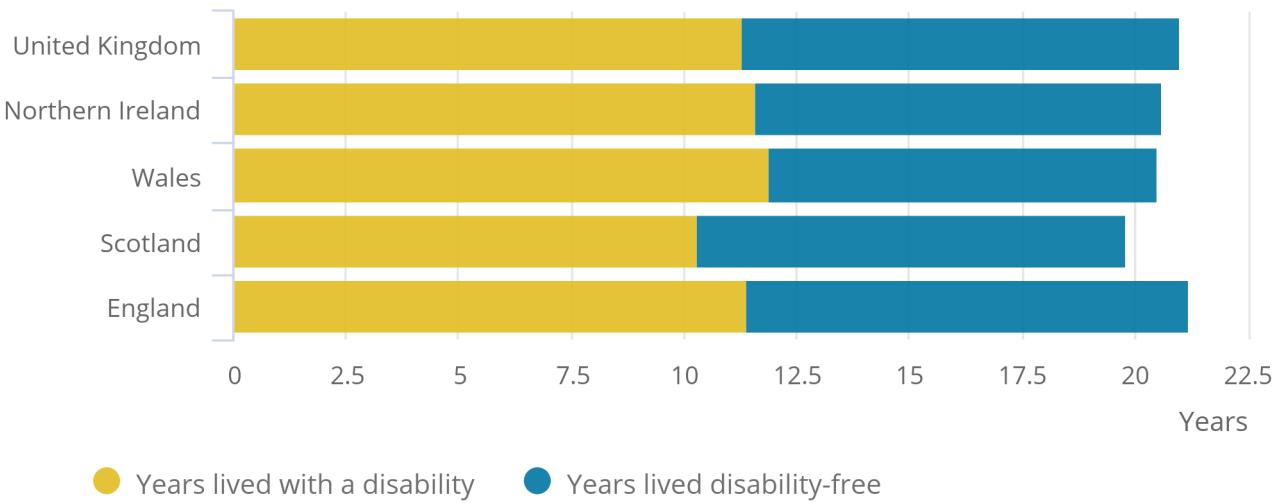
Source: Office for National Statistics

**Figure 11b: In 2016 to 2018, women aged 65 years in all countries of the UK were expected to live a higher number of years with a disability than disability-free**

Disability-free life expectancy, UK and constituent countries, 2016 to 2018

Figure 11b: In 2016 to 2018, women aged 65 years in all countries of the UK were expected to live a higher number of years with a disability than disability-free

Disability-free life expectancy, UK and constituent countries, 2016 to 2018



Source: Office for National Statistics

## 6 . Healthy life expectancy for local areas in the UK

**The gap in healthy life expectancy (HLE) at birth between local areas of the UK was 18.6 years for males and 19.1 years for females in 2016 to 2018**

In England in 2016 to 2018, the highest male healthy life expectancy (HLE) at birth was observed in Richmond-upon-Thames at 71.9 years, whereas in Scotland it was East Dunbartonshire at 69.7 years. In Wales, HLE was highest in Monmouthshire at 66.8 years and in Northern Ireland it was highest in Lisburn and Castlereagh at 68.4 years.

The local area gap for male HLE in England was 18.6 years in 2016 to 2018, in Northern Ireland it was 11.0 years, and in Scotland it was 13.6 years. Wales had the lowest gap between the highest and lowest local areas at 10.9 years.

For females, the lowest HLE at birth in the UK was observed in Nottingham at 54.2 years, and the highest in the Orkney Islands at 73.3 years. In England, the highest HLE was observed in Wokingham at 72.2 years. In terms of the local area gaps for female HLE, this was highest in England at 17.9 years and again, the lowest in Northern Ireland at 9.5 years. The gap between the area with the highest female HLE in Wales and the lowest was 12.5 years, and in Scotland this gap was 17.3 years in 2016 to 2018.

## **The local areas showing the largest increases in the HLE at birth of males and females since 2009 to 2011, were London boroughs**

To look at a longer time period for improvement in HLE, we have examined change in England only where estimates are available from 2009 to 2011 at a local level.

