

Statistical bulletin

# Life expectancy for local areas of the UK: between 2001 to 2003 and 2018 to 2020

Subnational trends in the average number of years people will live beyond their current age measured by “period life expectancy”.

Contact:  
Chris White and Michaela Rea  
health.data@ons.gov.uk  
+44 1633 455865

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# 1 . Main points

- We have been able to measure the impact of coronavirus (COVID-19) on regional trends in life expectancy by including 2020 death registrations; the [National Life Tables release](#) provides further information for countries in the UK using 2020 mortality data.
- Significant reductions in male life expectancy at birth occurred in England (7.8 weeks) and Scotland (11.0 weeks) in 2018 to 2020 compared with 2015 to 2017; in Wales, male and female life expectancy at birth saw non-significant reductions between the same periods.
- Inclusion of 2020 mortality data caused significant reductions in male life expectancy in 2018 to 2020 compared with 2015 to 2017 in most English regions.
- Large falls in male life expectancy at birth occurred in the North East (16.7 weeks) and Yorkshire and The Humber (16.2 weeks); for females it significantly reduced in the West Midlands (9.9 weeks), but significantly increased in the South West (17.7 weeks).
- The continued improvement in life expectancy observed in the South West coincides with lower excess deaths and lower mortality involving COVID-19, compared with other regions of England.
- A significant reduction in male life expectancy occurred in Hertsmere (1.9 years), but a significant increase occurred in Westminster (2.1 years); for females a significant reduction occurred in Derby (1.1 years), but a significant increase occurred in Kensington and Chelsea (1.7 years).

## 2 . Summary of life expectancy estimates: 2018 to 2020

This bulletin updates estimates to cover the period 2018 to 2020. It will focus on life expectancy at birth, and all mention of life expectancy is at birth. Life expectancy at other ages can be found in the [data tables accompanying this release](#).

Table 1: Summary statistics of life expectancy at birth in 2018 to 2020 and changes since 2015 to 2017 for UK countries and England's regions

| At birth | Males                    |   |   |        | Females |   |   |        |      |
|----------|--------------------------|---|---|--------|---------|---|---|--------|------|
|          | Country or region        | Life expectancy in 2018 to 2020 (years) | Life expectancy in 2015 to 2017 (years) | Change |         | Life expectancy in 2018 to 2020 (years) | Life expectancy in 2015 to 2017 (years) | Change |      |
| Months   |                          |   |   | Weeks  | Months  |   |   | Weeks  |      |
|          | North East               | 77.6                                    | † 77.9                                  | -3.8   | -16.7   | 81.5                                    | 81.6                                    | -1.0   | -4.2 |
|          | North West               | 77.9                                    | † 78.2                                  | -3.0   | -13.0   | 81.7                                    | 81.8                                    | -0.4   | -1.6 |
|          | Yorkshire and the Humber | 78.3                                    | † 78.7                                  | -3.7   | -16.2   | 82.2                                    | 82.4                                    | -1.9   | -8.3 |
|          | East Midlands            | 79.2                                    | † 79.4                                  | -2.5   | -11.0   | 82.7                                    | 82.9                                    | -1.6   | -6.8 |
|          | West Midlands            | 78.5                                    | † 78.8                                  | -3.1   | -13.6   | 82.5                                    | † 82.7                                  | -2.3   | -9.9 |
|          | East of England          | 80.2                                    | † 80.4                                  | -2.0   | -8.9    | 83.8                                    | 83.7                                    | 1.3    | 5.7  |
|          | London                   | 80.3                                    | † 80.5                                  | -2.0   | -8.9    | 84.3                                    | 84.3                                    | 0.1    | 0.5  |
|          | South East               | 80.6                                    | 80.6                                    | 0.2    | 1.0     | 84.1                                    | 84.0                                    | 1.4    | 6.3  |
|          | South West               | 80.3                                    | 80.2                                    | 1.3    | 5.7     | 84.1                                    | * 83.7                                  | 4.1    | 17.7 |
|          | England                  | 79.4                                    | † 79.6                                  | -1.8   | -7.8    | 83.1                                    | 83.1                                    | 0.1    | 0.5  |
|          | Northern Ireland         | 78.7                                    | 78.5                                    | 2.6    | 11.5    | 82.4                                    | 82.3                                    | 1.0    | 4.2  |
|          | Scotland                 | 76.8                                    | † 77.0                                  | -2.5   | -11.0   | 81.0                                    | 81.1                                    | -1.2   | -5.2 |
|          | Wales                    | 78.3                                    | 78.3                                    | -0.2   | -1.0    | 82.1                                    | 82.2                                    | -2.3   | -9.9 |

