

Statistical bulletin

National life tables, UK: 2012 to 2014

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.



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1 . Main points

- A newborn baby boy could expect to live 79.1 years and a newborn baby girl 82.8 years if mortality rates remain the same as they were in the United Kingdom in 2012–2014 throughout their lives
- In 2012–2014, a man in the UK aged 65 had an average further 18.4 years of life remaining and a woman had an average further 20.9 years of life remaining
- The most common age at death for men was 86 and for women was 89
- Life expectancy at birth in the UK has increased since 1980–1982 by 13.5 weeks per year on average for men and 9.8 weeks per year on average for women

2 . Summary

We have released today the 2012–2014 national life tables for the United Kingdom (UK) and each of the constituent countries. These tables cover a 3 year rolling period and provide period life expectancies for males and females by single year of age (0 to 100). Life tables for previous years back until 1980–1982 are also available in this release, providing a continuous time series from 1980–1982 until 2012–2014.

3 . Introduction

We produce national life tables which are for the UK and constituent countries and give statistics on period life expectancy by age and sex. National life tables are produced annually and are based on 3 consecutive years' worth of data to reduce the effect of annual fluctuations in the number of deaths caused by seasonal events such as flu. Fully graduated (smoothed) life tables have been prepared every 10 years ([decennial life tables](#)), based on the 3 years of data around a census year. The most recently published decennial life tables are for 2010-2012 and were published on 1 September 2015.

National life tables are "period" life tables and therefore all figures referred to in this bulletin are "period" life expectancies. Period life expectancy is the average number of additional years a person would live if he or she experienced the age-specific mortality rates of the given area and time period for the rest of their life. Therefore it is not the number of years someone in the area in that time period is actually likely to live, because the death rates of the area are likely to change over time.

This statistical bulletin will focus on the UK as a whole and the constituent countries. The figures in this release have been calculated using the latest available mid-year estimates.

4 . Methods

The life table is a purely hypothetical calculation. The basic assumption is that the given number of births, an arbitrary number called the radix (we use 100,000), are subject as survivors pass through each year of age, to the mortality rates prevailing for each age.

The national life tables are produced annually for the UK and its constituent countries. The tables in this release were previously known as the Interim life tables, but no changes have been made to the way the tables are calculated. Each table is based on the population estimates and birth and death registration data for a period of 3 consecutive years. Period life tables are calculated using age-specific mortality rates for a given period, with no allowance for any actual or projected future changes in mortality. The notation required to calculate life tables is available in the [guide to calculating national life tables](#).

Life expectancy is the average number of years a person has before death. This is conventionally calculated from birth, but can also be calculated from any specified age. This gives the remaining further number of years a person on average can expect to live given the age they have attained. This means that period life expectancy at birth for a given time period and area is an estimate of the average number of years a newborn baby would survive if he or she experienced the particular area's age-specific mortality rates for that time period throughout his or her life.

Life expectancies that allow for actual or projected changes in mortality during a person's lifetime are known as "cohort" life expectancies. We also produce [historic and projected period and cohort life expectancy tables](#) that are consistent with the [national population projections](#).

This release relates to the 1980–1982 to 2012–2014 national life tables for the UK and constituent countries.

5 . Life expectancy at birth

United Kingdom

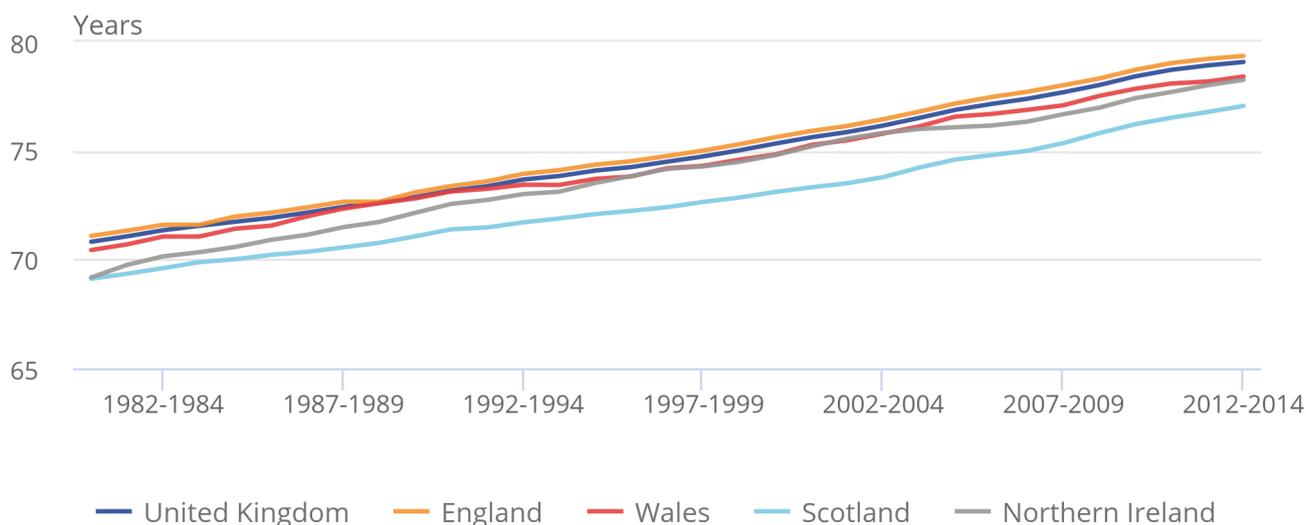
Life expectancy at birth for men in the UK reached 79.1 years in 2012–2014 and for women it reached 82.8 years. This is assuming that mortality rates remain the same as they were in 2012–2014.

