

Guide to: Life expectancy in the United Kingdom

What is life expectancy?

Life expectancy (e_x) is the number of years that a person can expect to live, on average, in a given population.

The Office for National Statistics (ONS) produces life expectancy statistics for the United Kingdom using different methods, and in a variety of formats. This guide provides a summary of the statistics which are available and where you can find them. They can all be accessed free of charge on the ONS website.

National life expectancy

[Decennial life tables](#)

Published once every ten years, decennial life tables are associated with the decennial population censuses, beginning with the census of 1841. Life expectancy figures are presented in three-year periods around each census year (where possible). A three-year period is normally of sufficient length to smooth out most of the effect if the mortality of the census year happens to be unusual.

Decennial life tables show the increasing longevity of the population over time and they can be compared with the experience of other countries and populations.

The latest edition ([English Life Tables No. 16](#)) is based on the mortality experience of the England and Wales population during the years 2000, 2001 and 2002. A [methodology](#) document which describes the calculations is available on the ONS website.

The [latest decennial life tables for each of the UK's constituent countries](#) are also available in separate Microsoft Excel reference tables.

[Interim life tables](#)

Interim life tables are produced annually for the United Kingdom, Great Britain, England and Wales, England, Wales, Scotland, and Northern Ireland. The tables provide period life expectancy for males and females by single year of age (0 to 100), for three-year rolling periods from 1980–82 onwards. The tables are available in separate Microsoft Excel reference tables for each country. The tables also contain information on the notation and methodology used to calculate the tables.

Interim life tables can be used to find the average life expectancy at a particular age and period in time. For example, to find the life expectancy of males and females aged 18 years living in the United Kingdom during the 2008–10 period, see the screenshot below.

The tables show that males and females aged 18 can expect to live a further 60.63 years and 64.63 years respectively if the mortality rates during 2008–10 were experienced for the rest of their lives (but mortality rates are projected to improve in the future, so they will probably live longer).

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Interim Life Tables, United Kingdom										Back to contents		
2													
3	Period expectation of life										Office for National Statistics		
4	Based on data for the years 2008-2010												
5													
6	Age	Males					Females						
7	x	m_x	q_x	l_x	d_x	e_x	m_x	q_x	l_x	d_x	e_x		
8	0	0.005006	0.004993	100000.0	499.3	78.05	0.004152	0.004143	100000.0	414.3	82.12		
9	1	0.000335	0.000335	99500.7	33.4	77.44	0.000292	0.000292	99585.7	29.1	81.46		
10	2	0.000189	0.000189	99467.3	18.8	76.46	0.000179	0.000179	99556.6	17.8	80.49		
11	3	0.000144	0.000144	99448.5	14.3	75.48	0.000155	0.000155	99538.7	15.4	79.50		
12	4	0.000107	0.000107	99434.2	10.6	74.49	0.000120	0.000120	99523.3	11.9	78.51		
13	5	0.000119	0.000119	99423.6	11.9	73.50	0.000096	0.000096	99511.4	9.6	77.52		
14	6	0.000112	0.000112	99411.7	11.1	72.51	0.000084	0.000084	99501.8	8.3	76.53		
15	7	0.000087	0.000087	99400.6	8.7	71.51	0.000084	0.000084	99493.5	8.4	75.54		
16	8	0.000115	0.000115	99391.9	11.4	70.52	0.000088	0.000088	99485.1	8.8	74.54		
17	9	0.000102	0.000102	99380.5	10.2	69.53	0.000100	0.000100	99476.3	9.9	73.55		
18	10	0.000098	0.000098	99370.3	9.7	68.54	0.000079	0.000079	99466.4	7.9	72.56		
19	11	0.000100	0.000100	99360.6	9.9	67.54	0.000088	0.000088	99458.6	8.7	71.56		
20	12	0.000107	0.000107	99350.7	10.6	66.55	0.000094	0.000094	99449.8	9.3	70.57		
21	13	0.000121	0.000121	99340.1	12.0	65.56	0.000102	0.000102	99440.5	10.1	69.58		
22	14	0.000143	0.000143	99328.1	14.2	64.56	0.000126	0.000126	99430.4	12.5	68.58		
23	15	0.000220	0.000220	99313.9	21.8	63.57	0.000158	0.000158	99417.8	15.7	67.59		
24	16	0.000298	0.000298	99292.1	29.6	62.59	0.000179	0.000179	99402.2	17.8	66.60		
25	17	0.000472	0.000472	99262.5	46.9	61.61	0.000225	0.000225	99384.4	22.4	65.61		
26	18	0.000563	0.000563	99215.6	55.9	60.63	0.000250	0.000250	99362.0	24.8	64.63		
27	19	0.000573	0.000573	99159.8	56.8	59.67	0.000260	0.000260	99337.2	25.8	63.64		