Between 2009 to 2011 and 2016 to 2018, males in Wandsworth had the highest improvement in HLE of 6.3 years, with HLE rising to 68.9 years in 2016 to 2018. The London borough of Islington was also observed to have a large gain in HLE of 5.8 years, rising to 62.6 years. This equates to a 10% increase for both areas. Of the eight local areas achieving a significant increase in HLE at birth, five were London boroughs, which concurs with the improvements in life expectancy observed in London during the second decade, outperforming other parts of the country.

There were significant falls in male HLE at birth in Stockton-on-Tees and Darlington, both falling by approximately 6%.

For females, the London borough of Southwark experienced the largest increase in HLE at birth of 12%, growing to 66.3 years in 2016 to 2018. Haringey also increased by 11%, and of the six local areas achieving a significant increase in HLE at birth, four were London boroughs.

In contrast, the London borough of Croydon had the largest decrease in female HLE at birth, reducing by 9% since 2009 to 2011, with HLE in the most recent period falling to 59.5 years. Hillingdon, Walsall, Nottingham and Southampton also experienced notable falls in female HLE at birth.

When looking at more recent trajectories involving increases in HLE at birth between 2013 to 2015 and 2016 to 2018, among males these predominantly occurred in areas where life expectancy is lower. For example, Liverpool is an area that is ranked as having the sixth lowest life expectancy across local authorities in England in 2016 to 2018, but it had the sixth highest increase in HLE across the UK. Males in Liverpool are now expected to spend 79% of their lives in good health, compared with just 75% in 2013 to 2015.

The accompanying data tables provide a time series, containing estimates of HLE at local area level.

Figure 12 illustrates healthy life expectancy at birth and at age 65 years by sex for upper tier local authorities in England from 2009 to 2011 and 2016 to 2018. This provides the opportunity to compare the improvement in healthy life expectancy at important ages against the national average over time.

### **Figure 12: Healthy life expectancy at birth and age 65 by sex, upper tier local authorities in England, 2009 to 2011 and 2016 to 2018**

## 7 . Health state life expectancy data

### [Average age at death - by sex, UK](#)

Dataset | Released 11 December 2019

Mean, median and modal ages at death in the UK and its constituent countries, 2001 to 2003 and 2016 to 2018.

### [Health and disability-free adjustment factor](#)

Dataset | Released 11 December 2019

The proportions used whilst estimating the good health and disability-free prevalence rates for health state life expectancies, UK.

### [Health and disability-free census prevalence](#)

Dataset | Released 11 December 2019

The census prevalence used whilst estimating the good health and disability-free prevalence rates for health state life expectancies, UK.

### [Health state life expectancy - all ages, UK](#)

Dataset | Released 11 December 2019

Pivot tables for health state life expectancy by sex and area type, divided by three-year intervals starting from 2009 to 2011.

### [Life expectancy estimates - all ages, UK](#)

Dataset | Released 11 December 2019

Pivot table for life expectancy by sex and area type, divided by three-year intervals starting from 2001 to 2003.

### [Health state life expectancy at birth and at age 65 years by local areas, UK](#)

Dataset | Released 11 December 2019

expectancy, healthy life expectancy and disability-free life expectancy - at birth and age 65 years by sex for local areas in the UK, 2016 to 2018.

### [Health state life expectancy estimates template](#)

Dataset | Released 11 December 2019

Template for creating life expectancy and health expectancies estimates.

### [Life expectancy at birth and at age 65 years by local areas, UK](#)

Dataset | Released 11 December 2019

Life expectancy at birth and at age 65 years by sex from 2001 to 2003 and 2016 to 2018.

## 8 . Glossary

### **Disability-free life expectancy**

An estimate of lifetime free from a limiting persistent illness which limits day-to-day activities: it is based upon a self-rated assessment of how health conditions and illnesses reduce an individual's ability to carry out day-to-day activities.

### **Health state life expectancy**

A generic term for summary measures of health that add a quality dimension to estimates of life expectancy by dividing expected lifespan into time spent in different states of health. In this release, health state life expectancy encompasses measures based on health-related well-being (healthy life expectancy) and functional health status (disability-free life expectancy).