Source: Office for National Statistics

#### Notes

1. Deaths of non-residents are excluded for England, Wales and Northern Ireland but are included for Scotland.
2. Figures are based on deaths registered in each calendar year.
3. \* denotes areas where life expectancy increased significantly from 2015 to 2017 based on non-overlapping confidence intervals; dagger denotes areas where life expectancy decreased significantly.
4. Changes in weeks and months based on life expectancy figures to two decimal places.
5. Northern Ireland 2020 mortality data is provisional.

For the most recent changes in life expectancy mentioned throughout this release, we have compared the years 2015 to 2017 and 2018 to 2020, as these are the latest non-overlapping periods that life expectancies have been estimated for.

### 3 . Constituent country and England's regions comparisons

At national level, male life expectancy between 2018 and 2020 was highest in England (79.4 years) and lowest in Scotland (76.8 years). Within England, sizable regional differences are present (Table 1), including a three-year gap between the North East (77.6 years) and the South East (80.6 years).

For females, country and regional differences were smaller; the pattern mirrored that for males. Between countries it was highest in England (83.1 years) and lowest in Scotland (81.0 years); between regions it was higher in the south and lower in the north and the East and West Midlands.

#### **Figure 1: Male and female life expectancy for UK countries and most regions in England was lower in 2018 and 2020 compared with 2017 and 2019**

Life expectancy at birth by sex across UK countries and regions in England, 2001 to 2003 up to 2018 to 2020

#### **Notes:**

1. Axis does not start at 0.

[Download the data](#)

## 4 . Change between 2015 to 2017 and 2018 to 2020

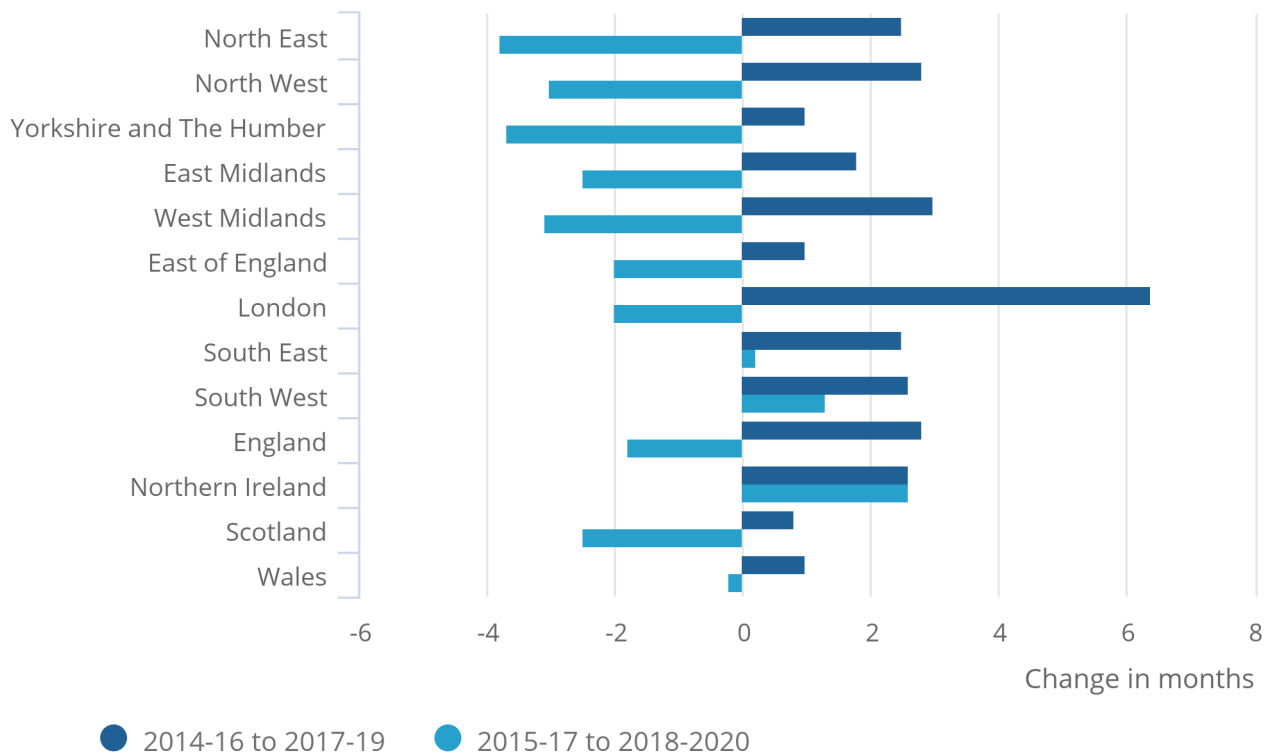
Inclusion of 2020 mortality data, containing deaths involving coronavirus (COVID-19), disrupted an improving trend in male life expectancy observed in 2017 to 2019 compared with 2014 to 2016. However, in 2018 to 2020 it significantly decreased in England (by 1.8 months) and Scotland (by 2.5 months) compared with 2015 to 2017 (Figure 2).