The interim life tables can also be used to look at changes in life expectancy over time. For example, to compare the life expectancy of males and females aged 18 in 2008–10 with those aged 18 in 1988–90, see the screenshot below.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Historic Interim Life Tables, United Kingdom										Back to contents		
2													
3	Period expectation of life										Source: Government Actuary's Department		
4	Based on data for the years 1988-1990												
5													
6	Age	Males					Females						
7	x	m_x	q_x	l_x	d_x	e_x	m_x	q_x	l_x	d_x	e_x		
8	0	0.009581	0.009535	100000.0	953.5	72.61	0.007286	0.007260	100000.0	726.0	78.23		
9	1	0.000706	0.000705	99046.5	69.9	72.31	0.000584	0.000584	99274.0	58.0	77.80		
10	2	0.000451	0.000450	98976.6	44.6	71.36	0.000338	0.000338	99216.1	33.5	76.85		
11	3	0.000349	0.000348	98932.0	34.5	70.39	0.000295	0.000295	99182.5	29.2	75.87		
12	4	0.000264	0.000264	98897.5	26.1	69.42	0.000220	0.000220	99153.3	21.8	74.90		
13	5	0.000248	0.000248	98871.4	24.5	68.44	0.000168	0.000168	99131.5	16.7	73.91		
14	6	0.000229	0.000229	98847.0	22.6	67.45	0.000160	0.000160	99114.8	15.8	72.92		
15	7	0.000222	0.000222	98824.3	21.9	66.47	0.000146	0.000146	99099.0	14.4	71.94		
16	8	0.000215	0.000215	98802.4	21.2	65.48	0.000139	0.000139	99084.5	13.7	70.95		
17	9	0.000188	0.000188	98781.2	18.5	64.50	0.000127	0.000127	99070.8	12.6	69.96		
18	10	0.000203	0.000203	98762.7	20.0	63.51	0.000130	0.000130	99058.2	12.9	68.97		
19	11	0.000217	0.000217	98742.6	21.4	62.52	0.000146	0.000146	99045.3	14.5	67.97		
20	12	0.000212	0.000212	98721.2	20.9	61.54	0.000159	0.000159	99030.8	15.8	66.98		
21	13	0.000276	0.000276	98700.3	27.2	60.55	0.000162	0.000162	99015.1	16.0	65.99		
22	14	0.000302	0.000302	98673.1	29.8	59.57	0.000200	0.000199	98999.0	19.7	65.01		
23	15	0.000406	0.000406	98643.3	40.1	58.58	0.000227	0.000227	98979.3	22.4	64.02		
24	16	0.000555	0.000555	98603.3	54.7	57.61	0.000272	0.000272	98956.9	26.9	63.03		
25	17	0.000855	0.000855	98548.6	84.2	56.64	0.000300	0.000300	98929.9	29.6	62.05		
26	18	0.000908	0.000908	98464.3	89.4	55.69	0.000333	0.000333	98900.3	33.0	61.07		
27	19	0.000879	0.000879	98375.0	86.4	54.74	0.000321	0.000321	98867.3	31.7	60.09		

The tables show that life expectancy at age 18 in 1988–90 was 55.69 years for males and 61.07 years for females, 4.94 years and 3.56 years respectively shorter than the life expectancy of males and females aged 18 in 2008–10. This shows how mortality rates have improved over time.

