

Statistical bulletin

Health state life expectancies in England, Northern Ireland and Wales: between 2011 to 2013 and 2020 to 2022

The number of years people are expected to spend in different health states in England, Northern Ireland and Wales, and English regions.



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1 . Main points

- Healthy life expectancy (HLE) at birth, in 2020 to 2022, was highest in England (62.4 years for males, 62.7 years for females) and lowest in Wales (61.1 years for males, 60.3 years for females).
- In both England and Wales, HLE at birth in 2020 to 2022 decreased for both males and females compared with 2011 to 2013, when our time series began; in Northern Ireland, it increased for males, but decreased for females.
- In England, Northern Ireland and Wales in 2020 to 2022, females at birth are expected to live in "good health" for a smaller proportion of life (by 1.2, 1.5 and 1.9 percentage points for each country, respectively), compared with 2011 to 2013; for males, changes were smaller than 1 percentage point.
- Disability-free life expectancy (DFLE) at age 65 years, in 2020 to 2022, was highest in England (10.5 years for males, 10.7 years for females) and lowest in Northern Ireland (9.3 years for both males and females).
- In both England and Wales, DFLE at age 65 years in 2020 to 2022 was higher for both males and females compared with 2014 to 2016, when our time series began; in Northern Ireland, it was higher for males, but was lower for females.
- Within England, in 2020 to 2022, both HLE at birth and DFLE at age 65 years were highest in the South East and lowest in the North East for each sex.

2 . Healthy life expectancy

Subnational reporting in this release, which covers 2019 to 2021 and 2020 to 2022, is restricted to English regions; other local area types are not included because of quality concerns.

The coronavirus (COVID-19) pandemic had a significant impact on the data collection for the Annual Population Survey. Because of the reduced sample size, subnational estimates cannot be provided at geographies smaller than regions. We are prioritising the development of an updated methodology to calculate subnational estimates on health state life expectancies for future publications.

We are currently reviewing the content we publish as part of the [joint health and social care statistics consultation](#), which closed on 5 March 2024 and while we analyse feedback the length of this release has been shortened to a headline bulletin.

The Office for National Statistics (ONS) has previously reported [generally falling life expectancy between 2011 to 2013 and 2020 to 2022](#), which affects health state life expectancies. This context should be considered when interpreting the following figures. More information about [the drivers of healthy life expectancy](#) is available.

Figure 1: Healthy life expectancy at birth decreased in most English regions for males, and in all regions for females, in 2020 to 2022 compared with 2011 to 2013

Healthy life expectancy (HLE) at birth by sex in England, Northern Ireland, Wales, and English regions, between 2011 to 2013 and 2020 to 2022

Notes:

1. 'Period ending' is three-year period ending in calendar year.
2. LCI refers to lower limit of confidence interval; UCI refers to upper limit of confidence interval.

Healthy life expectancy (HLE) at birth in England in 2020 to 2022 was 9.3 months lower than in 2011 to 2013 for males and 14.0 months lower for females. Because minimal change was seen up to 2017 to 2019, it is likely the coronavirus (COVID-19) pandemic contributed to this decrease.

In Wales, the pattern was similar for females, who had a small increase (2.1 months) up to 2017 to 2019 but a large decrease (22.6 months) up to 2020 to 2022. For males, most of the decrease up to 2020 to 2022 (6.9 months) had already occurred up to 2017 to 2019 (4.7 months).

Similarly, a contrasting pattern between males and females was seen in Northern Ireland. Males had an increase of 12.2 months up to 2020 to 2022, including 8.8 months up to 2017 to 2019. The opposite trend was seen for females, who had a decrease of 15.3 months up to 2020 to 2022, of which 6.6 months were lost up to 2017 to 2019.

In England, eight of the nine regions had a decrease among males in 2020 to 2022 compared with 2011 to 2013, with the largest decrease in the North East (20.3 months) and the only increase in London (6.9 months); for females, all nine regions had a decrease, with the largest in the East Midlands (31.8 months). Again, many of these decreases were worsened since the onset of the pandemic.

3 . Disability-free life expectancy

In contrast to healthy life expectancy at birth, disability-free life expectancy (DFLE) at age 65 years in 2020 to 2022 has generally increased since 2014 to 2016.

In England, males and females both had increases of 4.4 months, and in Wales, they had increases of 6.8 and 1.5 months, respectively. In Northern Ireland, males had an increase of 7.4 months but females had a decrease of 5.4 months. All of this decrease for females was seen up to 2017 to 2019, with minimal change since.

Figure 2: Disability-free life expectancy at age 65 years increased in most English regions for both males and females, in 2020 to 2022 compared with 2014 to 2016

Disability-free life expectancy (DFLE) at age 65 years by sex in England, Northern Ireland, Wales, and English regions, between 2014 to 2016 and 2020 to 2022

Notes:

1. 'Period ending' is three-year period ending in calendar year.
2. LCI refers to lower limit of confidence interval; UCI refers to upper limit of confidence interval.

In England, seven of the nine regions had an increase among males in 2020 to 2022 compared with 2014 to 2016, and five had an increase for females; for both sexes, the largest increase was in the East of England (12.3 months for males, 18.2 months for females). This improvement, however, was disrupted since 2017 to 2019, before which all nine regions had increases for males, as well as seven of nine for females.

In England, Northern Ireland and Wales in 2020 to 2022, males at age 65 years are expected to live without disability for a greater proportion of life (by 2.9, 3.4 and 3.6 percentage points in each country, respectively) compared with 2014 to 2016. For females, the pattern was similar in England and Wales (increases of 2.2 and 1.3 percentage points, respectively) but different in Northern Ireland (a decrease of 2.0 percentage points). The increases can generally be attributed to decreases in life expectancy with concurrent increases in DFLE.

