

# National Life Tables for Scotland 2016-2018



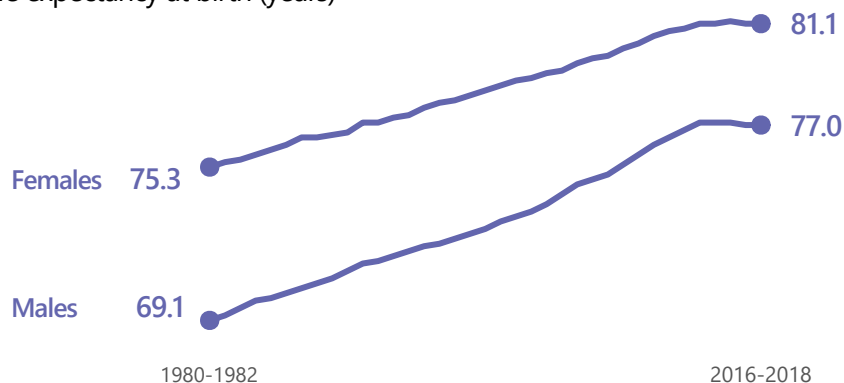
Published on 25 September 2019

This statistical report details life expectancy estimates for Scotland and comparisons with estimates for the rest of the UK. The figures show that life expectancy in Scotland has stopped increasing in recent years.

## Life expectancy has increased in Scotland but stalled in recent years

Since the 1980's life expectancy has increased by 5.8 years for females and 7.9 years for males. However, in recent years, life expectancy has stopped increasing for both females and males.

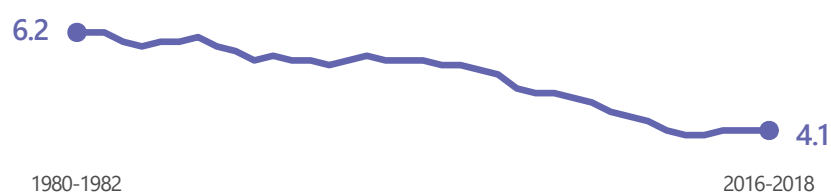
Life expectancy at birth (years)



## The gap between males and females has decreased

The gap in life expectancy decreased from 6.2 years for those born in 1980-1982 to 4.1 years for those born in 2016-2018.

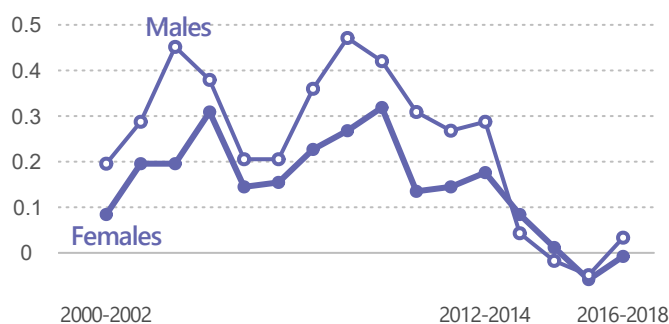
Gap between male and female life expectancy (years)



## The increase in life expectancy has slowed in recent years

Since 2012-2014, life expectancy in Scotland has remained effectively unchanged for both males and females.

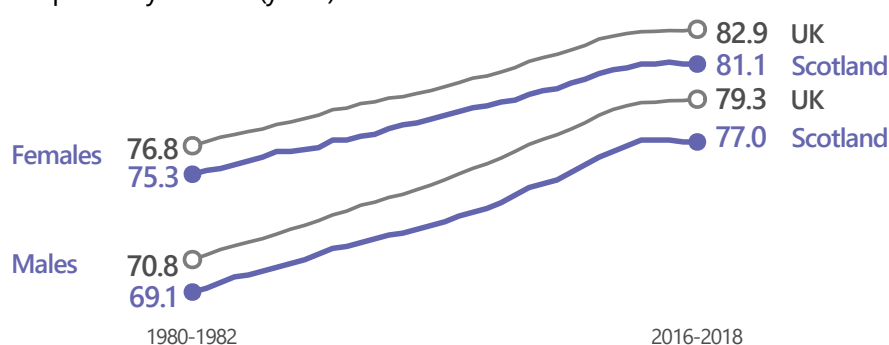
Annual change (years)



## Life expectancy is lower in Scotland compared to the rest of UK

Life expectancy in Scotland remains lower than the UK average, and is lowest of all UK constituent countries, for both females and males.