Figure 1a: Life expectancy at birth, United Kingdom and constituent countries, 1980–1982 to 2012–2014

Males

Figure 1a: Life expectancy at birth, United Kingdom and constituent countries, 1980–1982 to 2012–2014

Males



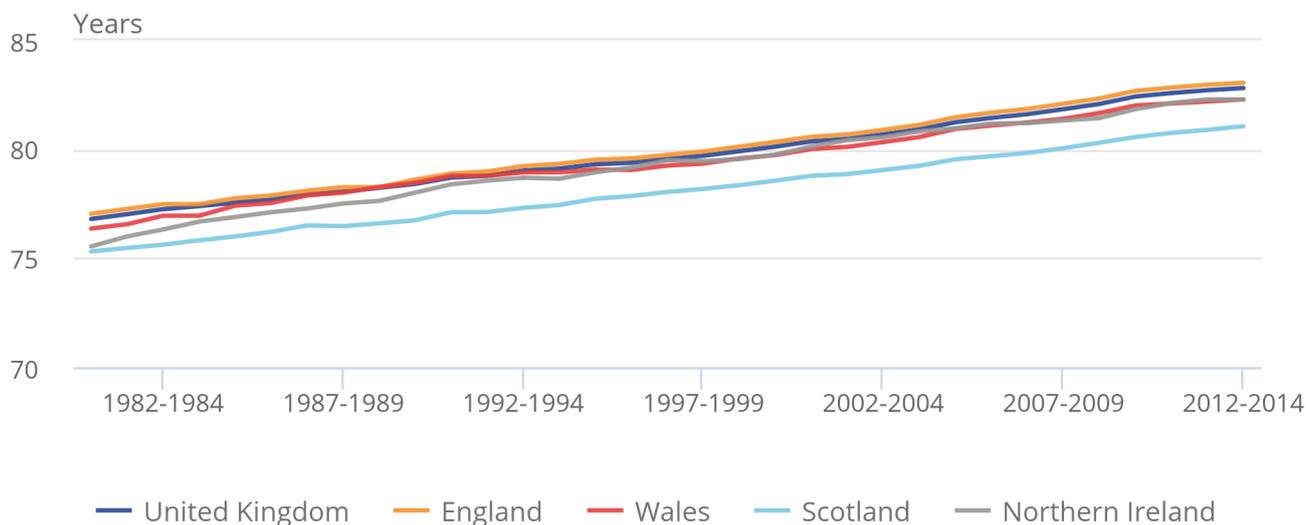
Source: Office for National Statistics

Figure 1b: Life expectancy at birth, United Kingdom and constituent countries, 1980–1982 to 2012–2014

Females

Figure 1b: Life expectancy at birth, United Kingdom and constituent countries, 1980–1982 to 2012–2014

Females



Source: Office for National Statistics

Figure 1 shows how life expectancy at birth in the UK and the constituent countries has changed over time. Focusing first on the UK, life expectancy for both males and females has increased between the years 1980–1982 and 2012–2014. Male life expectancy has increased from 70.8 years in 1980–1982 to 79.1 years in 2012–2014 and female life expectancy has increased from 76.8 to 82.8 years, in the same time period.

On average, the increases in life expectancy per year over the 32 year period are equivalent to ¹:

- an additional 3.1 months for men and 2.3 months for women
- an additional 13.5 weeks for men and 9.8 weeks for women
- an additional 94.3 days for men and 68.6 days for women

The gap has been gradually narrowing between male and female life expectancy at birth in the UK over the past 32 years, from 6.0 years in 1980–1982 to 3.7 years in 2012–2014, with males demonstrating faster improvements in mortality compared to females. However, life expectancy for females has also continued to increase and still remains higher than life expectancy for males.