**Figure 2: England, Scotland and most of England's regions had significant reductions in male life expectancy in 2018 to 2020 compared with 2015 and 2017, in contrast with the previous comparison period**

Change in male life expectancy at birth between two non-overlapping time intervals, UK countries and regions in England

Figure 2: England, Scotland and most of England's regions had significant reductions in male life expectancy in 2018 to 2020 compared with 2015 and 2017, in contrast with the previous comparison period

Change in male life expectancy at birth between two non-overlapping time intervals, UK countries and regions in England



Source: Office for National Statistics – Life expectancy for local areas of the UK

Notes:

1. Change in months is calculated as the change in years multiplied by 12.
2. For other notes see table 1, notes 1, 2, 4 and 5.

Male life expectancy in 2018 to 2020 saw significant decreases of two months in London and the East of England, highlighting the influence of 2020 mortality data (Figure 2). The North East and Yorkshire and The Humber saw the largest decreases of almost four months.

In contrast, the South West observed a small increase, although this was not significant.

At national level, Scotland had the largest reduction in life expectancy of 2.5 months. However, Northern Ireland had a commensurate improvement to the previous non-overlapping time period.

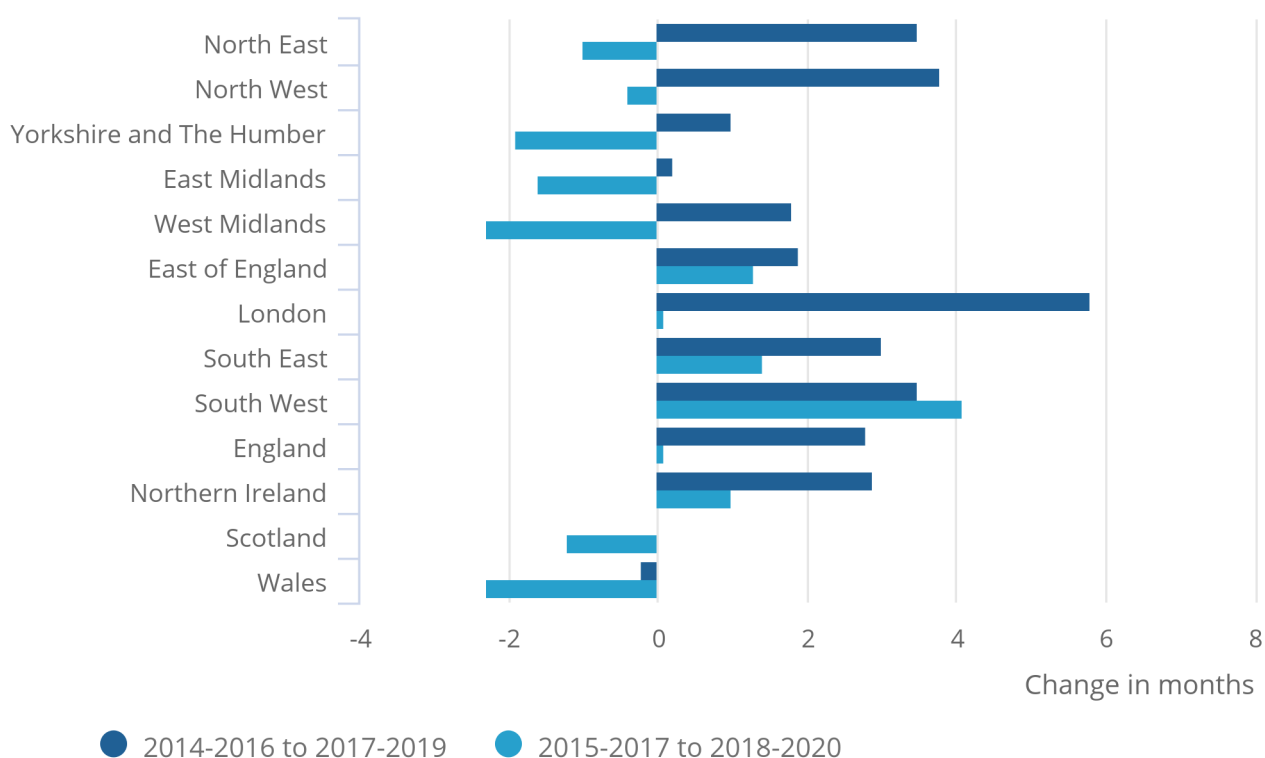
For females, changes were more mixed. Increases in life expectancy were observed across all regions in 2017 to 2019 compared with 2014 to 2016, five of which were significant. However, in 2018 to 2020 the five regions of the north and the East and West Midlands experienced decreases compared with 2015 to 2017; the fall significant in the West Midlands (2.3 months). The four regions of the south saw increases, with a significant improvement in the South West (Figure 3).