Life expectancy at birth (years)



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## Key findings

- In Scotland in 2016-2018, life expectancy at birth was 77.0 years for males and 81.1 years for females. This is the same as the 2015-2017 figures published last year.
- Life expectancy in Scotland has increased since the early 1980s but has now remained virtually unchanged since 2012-2014.
- Life expectancy at age 65 in 2016-2018 was 17.5 years for males and 19.8 years for females in Scotland.
- Scotland has the lowest life expectancy at birth of all UK countries. Average life expectancy in the UK was 79.3 years for males and 82.9 years for females.
- Just over 13% of Scotland's male and female population have on average 15 years of remaining life.

## 1. Introduction

This publication summarises the life expectancy figures for Scotland for the years 2016-2018 which are produced by the Office for National Statistics and published by the National Records of Scotland.

### How life expectancy is calculated

The latest life expectancy figures are calculated from the mid-year population estimates for Scotland and the number of deaths registered in Scotland during 2016, 2017 and 2018. Life expectancy for Scotland is calculated for each year of age, and represents the average number of years that someone of that age could expect to live subject to their age specific mortality rates. Life expectancy in Scotland is calculated as a three year average, produced by aggregating deaths and population data for the three year period. Three years of data are needed to provide large enough numbers to ensure that the figures published in this report are sufficiently robust. Throughout this publication, the latest life expectancy figures refer to the 2016-2018 period.

#### What is 'period' life expectancy?

All of the estimates presented in this report are 'period' life expectancy. They are calculated assuming that mortality rates for each age group in the time period (here 2016-2018) are constant throughout a person's life. This means that future changes in things such as medicine and legislation are not taken into consideration. While this means that period life expectancy is not an accurate prediction of how long a person will actually live, it is a useful measure of population health.

### Uses of life expectancy

Life expectancy at birth is a very useful indicator of mortality conditions across a population at a particular point in time. It also provides an objective means of

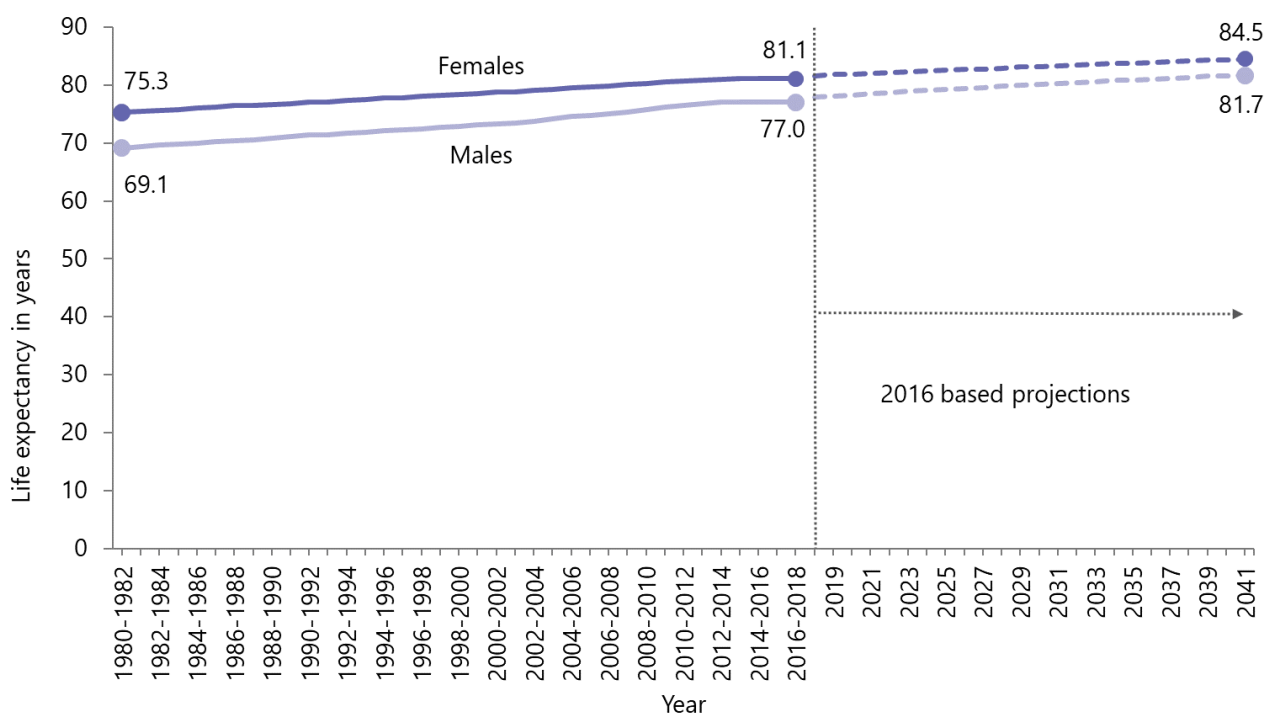
comparing trends in mortality over time, between areas of a country and with other countries. This is used to monitor and investigate health inequalities and to set public health targets. Life expectancy is also used to inform pensions policy, research and teaching.