Comparing the UK constituent countries

Figure 1 also shows how life expectancy at birth has increased over the period 1980–1982 to 2012–2014 for all 4 of the constituent countries. The continued increases in life expectancy for all of the constituent countries are due to the improvements in mortality at older ages. As mortality improves at older ages, larger numbers of people survive to the oldest ages and this contributes to the ageing population of England, Wales, Scotland and Northern Ireland.

In 2012–2014 life expectancy was highest in England of the 4 countries, where it had risen to 79.4 years for men and 83.1 years for women. The life expectancies for Northern Ireland (78.3 years for men and 82.3 years for women) and Wales (78.4 years and 82.3 years respectively) remained fairly similar. Despite a continued increase, Scotland had the lowest life expectancy of the 4 countries, with 77.1 years for men and 81.1 years for women.

The greatest gains in life expectancy over the period 1980–1982 to 2012–2014 were seen in Northern Ireland, where life expectancy at birth increased by 9.1 years for men and 6.7 years for women. The increases in life expectancy at birth for England, Scotland and Wales since 1980–1982 were around 8 years for men and 6 years for women. The gains in life expectancy at birth over the 32 year period since 1980–1982 were higher for men than for women in all 4 countries.

Life expectancy for England remained consistently higher, for both men and women, than in the other 3 constituent countries throughout the period 1980–1982 to 2012–2014. Life expectancy at birth for Northern Ireland was lower than that for Wales until the mid 1990s, after which they converged with each other. Both countries have seen some divergence from England in recent years.

Life expectancy for Scotland remained consistently lower, for both men and women, than in the other 3 constituent countries throughout the period 1980–1982 to 2012–2014. This could be associated with higher levels of alcohol consumption, a greater smoking prevalence and higher levels of cardio-vascular diseases in Scotland compared to the other constituent countries of the UK².

Notes for life expectancy at birth

1. In these calculations a year equals 365.25 days on average and a month equals 30.4375 days on average. (Averages taken over a 32 year period).
2. [Scottish health survey- UK comparisons: The Scottish Government, 2012.](#)

6 . Life expectancy at older ages

Life expectancy at age 65

Life expectancy at age 65 for men in the UK reached 18.4 years in 2012–2014 and for women it reached 20.9 years. This means that a man aged 65 could expect to live to age 83 and a woman to nearly age 86.

Table 1 shows that life expectancy at age 65 in the UK improved throughout the period 1980-1982 to 2012–2014. The improvement was most noticeable for men, where life expectancy increased by 5.4 years over the 32 year period. For women, life expectancy saw a smaller increase of 4.0 years over the same period.

The difference between male and female life expectancy at age 65 decreased fairly steadily over the last 32 years. In 1980–1982, the difference between male and female life expectancy in the UK was 3.9 years and by 2012–2014 it was 2.5 years. This was caused by the faster rate of improvement in male life expectancy than female life expectancy. Despite the gap between male and female life expectancy narrowing, life expectancy for men still remained lower than that for women in 2012–2014.

Table 1: Life expectancy at age 65, United Kingdom and constituent countries, 1980–1982, 1997–1999 and 2012–2014

	1980-1982		1997-1999		2012-2014	
	Males	Females	Males	Females	Males	Females
United Kingdom	13.0	16.9	15.2	18.5	18.4	20.9
England	13.1	17.0	15.3	18.6	18.6	21.1
Wales	12.5	16.6	14.9	18.2	18.0	20.5
Scotland	12.3	16.0	14.2	17.5	17.3	19.6
Northern Ireland	12.5	16.3	14.9	18.3	18.1	20.5

Source: Office for National Statistics

England had the highest life expectancy of the constituent countries at age 65 in 2012–2014 for both men (18.6 years) and women (21.1 years). Northern Ireland had the highest improvement for both men and women, where life expectancy increased by 5.6 years over the period 1980–1982 to 2012–2014 for men and by 4.2 years over the same period for women.

Scotland had the lowest life expectancy of the constituent countries at age 65 in 2012–2014 for both men (17.3 years) and women (19.6 years). This was 0.8 years lower than the male life expectancy for Wales (18.0 years) in 2012–2014 and 0.9 years lower than the female life expectancy for both Northern Ireland and Wales (20.5 years).

The gain in life expectancy at age 65 in Scotland over the 32 year period was 5.0 years for men and 3.6 years for women. This is 0.6 years lower than the increase for both men and women in Northern Ireland. Despite the steady increase in life expectancy for Scotland, between 1980–1982 and 2012–2014, this lower rate of improvement has led to its divergence away from the other constituent countries.