**Figure 3: The South West continued to show a significant increase in female life expectancy; the West Midlands experienced a statistically significant reduction of 2.3 months**

Change in female life expectancy at birth between two non-overlapping time intervals, UK countries and regions in England

Figure 3: The South West continued to show a significant increase in female life expectancy; the West Midlands experienced a statistically significant reduction of 2.3 months

Change in female life expectancy at birth between two non-overlapping time intervals, UK countries and regions in England



Source: Office for National Statistics – Life expectancy for local areas of the UK

Notes:

1. See figure 3 and table 1 notes 1, 2, 4 and 5.

A reason that England's regions fared differently in the latest non-overlapping time period was the result of COVID-19 mortality during 2020. [Deaths due to COVID-19 by English region and Welsh health board](#) shows that the South West region had lower male and female COVID-19 age-standardised mortality rates, compared with other regions during 2020, while London had substantially higher rates during the first peak of the pandemic in April 2020. The COVID-19 influence was greater for males, which is reflected in the larger number of significant decreases in male life expectancy that we report.

In addition, the difference in the number of deaths in 2020 compared with the five-year average were greater in regions that had significant falls in life expectancy. You can find out more about this difference in number of deaths in our [Excess deaths in England and Wales, 2020 dataset](#). The South West had fewer excess deaths and a smaller proportion of its total number of deaths that involved COVID-19 than other regions in England (Figure 4). You can find out more about deaths involving COVID-19 in our [Deaths due to COVID-19, registered in England and Wales: 2020 dataset](#).