## 2. Life expectancy at birth

Life expectancy at birth was 77.0 years for males and 81.1 years for females in 2016-2018. This means that a baby boy born in Scotland between 2016 and 2018 could expect to live for 77 years while a baby girl born at the same time could expect to live until she was just over 81 years. For both males and females, there was no change in life expectancy at birth since the previous estimate for 2015-2017.

Figure 1 shows that life expectancy in Scotland has increased over the past few decades. A boy born in 1980-1982, could have expected to live for 69.1 years while a girl could have expected 75.3 years. This represents an increase of 7.9 years for males and 5.8 years for females. In recent years, increases in life expectancy have stalled, but figure 1 shows that it is projected to increase to 81.7 years for males and 84.5 years for females by the year 2041.

**Figure 1. Life expectancy at birth, Scotland, 1980-1982 to 2041**



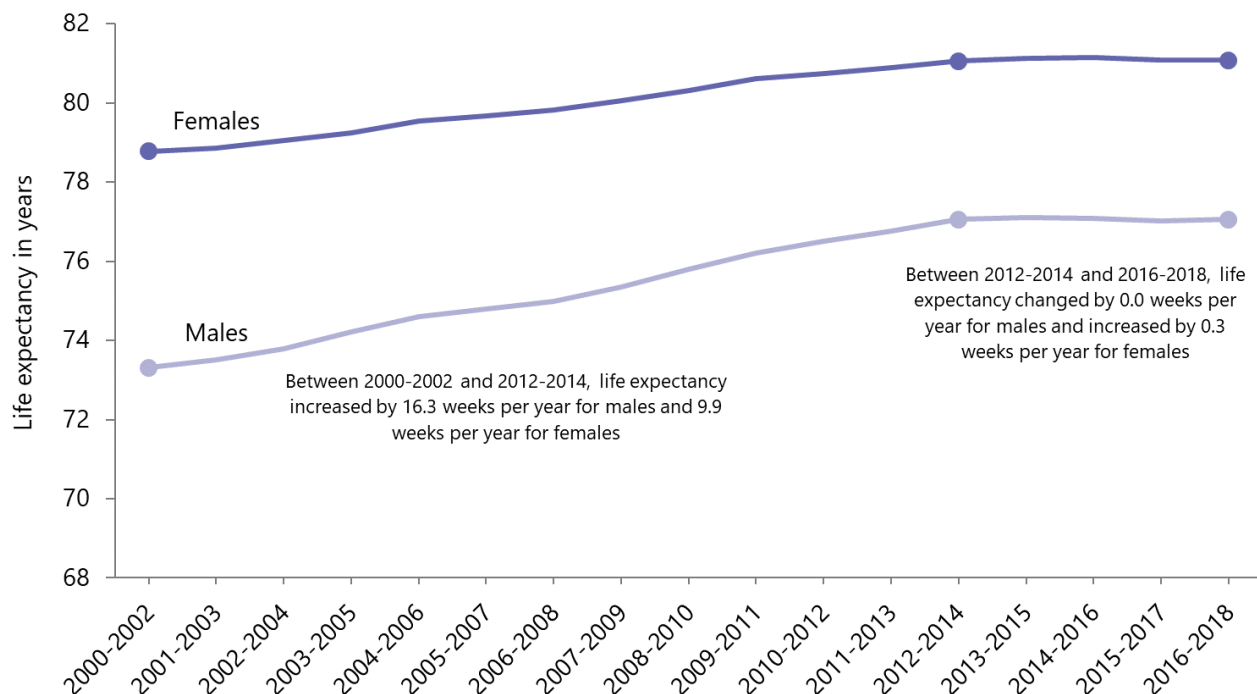
Source: Figures to 2016-2018 are from National Life Tables for Scotland (NRS) based on three years of data.