Life expectancy at age 85

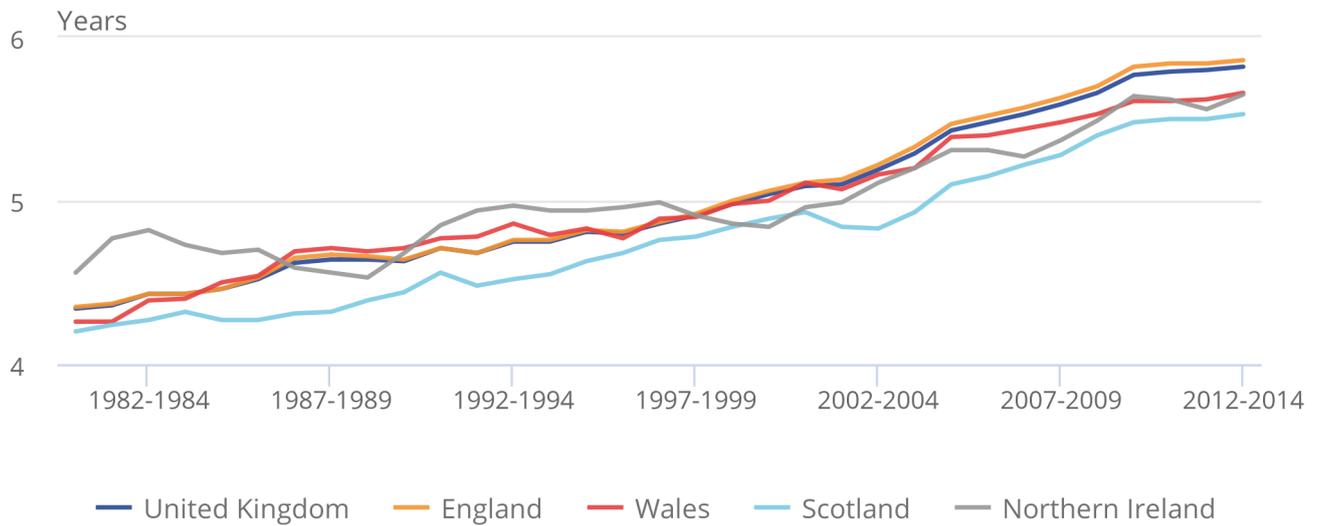
A man in the UK aged 85 had a life expectancy of 5.8 years in 2012–2014. For women the equivalent figure was 6.8 years. This means that a man aged 85 could expect to live to nearly age 91 and a woman to nearly age 92.

Figure 2a: Life expectancy at age 85, United Kingdom and constituent countries, 1980–1982 to 2012–2014

Males

Figure 2a: Life expectancy at age 85, United Kingdom and constituent countries, 1980–1982 to 2012–2014

Males



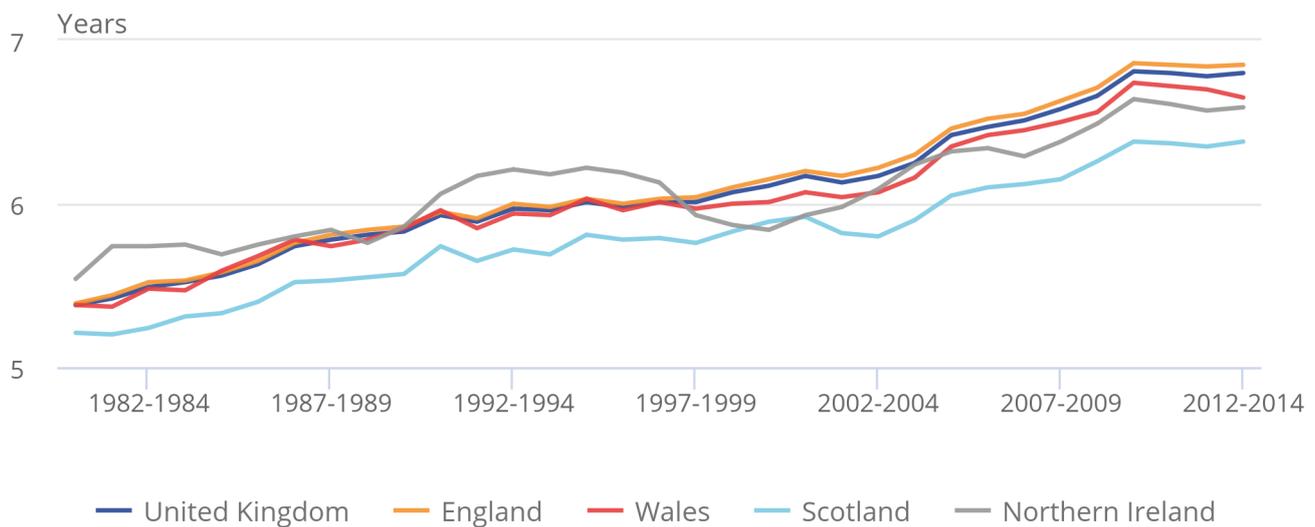
Source: Office for National Statistics

Figure 2b: Life expectancy at age 85, United Kingdom and constituent countries, 1980-1982 to 2012-2014