[Period and cohort life expectancy](#)

Period and cohort life expectancy statistics for males and females by single year of age (0 to 95) for the United Kingdom, Great Britain, England and Wales, England, Wales, Scotland, and Northern Ireland for 1981 to 2060 (individual years) are available. These are based on actual death rates from 1981 to 2010 and projected

death rates from the 2010-based national population projections. The projections are updated every two years.

To find the life expectancy of a female aged 18 in the United Kingdom in 2020 using period and cohort life tables, see the screen shots below.

2010-based period life expectancy, females

9	Attained					
10	(years)	2018	2019	2020	2021	2022
11						
12	0	84.1	84.3	84.5	84.7	84.9
13	1	83.4	83.6	83.8	84.0	84.2
14	2	82.4	82.6	82.8	83.0	83.2
15	3	81.5	81.7	81.9	82.1	82.2
16	4	80.5	80.7	80.9	81.1	81.3
17	5	79.5	79.7	79.9	80.1	80.3
18	6	78.5	78.7	78.9	79.1	79.3
19	7	77.5	77.7	77.9	78.1	78.3
20	8	76.5	76.7	76.9	77.1	77.3
21	9	75.5	75.7	75.9	76.1	76.3
22	10	74.5	74.7	74.9	75.1	75.3
23	11	73.5	73.7	73.9	74.1	74.3
24	12	72.5	72.7	72.9	73.1	73.3
25	13	71.5	71.7	71.9	72.1	72.3
26	14	70.5	70.7	70.9	71.1	71.3
27	15	69.5	69.7	69.9	70.1	70.3
28	16	68.5	68.7	68.9	69.1	69.3
29	17	67.6	67.8	68.0	68.1	68.3
30	18	66.6	66.8	67.0	67.2	67.3
31	19	65.6	65.8	66.0	66.2	66.4
32	20	64.6	64.8	65.0	65.2	65.4
33	21	63.6	63.8	64.0	64.2	64.4

2010-based cohort life expectancy, females

8	Attained					
9	age	2018	2019	2020	2021	2022
10	(years)					
11						
12	0	94.8	95.0	95.1	95.2	95.4
13	1	94.0	94.2	94.3	94.4	94.6
14	2	92.9	93.1	93.2	93.3	93.5
15	3	91.8	91.9	92.1	92.2	92.3
16	4	90.7	90.8	90.9	91.1	91.2
17	5	89.5	89.7	89.8	90.0	90.1
18	6	88.4	88.6	88.7	88.8	89.0
19	7	87.3	87.4	87.6	87.7	87.8
20	8	86.2	86.3	86.4	86.6	86.7
21	9	85.0	85.2	85.3	85.4	85.6
22	10	83.9	84.0	84.2	84.3	84.4
23	11	82.8	82.9	83.0	83.2	83.3
24	12	81.6	81.8	81.9	82.0	82.2
25	13	80.5	80.6	80.8	80.9	81.0
26	14	79.4	79.5	79.6	79.8	79.9
27	15	78.2	78.4	78.5	78.6	78.8
28	16	77.1	77.2	77.4	77.5	77.7
29	17	76.0	76.1	76.3	76.4	76.5
30	18	74.9	75.0	75.1	75.3	75.4
31	19	73.7	73.9	74.0	74.1	74.3
32	20	72.6	72.8	72.9	73.0	73.2
33	21	71.5	71.6	71.8	71.9	72.0

The period life table shows that a female aged 18 in 2020 could expect to live 67.0 years. However, the cohort life table shows that the same person could expect to live 75.1 years.

This difference is because the period life table is based on projected mortality rates for 2020 only and does not assume improvements in the rates after this year, whereas the cohort life table takes such improvements into account.

For example, period life expectancy at age 18 in 2020 is worked out using the projected mortality rate for age 18 in 2020, for age 19 in 2020, for age 20 in 2020, and so on. Cohort life expectancy is worked out using the mortality rate for age 18 in 2020, for age 19 in 2021, for age 20 in 2022, and so on.

More information on the [difference between period and cohort life expectancy](#) can be found on the ONS website.