Figures from 2018 are projected single year life expectancies (2016 based, NRS).

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### 3. Recent trends in life expectancy

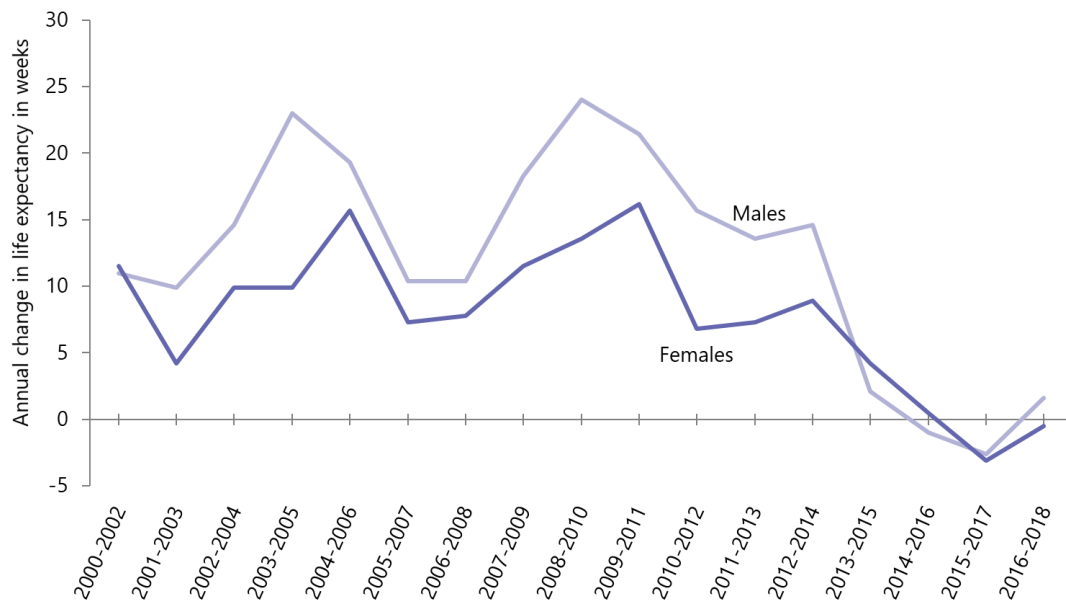
**Figure 2. The slowing rate of improvement to life expectancy in Scotland. 2000-2002 to 2016-2018**



Source: National Life Tables for Scotland (NRS)  
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Figure 2 shows the more recent changes in life expectancy at birth in Scotland. Between the estimate in 2000-2002 and the one in 2012-2014, life expectancy increased on average 9.9 weeks a year for females and 16.3 weeks a year for males. Between 2012-2014 and 2016-2018, however, life expectancy increased by less than half a week per year for females and stopped increasing altogether for males. Figure 3 shows the annual change in weeks of life expectancy at birth. While this has risen and fallen several times since 2000-2002, it has stayed close to zero in the years following 2012-2014.