4 . Health state life expectancies data

[Health and disability free adjustment factor](#)

Dataset | Released 26 March 2024

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

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

Dataset | Released 26 March 2024

The interpolated census prevalence used while estimating the good health and disability-free prevalence rates for health state life expectancies.

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

Dataset | Released 26 March 2024

Health state life expectancy in England, Northern Ireland, Wales and English regions by sex, divided by three-year intervals starting from 2011 to 2013.

[Health state life expectancy estimates template](#)

Dataset | Released 26 March 2024

Template for creating life expectancy and health state life expectancy estimates.

5 . 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 they experienced the area's age-specific mortality rates for that time-period, throughout their lives. More information can be found in our [Period and cohort life expectancy explained methodology](#).

Health state life expectancies

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 expectancies include 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.

Disability-free life expectancy

An estimate of lifetime free from a limiting persistent illness that 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. Day-to-day activities include:

- washing and dressing
- household cleaning
- cooking
- shopping for essentials
- using public or private transport
- walking a defined distance and climbing stairs
- remembering to pay bills
- lifting objects from the ground or a work surface in a kitchen
- other moderate manual tasks such as gardening, and gripping objects such as cutlery

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. At a national level, the overall level of error will be small compared with the error associated with a lower geographical level.

Time series

"Time series" refers to a series of data points listed in chronological order. In this release, the healthy life expectancy time series refers to all data points back to 2011 to 2013, and the disability-free life expectancy time series refers to all data points back to 2014 to 2016.

6 . Measuring the data

Data sources

Life expectancy uses death registrations data held by the Office for National Statistics (ONS). 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 \(APS\) \(PDF, 689KB\)](#) and data from the 2011 Census and 2021 Census.

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

As the method requires imputation and modelling, data from the 2011 Census and 2021 Census are used to produce imputation adjustment factors and census-based health state prevalence. These figures are made available with the datasets accompanying the release.

This release uses [rebased population estimates](#) aligned with Census 2021 for estimates from 2011 to 2013 onwards and therefore provides updates to previously published estimates of health state life expectancies.

Method for estimating life expectancy

The health state life expectancies estimates reported in this bulletin are period-based and estimated using a [Sullivan life table \(PDF, 928KB\)](#). A [Health state life expectancy estimates template](#) is available, which shows how the Sullivan life table is used to derive these 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.

Quality

Early access for quality assurance purposes

We provide early access for quality assurance purposes to a small number of external bodies including the Office for Health Improvements and Disparities (OHID), the Department of Health and Social Care, Welsh Government, the Northern Ireland Research and Development Agency, and Public Health Wales. The recipients are not permitted to share the findings or the report wider within their organisations or to external organisations.

More quality and methodology information (QMI) is available in the [Health State Life Expectancies, UK QMI: 2020 to 2022](#).

Estimates at subnational level

This release excludes estimates at local area level, including upper tier local authorities, Metropolitan counties, combined authorities and Welsh health boards. This is because of quality concerns on health state life expectancies estimates for small areas because of [decreasing sample sizes of the Annual Population Survey](#) (APS), especially during the coronavirus (COVID-19) pandemic, which covers the timeframes of this release.

Although the APS is regularly used to produce a range of statistical measures applicable to local authorities, health state life expectancy (HSLE) calculations require fine disaggregation of data by age, sex and health status, which is associated with very small samples for a sizeable number of local authorities. However, estimates at national and regional level are not affected because of larger sample sizes. We are prioritising updating methods to produce HSLE at local area levels.

7 . Strengths and limitations

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

- it covers England, Northern Ireland and Wales, and English region estimates that are comparable across areas
- data for Scotland will be added once Scotland Census 2022 populations are available
- the estimates using abridged life tables align closely with those based on complete life tables
- the mortality data used have complete population coverage; estimates have high precision and are representative of the underlying population at risk
- it provides 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 that:

- this release does not contain estimates below regional level, because of declining APS sample sizes that lead to volatile estimates for some local authority populations
- survey data are not routinely collected for those aged under 16 years, and only sparsely for those aged 85 years and over, requiring imputation of prevalence, adjusted using census data, for these age groups
- the measures of health status are subjective self-reports

8 . Related links

[National life tables - life expectancy in the UK: 2020 to 2022](#)

Statistical bulletin | Released 11 January 2024

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 for local areas in England, Northern Ireland and Wales: between 2001 to 2003 and 2020 to 2022](#)

Statistical bulletin | Released 26 January 2024

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

[Life expectancy in Northern Ireland: 2020 to 2022](#)

Publication | Released 6 December 2023

Latest estimates of life expectancy, healthy life expectancy and disability-free life expectancy for Northern Ireland.

[Life expectancy in Scotland: 2020 to 2022, provisional](#)

Publication | Released 26 September 2023

The latest statistics on life expectancy in Scotland, council areas, health boards and other areas.

[Health expectancies in Wales with the inequality gap](#)

Publication | Released 9 June 2022

The latest statistics on life expectancy and healthy life expectancy in Wales, including analysis of the inequality gap.

[Deaths registered in England and Wales: 2022](#)

Statistical bulletin | Released 15 December 2023

Registered deaths by age, sex, selected underlying causes of death and the leading causes of death. Contains death rates and death registrations by area of residence and single year of age.

[Rebasing of mid-year population estimates following Census 2021, England and Wales](#)

Statistical bulletin | Released 23 November 2023

Rebased mid-year estimates for 2012 to 2021 to align with Census 2021 results. Includes a revised back series of components of population change.

9 . Cite this statistical bulletin

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