## **Healthy life expectancy**

An estimate of lifetime spent in "very good" or "good" health, based on how individuals perceive their general health.

## **Period life expectancy**

The life expectancy estimates reported in this bulletin are period-based. Period life expectancy (LE) at a given age for an area is the average number of years a person would live, if he or she experienced the particular area's age-specific mortality rates for that time period throughout his or her life.

## **Statistical significance**

The term "significant" refers to statistically significant changes or differences. Significance has been determined using the 95% confidence intervals, where instances of non-overlapping confidence intervals between estimates indicate the difference is unlikely to have arisen from random fluctuation. In some circumstances significance has also been tested using z scores.

More information about this z-test can be viewed in Appendix 1 of the [Sullivan guide](#).

## **95% confidence intervals**

A measure of the uncertainty around a specific estimate. It is expected that the interval will contain the true value on 95 occasions if repeated 100 times. As intervals around estimates widen, the level of uncertainty about where the true value lies increases. The size of the interval around the estimate is strongly related to both the number of deaths, prevalence of health states as well as the size of the underlying population. At a national level the overall level of error will be small compared with the error associated with a local area or a specific age and sex breakdown. Therefore, the widths of the confidence intervals reported in this release will have sizable differences.

# **9 . Measuring the data**

This statistical bulletin presents estimates of life expectancy, healthy life expectancy and disability-free life expectancy for the UK, constituent countries, regions, and local government administrations including combined authorities and Welsh health boards.

## **Data sources**

Life expectancy uses death registrations data held by the Office for National Statistics, National Records Scotland, and the Northern Ireland Statistics and Research Agency which are compiled from information supplied when deaths are certified and registered as part of civil registration. Mid-year population estimates by age, sex and geographical area are used in combination with death registrations to calculate age-specific mortality rates used in life tables.

In addition, health state life expectancies use data collected as part of the Annual Population Survey (APS) and Census 2011 data. The [APS](#) is a continuous survey of households in the UK, containing annual data. Each [three-year pooled APS dataset \(PDF, 188.19KB\)](#) contains approximately 170,000 households and 320,000 individuals. The primary purpose of the APS is to provide estimates for labour market and socioeconomic analyses at subnational level. The APS is the recommended source of statistical information for analysis at unitary authority and local authority district level.

Health state prevalence rates are obtained from the three-year reweighted APS dataset, which are then used in healthy life expectancy and disability-free life expectancy calculations.

As the method requires imputation and modelling, Census 2011 data is used to produce imputation adjustment factors and census-based health state prevalence. These figures are made available with the datasets accompanying the release.

## Boundary changes

There were boundary changes in this release which had differential impacts for life expectancy and health state life expectancy.

For life expectancy, the county of Dorset has been abolished and is no longer a two-tier authority. A new unitary authority of Dorset has been created which contains all previous county districts apart from Christchurch. The former unitary authorities of Bournemouth and Poole have been joined together, and additionally includes the former county district of Christchurch to form a new unitary authority called Bournemouth, Christchurch and Poole.

The county districts of Suffolk Coastal and Waveney have been joined together to form the new county district of East Suffolk, while the county districts of Forest Heath and St. Edmundsbury have been joined to form the new county district of West Suffolk. The county districts of Taunton Deane and West Somerset have been joined to form the new county district of Somerset West and Taunton.

All estimates of life expectancy for these new boundaries have been rebased back to 2001 to 2003.

For health state life expectancy, the changes in Suffolk and Somerset have no impact as estimates are only provided at upper tier level. However, the changes in Dorset, Bournemouth, Christchurch and Poole do have an impact. Estimates for the new boundaries have been made available from 2014 to 2016. The boundary changes are shown in Table 5.