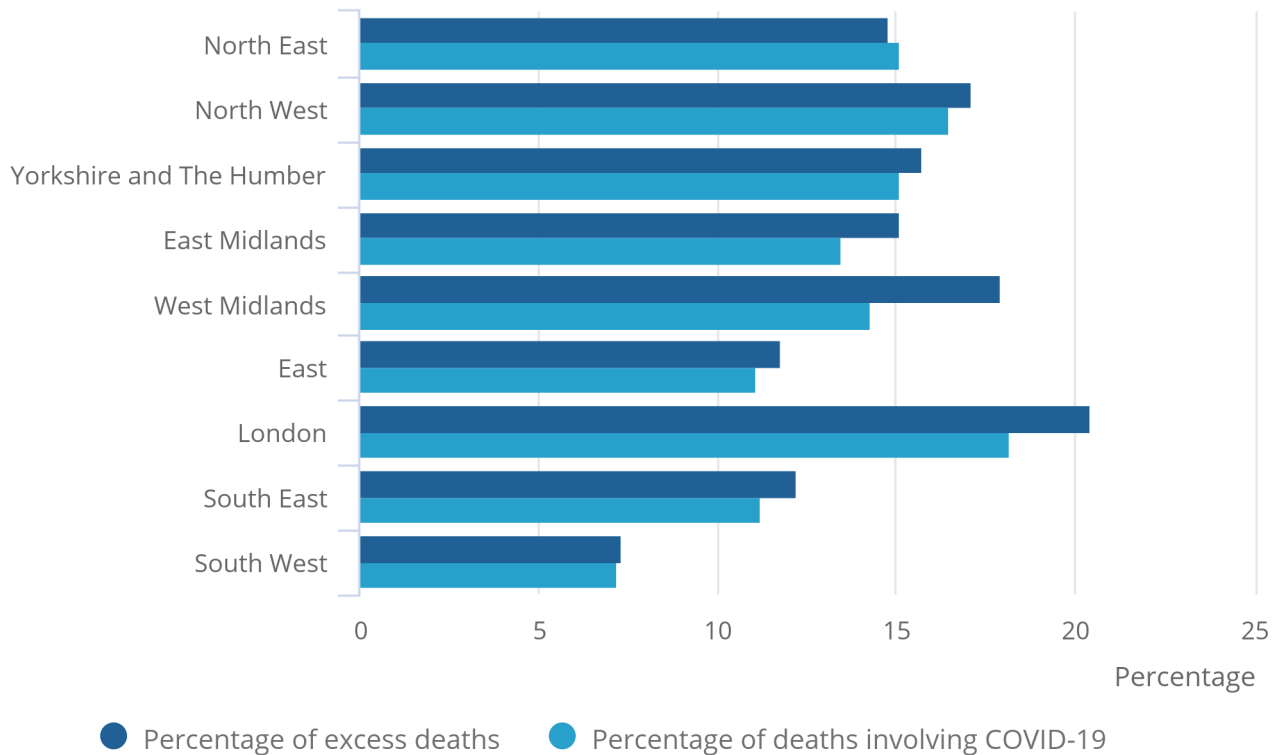


**Figure 4. The South West had substantially fewer excess deaths and a smaller percentage of deaths involving COVID-19 than other regions**

Percentage difference in deaths during 2020 compared with the five-year average (2015 to 2019) and a region's percentage of deaths which involved COVID-19: England 2020

Figure 4. The South West had substantially fewer excess deaths and a smaller percentage of deaths involving COVID-19 than other regions

Percentage difference in deaths during 2020 compared with the five-year average (2015 to 2019) and a region's percentage of deaths which involved COVID-19: England 2020



Source: Office for National Statistics

Notes:

1. [Proportion of deaths involving COVID-19 derived from the publication Deaths due to COVID-19, registered in England and Wales: 2020.](#)
2. [Percentage of excess deaths based on the difference between the five-year average and observed death registrations in 2020.](#)
3. Deaths of non-residents are excluded.

It is important to note that while the coronavirus pandemic disrupted a largely improving trend in life expectancy, it does not necessarily mean a baby born between 2018 and 2020 will go on to live a shorter life. It is possible that life expectancy will return to an improving outlook in the future once the consequences of the pandemic for mortality trends have been appraised.

## 5 . Life expectancy at local level

There were falls in male life expectancy in more than half of local areas, nine of which were significant (Table 2).

Table 2. Local areas having significant changes in life expectancy in 2018 to 2020 compared with 2015 and 2017, by sex: England and Wales

| Males           |                 | Females                |                 |
|-----------------|-----------------|------------------------|-----------------|
| Local Authority | Change (months) | Local Authority        | Change (months) |
| Westminster     | 24.8            | Kensington and Chelsea | 19.9            |
| Sheffield       | -7.7            | Cambridge              | 16.6            |
| Ealing          | -11.9           | North Somerset         | 12.1            |
| Sandwell        | -12.1           | Stoke-on-Trent         | -12.7           |
| Barnsley        | -12.2           | North Kesteven         | -12.8           |
| Hillingdon      | -13.7           | Derby                  | -13.7           |
| South Tyneside  | -15.1           |                        |                 |
| Broxbourne      | -18.8           |                        |                 |
| South Lakeland  | -22.6           |                        |                 |
| Hertsmere       | -23.0           |                        |                 |

Source: Office for National Statistics – Life expectancy for local areas of the UK

Those local authorities having an improvement in life expectancy between 2014 to 2016 and 2017 to 2019, such as Tower Hamlets, mostly continued to improve in 2018 to 2020, but by a smaller amount; many of those that had fallen in the earlier comparison periods, such as North Kesteven, also fell in the latest comparison period.