Females

Figure 2b: Life expectancy at age 85, United Kingdom and constituent countries, 1980-1982 to 2012-2014

Females



Source: Office for National Statistics

Figure 2 shows life expectancy at age 85 for the UK and for each of the constituent countries. Life expectancy for 85 year olds increased in each of the countries over the period 1980–1982 to 2012–2014. England saw the largest increases in life expectancy at age 85 over this period, from 4.4 years to 5.9 years for men and 5.4 years to 6.9 years for women. Unlike the life expectancies at birth and at age 65, Northern Ireland saw the lowest increases in life expectancy at age 85 over this period. Life expectancy for Northern Ireland increased by 1.1 years for both men and women aged 85; in 1980–1982 life expectancy for men aged 85 was 4.6 years and for women it was 5.5 years. By 2012–2014 this had increased to 5.7 years for men and 6.6 years for women.

The trend for Northern Ireland was the most erratic of the UK constituent countries; this is due to the low numbers of deaths and population at these ages. This could help explain why although it had the lowest increase in life expectancy at age 85, it did not have the lowest life expectancy at age 85 in 2012–2014 of the constituent countries.

The gap between male and female life expectancies at age 85 is gradually narrowing; however the life expectancy gap between men and women from 1980–1982 to 2012–2014 remained around 1 year, with women expected to live 1 year longer than men on average at this age.

7 . Surviving to older ages

As life expectancy improvements are happening at older ages, the proportion of deaths occurring at older ages is also increasing and we can see increases in the age where most deaths occur. The most common age at death for men was 86 and for women was 89, in 2012–2014.

Figure 3 looks at the distribution of all UK deaths, as calculated by the life table, by age group in the years 1982–1984, 1992–1994, 2002–2004 and 2012–2014.

In 1982–1984, the majority of all deaths in the UK fell within the 60 to 79 year age group for men (53.9%). However, for women the majority of all deaths fell in the 80 and over age group (51.1%). By 2012–2014 the majority of male deaths had shifted to the 80 and over age group category with the highest percentage of deaths for both men (57.5%) and women (69.1%). This is an indication that the population is ageing.

Mortality rates have improved in all age groups but more recently at a faster rate in the older age groups. This is thought to be because of a combination of factors, such as the improvements in mortality from circulatory diseases¹, such as heart disease and stroke, partly driven by changing smoking habits², the diagnosis and treatment of cancers and medical and technological advances.

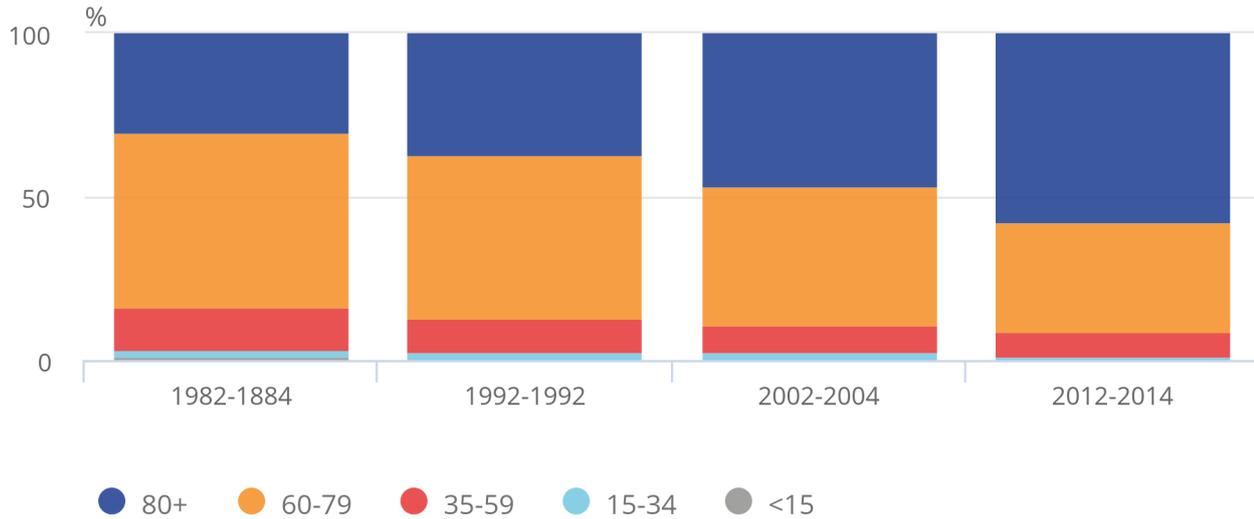
The cohort of people born between 1926 and 1935, often referred to as the Golden Cohort, is another contributor to the overall improvements in life expectancy at older ages in the UK. This group have experienced improvements in mortality throughout most of their lifetimes that no cohorts previously or since have experienced.