Table 5: Boundary changes in England affecting this release

<b>Old code</b>	<b>Old name</b>	<b>New code</b>	<b>New name</b>
<b>E06000028</b>	Bournemouth		E06000058 Bournemouth, Christchurch and Poole
<b>E06000029</b>	Poole		
<b>E07000048</b>	Christchurch		
<b>E07000049</b>	East Dorset		E06000059 Dorset
<b>E07000050</b>	North Dorset		
<b>E07000051</b>	Purbeck		
<b>E07000052</b>	West Dorset		
<b>E07000053</b>	Weymouth and Portland		
<b>E07000205</b>	Suffolk Coastal		E07000244 East Suffolk
<b>E07000206</b>	Waveney		
<b>E07000201</b>	Forest Heath		E07000245 West Suffolk
<b>E07000204</b>	St Edmundsbury		
<b>E07000190</b>	Taunton Deane		E07000246 Somerset West and Taunton
<b>E07000191</b>	West Somerset		

More quality and methodology information on strengths, limitations, appropriate uses, and how the data were created is available in the [Health State Life Expectancies QMI](#).

## Other estimates of sub-national health state life expectancies

Subnational life expectancy estimates for Scotland's council areas and Northern Ireland's local government districts have been calculated using the same method as for England and Wales. Responsibility for the production of other statistics for Scotland and Northern Ireland are with the [National Records Scotland \(NRS\)](#) and [Northern Ireland Statistics and Research Agency \(NISRA\)](#) respectively.

Subnational HLE and DFLE estimates for Wales, Scotland and Northern Ireland are also available:

- [Public Health Wales Observatory \(PHW\)](#)
- [Scottish Public Health Observatory \(ScotPHO\)](#)
- [Department of Health Northern Ireland](#)

## 10 . Strengths and limitations

### The strengths of the health state life expectancies release are:

- It provides coverage of UK local areas with estimates that are comparable with national and regional estimates.
- Health state life expectancies are estimated using the same sources of data, namely the Annual Population Survey (APS) and the 2011 Census.
- Estimates based on abridged life tables have been shown to closely align with those based on complete life tables.
- The mortality data used give complete population coverage and ensure the estimates are of high precision, and representative of the underlying population at risk.
- The provision of health state life expectancy summary measures provide a quality of life dimension to length of life, which is useful for assessing health and social care needs and fitness for work to changing state pension ages.

### The limitations of the health state life expectancies release are:

- The APS sample sizes for some local authority populations are small, leading to volatility in estimates and wide confidence intervals
- Survey data is not routinely collected for those aged under 16 years, and only sparsely for those aged 85 years and above, requiring imputation of prevalence for these age groups.
- Census 2011 based imputation adjustments and prevalence used in the modelling are temporal and therefore prone to change as they are applied further away from the census.
- The measures of health status are subjective self-reports and may be affected in their perception by demographic, cultural and socioeconomic factors

## 11 . Related links

### [Method changes to life and health state expectancies](#)

Methodology | Released 29 November 2016 Report outlining the changes to life expectancy, healthy life expectancy and disability-free life expectancy.

### [Proposed method changes to UK health state life expectancies](#)

Methodology | Released 7 December 2017

This report assesses three methods for future estimation of health state life expectancies and is consulting on these methods.

### [Health state life expectancies, UK: 2015 to 2017](#)

Statistical bulletin | Released 12 December 2018

The number of years people are expected to spend in different health states among local authority areas in the UK.

### [Health state life expectancies by national deprivation deciles, England and Wales: 2015 to 2017](#)

Statistical bulletin | Released 27 March 2019

Life expectancy and years expected to live in "good" health using national indices of deprivation to measure socioeconomic inequalities in England and Wales.

### [National life tables, UK: 2016 to 2018](#)

Statistical bulletin | Released 25 September 2019

Trends in the average number of years people will live beyond their current age measured by period life expectancy, analysed by age and sex for the UK and its constituent countries.

### [Life Expectancy in Northern Ireland 2016-18](#)

Statistical bulletin | Released 4 December 2019

report presents the latest official estimates of life expectancy for Northern Ireland, as well as healthy and disability-free life expectancy. This is a new, annual publication that is replacing the Health Inequalities - Life Expectancy Decomposition series.

### [Life Expectancy for Administrative Areas within Scotland 2015-2017](#)

Statistical release | Released 12 December 2018

Annual publication of life expectancy at birth estimates for administrative areas, including council areas, NHS board areas and Scottish Parliamentary constituencies.