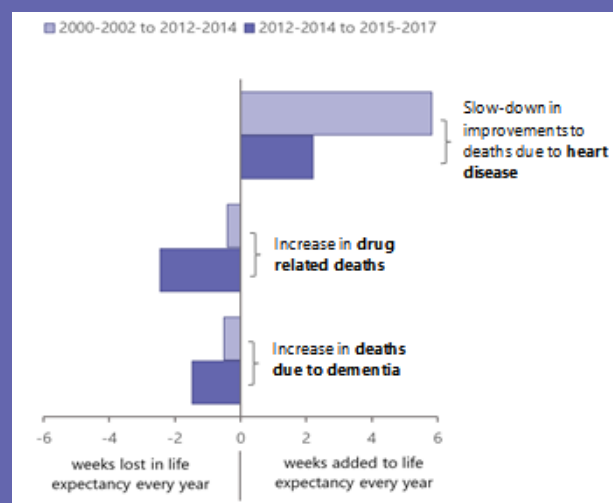
**Figure 3. Annual change in life expectancy at birth in Scotland, 2000-2002 to 2016-2018**



Source: National Life Tables for Scotland (NRS)  
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### Why is life expectancy in Scotland stalling?

Recently, NRS have been involved in a collaborative project with a range of health organisations to investigate why life expectancy has stopped increasing. We found that since 2012-2014, there has been a slowdown in the rate of improvement of deaths from heart disease, especially in people aged between 55 and 74. There has also been an increase in the number of younger people aged 35-54 dying from drugs and in people over 75 dying from dementia. We have written about these results and other findings in a more detailed blog post which you can read on the NRS website.



## 4. Life expectancy at older ages

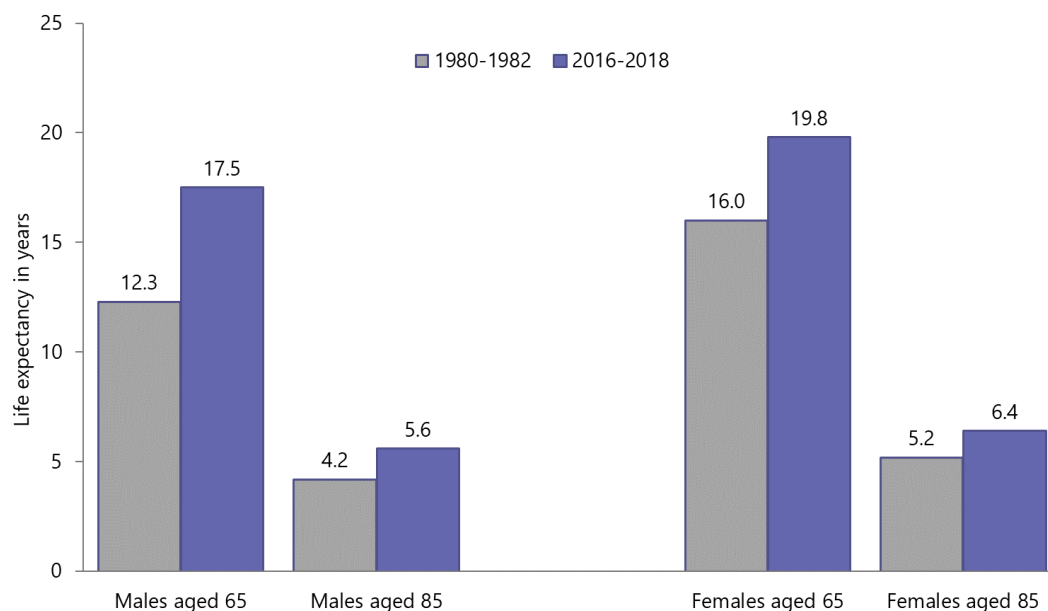
Between 2016-2018, a man aged 65 in Scotland could expect to live on average for another 17.5 years. A woman of the same age could expect to live 19.8 more years. At age 85, males could expect to live for a further 5.6 years and females for a further 6.4 years. Figure 4 shows how life expectancy at older ages has changed since 1980-1982. Men aged 65 in 2016-2018 can expect to live 5.2 years longer than they would have done in 1980-1982 and men aged 85 can expect to live 1.4 years longer. For women, those aged 65 and 85 in 2016-2018 can expect to live 3.8 years and 1.2 years longer respectively than they would have done in 1980-1982. Since 2012-2014, the rate of increase of life expectancy at age 65 and 85 has been much slower than it was prior to 2012-2014.