Sub-national life expectancy

[Life expectancy statistics for regions, counties and local areas¹ in the UK](#) are calculated annually using abridged (based on five-year age groups) life tables. These are more suitable for calculating sub-national life expectancy than complete (based on single year of age) life tables due to small numbers of deaths by single year of age, particularly among younger age groups and in smaller areas.

A [template](#) which illustrates how abridged life tables are calculated can be found on the ONS website.

In addition to those outlined above, national life expectancy statistics are also calculated using this method for comparison purposes. Therefore, the sets of national life expectancy figures available may differ slightly (usually by around 0.1 years).

Like the national interim life tables, sub-national life expectancy statistics are calculated for three-year rolling periods. Results for male and female life expectancy at birth and at age 65 are available from 1991–93 onwards. They are presented in an annual Statistical Bulletin, reference tables, and [interactive animated maps](#) (Adobe Flash Player).

The Statistical Bulletin contains commentary, tables and maps for the latest figures. Tables are included which show the 10 local areas with the highest and lowest life expectancies for males and females at birth and at age 65. There is also a table which shows results for all geographical areas, with the local areas ranked 1 (highest) to 404 (lowest). Information about the calculation and interpretation of life expectancy is also contained in the Bulletin.

There are four Microsoft Excel reference tables which contain results for the UK, England and Wales, Scotland, and Northern Ireland. They show life expectancy at birth and at age 65 statistics for each geographical area, with and without 95 per cent confidence intervals. Life expectancy is an estimate and is therefore subject to some

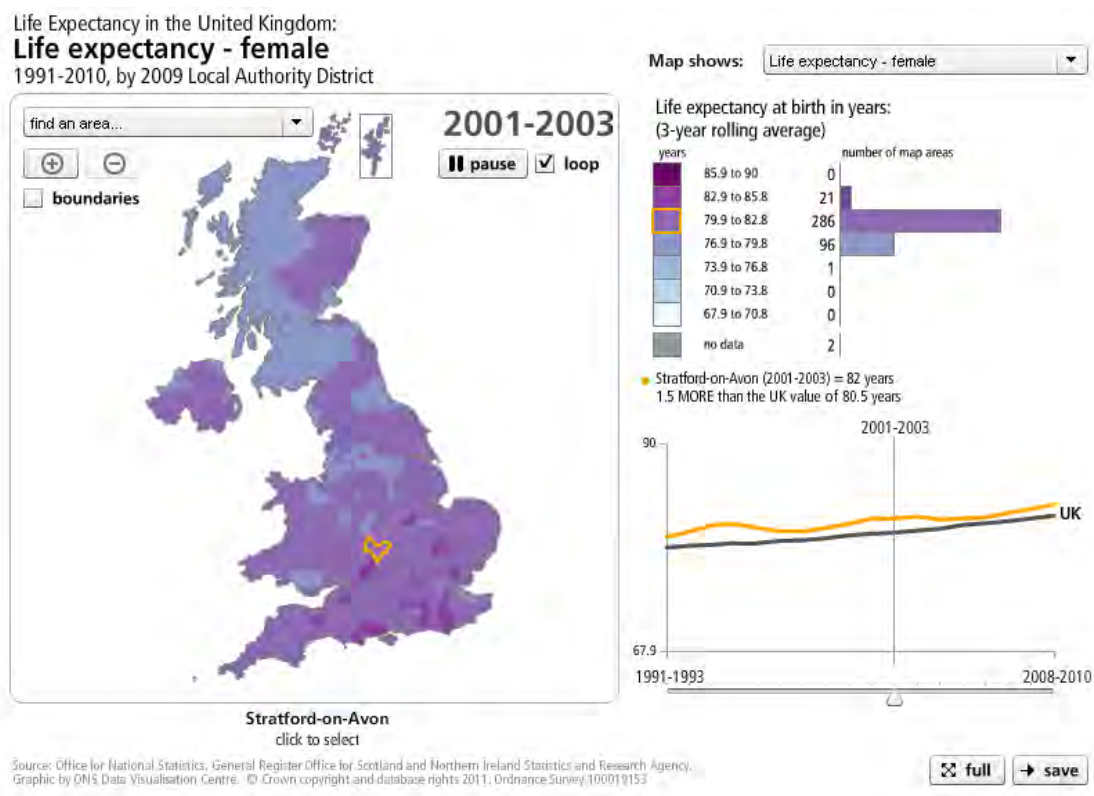
¹ The term 'local area' refers to local and unitary authorities in England and Wales, council areas in Scotland and local government district areas in Northern Ireland. Two local areas, City of London and Isles of Scilly, are excluded from the results because of the small numbers of deaths and populations.

margin of error. Confidence intervals are calculated to give an indication of the size of this error.