Figure 3a: Percentage distribution of all deaths by age group for selected years, UK (from the period life table)

Males

Figure 3a: Percentage distribution of all deaths by age group for selected years, UK (from the period life table)

Males



Source: Office for National Statistics

Notes:

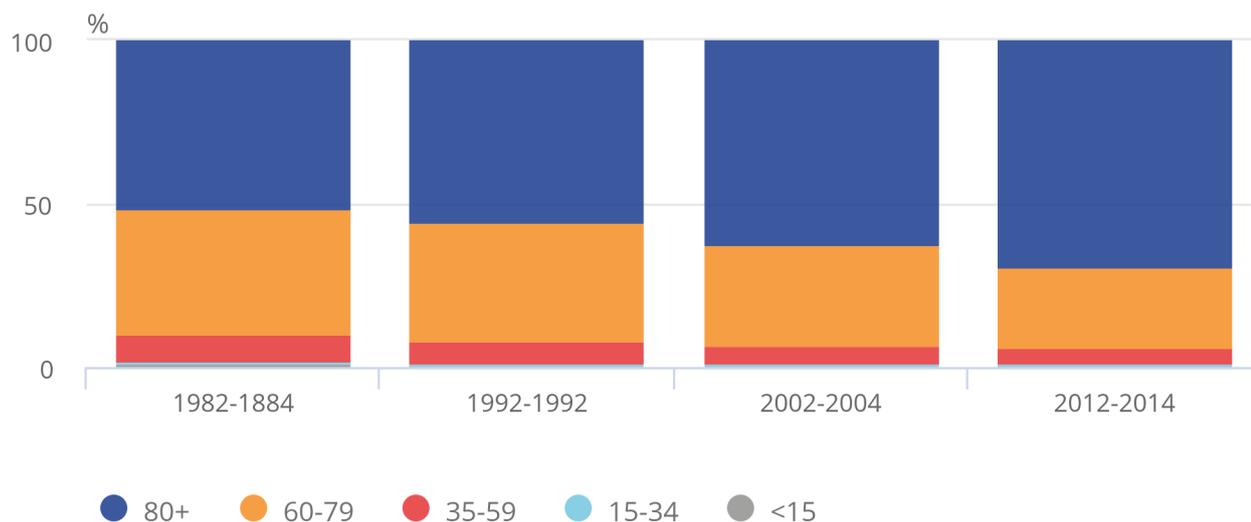
1. Deaths are taken from the life table (dx) and are therefore age standardised; they do not represent the actual number of deaths registered in the United Kingdom in the selected years.

Figure 3b: Percentage distribution of all deaths by age group for selected years, UK (from the period life table)

Female

Figure 3b: Percentage distribution of all deaths by age group for selected years, UK (from the period life table)

Female



Source: Office for National Statistics

Notes:

1. Deaths are taken from the life table (dx) and are therefore age standardised; they do not represent the actual number of deaths registered in the United Kingdom in the selected years.

The percentage of deaths that fell in the 80 and over age group for men in 2012–2014 was similar to the percentage of deaths in the 80 and over age group for women 20 years earlier in 1992–1994.

Over the 30 year period, women consistently had a larger proportion of deaths in the 80 and over age group than men. However, the difference from 1982–1984 to 2012–2014 shows that the proportion of deaths occurring to men in the 80 and over age group increased at a faster rate than it did for women. The proportion of male deaths in the 80 and over age group almost doubled between the years 1982–1984 to 2012–2014, while it increased by less than a third for women.

As a contrast, the proportions of all deaths in the younger age groups were small. Deaths at ages below 60 years accounted for just 9% of all male deaths and around 6% of all female deaths occurring in 2012–2014.

Notes for surviving to older ages

- [Deaths registered in England and Wales \(Series DR\), 2013.](#)
- Murphy M, Di Cesare M, (2012) Use of an age-period-cohort model to reveal the impact of cigarette smoking in trends in twentieth century adult cohort mortality in England and Wales, Population Studies, Vol 66, issue 3.

8 . International comparison

Tables 2 and 3 show period life expectancy at birth, at age 65 and at age 85 for males and females respectively, for a selection of countries, which have been chosen by the availability of relevant data. The countries are ordered by life expectancy at birth.

It should be noted that life expectancies were not always available for 2014 for each of the selected countries. Where this was the case the most recent life expectancy estimate was used. Despite comparisons being made, the years to which each country's life expectancy refers should be considered. The reference years can be found in Tables 2 and 3.