Gaps in male life expectancy between local areas in the UK grew from 10.0 years in 2015 to 2017 to 11.6 years in 2018 to 2020; for females, it grew from 7.8 years to 9.6 years.

Life expectancy estimates for local areas are available in the [data tables accompanying this release](#) and in the dynamic interactive tool (Figure 5).

**Figure 5: Life expectancy at birth and aged 65 years by sex across local areas in the UK, between 2001 and 2003, and between 2018 and 2020**

[Download the data](#)

## 6 . Life expectancy for local areas of the UK data

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

Dataset | Released 23 September 2021

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

## 7 . Glossary

## Period life expectancy

The life expectancy estimates reported in this bulletin are period-based. Period life expectancy 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.

## 95% confidence intervals

A confidence interval is a measure of the uncertainty around a specific estimate. As intervals around estimates widen, the level of uncertainty about where the true value lies increases. 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.

## 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.

# 8 . Measuring the data

This statistical bulletin presents estimates of life expectancy (the number of years people are expected to live) for the UK's constituent countries, regions, local government administrations including combined authorities and Welsh health boards.

Please note, this release is calculated based on death registrations in the period 2018 to 2020, which includes the first wave and part of the second wave of the coronavirus (COVID-19) pandemic.

All constituent country estimates used in this bulletin are calculated using an abridged life table; this is to be consistent with local area estimates and to allow more valid local area benchmarking with national estimates. These national estimates will differ slightly from the [national life tables release](#) also published 23 September 2021, which uses a "complete" life table approach. For further details, see the article [Life expectancy releases and their different uses](#).

## Data sources

Life expectancy uses death registrations data held by the Office for National Statistics (ONS), which are compiled from information supplied when deaths are certified and registered as part of civil registration. Death registration data for Scotland and Northern Ireland are provided by the [National Records of Scotland \(NRS\)](#) and the [Northern Ireland Statistics and Research Agency \(NISRA\)](#) respectively. Mid-year population estimates are used in combination with death registrations to calculate mortality rates used in life tables.

## Method for estimating life expectancy

The life expectancy estimates reported in this bulletin are period-based life expectancies, estimated using an abridged life table. A [Health state life expectancy estimates template](#) is available, which shows how the abridged life table is deployed to derive life expectancy estimates.

Abridged life tables are used in preference to complete life tables for smaller populations, because death counts can be too sparse for examining mortality for single years of age. These tables are also used because mid-year population estimates are not available or sufficiently reliable to produce these by single year of age.

## Early access for quality assurance purposes

We provide early access for quality assurance purposes to a small number of external bodies including Public Health England, Department of Social Care, Welsh Government, National Records of Scotland, Department of Health Northern Ireland and Public Health Wales. ONS independently produces these statistics and ultimately determines the focus, content, commentary, illustration and interpretation.

More quality and methodology information is available in the [Health state life expectancies, UK QMI](#).

## 9 . Strengths and limitations

The strengths of the release are that:

- it covers all UK local areas and estimates are comparable with countries and regions
- the estimates using abridged life tables align closely with those based on complete life tables
- the mortality data used has complete population coverage; estimates have high precision and representative of the underlying population at risk

The limitation of the release is that it is necessary to pool data over three calendar years to enable sufficiently reliable and accurate measurement of life expectancy for local areas. The scope to measure significant change in an optimally timely manner is reduced because of reliance on non-overlapping time periods.

## 10 . Related links

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

Methodology article | Released 7 December 2017

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

### [Health state life expectancies, UK: 2017 to 2019](#)

Statistical bulletin | Released 25 January 2021

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: 2017 to 2019](#)

Statistical bulletin | Released 22 March 2021

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

### [National life tables – life expectancy in the UK: 2018 to 2020](#)

Statistical bulletin | Released 23 September 2021

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

### [Life expectancy in Northern Ireland: 2017 to 2019](#)

Publication | Released 4 February 2021

Latest official estimates of life expectancy for Northern Ireland as well as healthy and disability-free life expectancy on Northern Ireland's Department of Health website. This is a new, annual publication that is replacing the "Health Inequalities – Life Expectancy Decomposition" series.

### [Data Tables for Life Expectancy in Scotland, 2017 to 2019](#)

Data tables | Released 24 September 2020

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