On 1 April 2009, there was a reorganisation of local governments in England, which created nine new unitary authorities (based on the merging of 37 local authorities). Life expectancy figures based on both the old and new boundaries are available in the England and Wales dataset.

Interactive animated maps which illustrate changes in male and female life expectancy at birth for local areas over time for 1991–93 onwards are available from the [Neighbourhood Statistics](#) website. These are based on the latest local authority boundaries.

Data can be viewed by clicking 'Play' to start the animation and then rolling the mouse over an area to view its life expectancy. It is possible to zoom in and out of the maps and to save them as images. A chart next to the map shows how each area compares with the UK average.



A [Summary Quality Report](#) describing the quality of sub-national life expectancy statistics in relation to the six European Statistical Service (ESS) Dimensions of Quality (relevance; accuracy; timeliness and punctuality; accessibility and clarity; comparability; and coherence) is available on the ONS website.

[Life expectancy statistics for health areas in the UK](#) for 2001–03 onwards are also available on the ONS website.

Health expectancy

[Health expectancies](#) divide life expectancy into periods of life spent in ‘very good’ or ‘good’ health; healthy life expectancy (HLE), or free from a limiting chronic illness or disability; disability-free life expectancy (DFLE).

National estimates of HLE and DFLE for the UK and constituent countries are calculated for three-year rolling periods. Results for males and females at birth and at age 65 for the [UK and constituent countries are available from 2000–02 onwards](#) and for [Great Britain and England from 1980–82 onwards](#). They are presented in a series of Statistical Bulletins and reference tables.

The Statistical Bulletins contain commentary and tables and also include information about the calculation and interpretation of health expectancies.

There are separate Microsoft Excel reference tables which contain results for the UK and constituent countries for 2000–02 onwards and results for Great Britain and England for 1980–82 to 2000–02. They show life expectancy, HLE and DFLE for males and females at birth and at age 65 for each country, with 95 per cent confidence intervals. Life and health expectancies are estimates and are therefore subject to some margin of error. Confidence intervals are calculated to give an indication of the size of this error.

The reference table for the UK and constituent countries for 2000–02 onwards also includes the proportion of life spent in favourable health and a template illustrating how health expectancies are calculated.

In depth analyses of health expectancies at lower levels of geography, by social class, and by relative deprivation are produced on an ad-hoc basis and are available as a series of articles and reference tables published in [Health Statistics Quarterly](#).

A [Summary Quality Report](#) describing the quality of health expectancy statistics in relation to the six ESS Dimensions of Quality is available on the ONS website.

ONS website links

Decennial life tables

www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-46235

Interim life tables

www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-23535

Period and cohort life expectancy

www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/demography/guide-to-period-and-cohort-life-expectancy/index.html

Sub-national life expectancy – local areas

www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-22483

Sub-national life expectancy – health areas

www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-235370

Summary Quality Report – sub-national life expectancy

www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/social-statistics/index.html

National health expectancies

www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-28154

Health Statistics Quarterly

www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-21560

Summary Quality Report – health expectancies

www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/social-statistics/index.html

Where can I find out more?

For more information about national life expectancy, please contact:

Mortality Ageing and Population Trends Team, ONS

Telephone: 01329 444681

E-mail: lifetables@ons.gsi.gov.uk

For more information about sub-national life expectancy, please contact:

Mortality Analysis Team, ONS

Telephone: 01633 455867

E-mail: healthgeog@ons.gsi.gov.uk

For more information about health expectancies, please contact:

Disability and Health Measurement Team, ONS

Telephone: 01633 455925

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