Table 2: Life expectancy in selected countries, males, 2012–2014

	Life expectancy at birth	Life expectancy at age 65	Life expectancy at age 85
Switzerland (2014)	81.0	19.5	..
Iceland (2014)	80.6	19.0	5.6
Sweden (2014)	80.3	18.9	5.7
Japan (2013)	80.2	19.1	6.1
Spain (2014)	80.2	19.1	..
Australia (2011-2013)	80.1	19.2	6.1
Norway (2014)	80.0	18.7	5.7
Italy (2013)	79.8	18.6	5.7
New Zealand (2012-2014)	79.5	18.9	5.9
Netherlands (2013)	79.4	18.4	..
England (2012-2014)	79.3	18.6	5.8
France (2013)	78.7
Denmark (2013-2014)	78.5	17.9	5.6
Wales (2012-2014)	78.4	17.9	5.7
Northern Ireland (2012-2014)	78.3	18.1	5.7
Germany (2010-2012)	77.7	17.5	5.4
Scotland (2012-2014)	77.0	17.3	5.5
USA (2013)	76.4	17.9	..
Poland (2013)	73.1	15.5	5.6
Estonia (2013)	72.7	15.0	5.3
Brazil (2013)	71.3	16.4	..
Latvia (2014)	69.3	13.7	4.7

Source: Swiss Federal Statistical Office, Statistics Iceland, Australian Bureau of Statistics, Statistics Bureau of Japan, The National Institute of Statistics Italy, Statistics Netherlands, National Statistics Institute of Spain, Statistics New Zealand, Statistics Norway, ONS, Federal Statistical Office of Germany, Statistics Denmark, Central Statistical Office of Poland, Brazilian Institute of Statistics and Geography, Statistical Office of Estonia, Central Statistical Bureau of Latvia, Statistics Sweden, National Institute of Statistics and Economic Studies-France, and US Census Bureau

1. Countries have been selected based on the availability of data for the selected years and are ordered by life expectancy at birth.
2. .. Indicates that the figure was not available at the time of publication of this report.
3. Life expectancy figures by age are period life expectancies.

Table 2 shows that in 2014, Switzerland had the highest male life expectancy at birth of the selected countries (81.0 years) whilst Latvia had the lowest of the selected countries (69.3 years).

England's life expectancy at birth for males was 79.4 years. Although this was about mid way down the table, it should be noted that the difference in life expectancy at birth between Switzerland (top of the table) and England was 1.6 years and the difference between England and Latvia (bottom of the table) was 10.1 years.

Male life expectancies at birth for Wales (78.4 years) and Northern Ireland (78.3 years) were fairly similar. They fell below England and Denmark (78.5 years) but above Germany (77.7 years). The male life expectancy at birth for Scotland (77.1 years) was slightly lower, falling just below Germany but above the USA (76.4 years).

Male life expectancy at age 65 in 2014 was again highest for Switzerland (19.5 years) and lowest for Latvia (13.7 years).

The life expectancy for England was 18.6 years for men, which was higher than Denmark (17.9) but lower than New Zealand (18.9). The life expectancies for Northern Ireland (18.1 years) and Wales (18.0 years) were both higher than the life expectancy at age 65 in the USA (17.9 years) for men and lower than the life expectancy for Italy (18.6 years). Scotland's life expectancy at age 65 (17.3 years) was higher than for Poland at age 65 (15.5 years) but lower than for Germany (17.5 years).

Life expectancy at age 85 was not available for all of the selected countries. Of those that were available, Japan had the highest male life expectancy (6.1 years), despite this being their 2013 estimate, and Latvia had the lowest (4.7 years). The life expectancy at age 85 for Scotland (5.5 years) was higher than the life expectancy for Estonia (5.3 years) but less than the life expectancy for Poland (5.6 years). The life expectancies at age 85 for Northern Ireland and Wales were similar to several other countries who also had a life expectancy of 5.7 years. These countries included Italy, Norway and Sweden. The life expectancy for England at age 85 was 5.9 years, which was less than only Japan and Australia (6.1 years), of the selected countries.

Table 3: Life expectancy in selected countries, females, 2012–2014

	Life expectancy at birth	Life expectancy at age 65	Life expectancy at age 85
Japan (2013)	86.6	24.0	8.2
Spain (2014)	85.7	23.0	..
Switzerland (2014)	85.2	22.4	..
France (2013)	85.0
Italy (2013)	84.6	22.0	7.0
Australia (2011-2013)	84.3	22.1	7.1
Norway (2014)	84.1	21.5	6.9
Sweden (2014)	84.0	21.5	6.8
Iceland (2014)	83.6	21.3	6.9
New Zealand (2012-2014)	83.2	21.3	6.8
England (2012-2014)	83.0	21.1	6.8
Netherlands (2013)	83.0	21.4	..
Germany (2010-2012)	82.8	20.7	6.3
Denmark (2013-2014)	82.7	20.6	6.9
Wales (2012-2014)	82.3	20.5	6.7
Northern Ireland (2012-2014)	82.3	20.5	6.6
Estonia (2013)	81.3	19.9	6.1
USA (2013)	81.2	20.5	..
Poland (2013)	81.1	19.8	6.6
Scotland (2012-2014)	81.1	19.6	6.4
Latvia (2014)	79.5	18.9	5.5
Brazil (2013)	78.6	19.5	..

Source: Swiss Federal Statistical Office, Statistics Iceland, Australian Bureau of Statistics, Statistics Bureau of Japan, The National Institute of Statistics Italy, Statistics Netherlands, National Statistics Institute of Spain, Statistics New Zealand, Statistics Norway, ONS, Federal Statistical Office of Germany, Statistics Denmark, Central Statistical Office of Poland, Brazilian Institute of Statistics and Geography, Statistical Office of Estonia, Central Statistical Bureau of Latvia, Statistics Sweden, National Institute of Statistics and Economic Studies-France, and US Census Bureau

1. Countries have been selected based on the availability of data for the selected years and are ordered by life expectancy at birth.
2. .. Indicates that the figure was not available at the time of publication of this report.
3. Life expectancy figures by age are period life expectancies.

The same caveats apply to Table 3 as applied for Table 2.

Table 3 shows the female life expectancies and that Japan (86.6 years) had the highest female life expectancy at birth of the selected countries. This is despite it being an estimate for 2013. Brazil had the lowest female life expectancy of the selected countries (78.6 years).

As was the case for males, the life expectancies for Northern Ireland and Wales (both 82.3 years) were higher than the USA (81.2 years) and Poland (81.1 years). However, Germany had a higher life expectancy at birth for females (82.8 years). England (83.1 years) had a higher life expectancy than the Netherlands (83.0 years) but was 3.5 years lower than Japan. Unlike males, the life expectancy for females in Scotland (81.1 years) was lower than the USA (81.2 years) and Poland (81.1 years). However, it was still higher than Latvia (79.5 years) and Brazil (78.6 years).

Table 3 shows that Scotland, Northern Ireland and Wales remained in the same position, compared with the other selected countries, for their life expectancies at birth and at age 65. Life expectancy at age 65 for females in England (21.1 years) was still above Germany and Denmark (both 20.7 years), but was lower than the Netherlands' life expectancy of 21.4 years. The difference between the life expectancy at age 65 for females for Japan and Latvia (bottom of the table aged 65) was 5.1 years.

As was the case for men, not all life expectancies at age 85 were available for all of the selected countries. Life expectancy at age 85 for females in England (6.9 years) was less than Japan's life expectancy by 1.3 years. Northern Ireland (6.6 years) had the same life expectancy at age 85 for females as Poland, but was lower than Wales which was 6.7 years. The life expectancy at age 85 for females in Scotland (6.4 years) was higher than Germany (6.3 years) and Estonia (6.1 years).

9 . Uses of tables

The national life tables provide annual figures allowing up-to-date analysis of mortality and life expectancy.

Main uses of the tables:

- to study the course of mortality throughout the life cycle
- as an indicator of the health of the nation
- to inform policy regarding state pension age
- to assess risk for life assurance and pension liability

Within ONS, national life tables are used in the methodologies used to calculate [disability-free life expectancy and healthy life expectancy](#) and are used in the methodology for calculating "[duration of working life](#)". They are also used to inform the assumptions of future mortality for the [National Population Projections](#).

Other organisations that use life tables include:

other government departments:

- Government Actuary's Department
- Department of Work and Pensions
- Department of Health and Health Authorities
- National Records of Scotland, Northern Ireland Statistics and Research Agency, and Welsh Assembly
- HM Treasury

non-government organisations:

- universities – academics and students
- news media
- financial advisors/consultants
- insurance companies and actuarial professions
- the general public

10. Background notes

1. Figures in the tables in this bulletin and commentary are rounded to 1 decimal place. Calculations in this bulletin have been done using unrounded figures
2. The national life tables for the years 2000–2002 to 2012–2014 take into account the rebased population estimates following the 2011 Census
3. These tables were formerly known as interim life tables, as fully graduated life tables have been prepared every 10 years (decennial life tables), based on the 3 years data around a census year. However, as this product has been produced annually for more than 30 years, it has now become an established annual output rather than an interim measure
4. Details of the policy governing the release of new data are available from our Media Relations Office
5. Details of the policy governing the release of new data are available by visiting www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html or from the Media Relations Office email: media.relations@ons.gsi.gov.uk

These National Statistics are produced to high professional standards and released according to the arrangements approved by the UK Statistics Authority.