### What is 'life expectancy at older ages'?

Life expectancy at older ages can be quite a confusing concept—how can a man aged 65 expect to live 17.5 years when life expectancy at birth is 77 years?

The best explanation for this is that life expectancy is an average which is affected by people dying at younger ages as well as in old age. While the average number of years a baby boy might live is 77, if he makes it to 65 without dying, then the average number of years left is 17.5.

**Figure 4. Life expectancy at older ages in Scotland. 1980-1982 and 2016-2018**



Source: National Life Tables for Scotland (NRS)  
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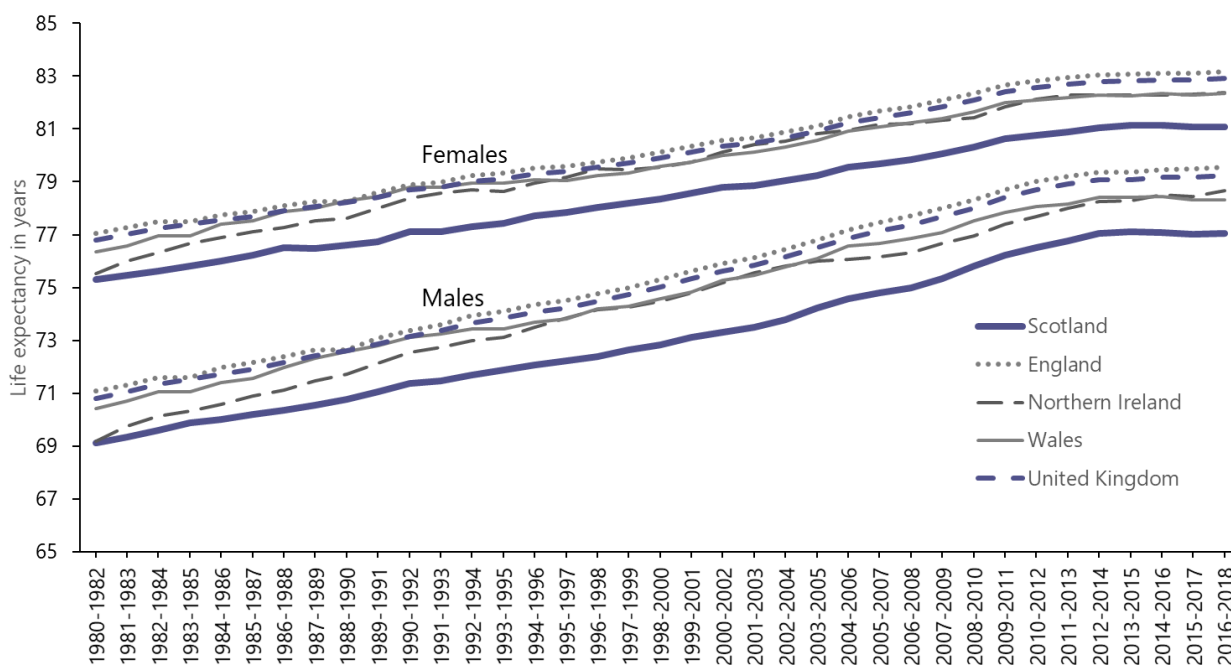


## 5. Scotland's life expectancy compared internationally

### Life expectancy in UK countries

Scotland has the lowest life expectancy of all UK countries for both males and females. Figure 5 shows that this is a historical pattern that has persisted from 1980-1982 until 2016-2018. Average life expectancy at birth in the UK was 82.9 years for females and 79.3 years for males in 2016-2018. This is higher than the Scottish figure by 1.9 years for females and 2.2 years for males. Figure 5 shows how this gap between Scotland and the whole of the UK has increased since 1980-1982. It also shows that the slowing in life expectancy increase has happened in all countries of the UK. Table 1 also shows a comparison of life expectancy in the UK constituent countries at birth and at age 65.

**Figure 5. Life expectancy at birth in UK constituent countries 1980-1982 to 2016-2018, males and females**



Source: National life tables (ONS)  
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**Table 1. Life expectancy at birth and age 65 in UK and constituent countries, 2016-2018**

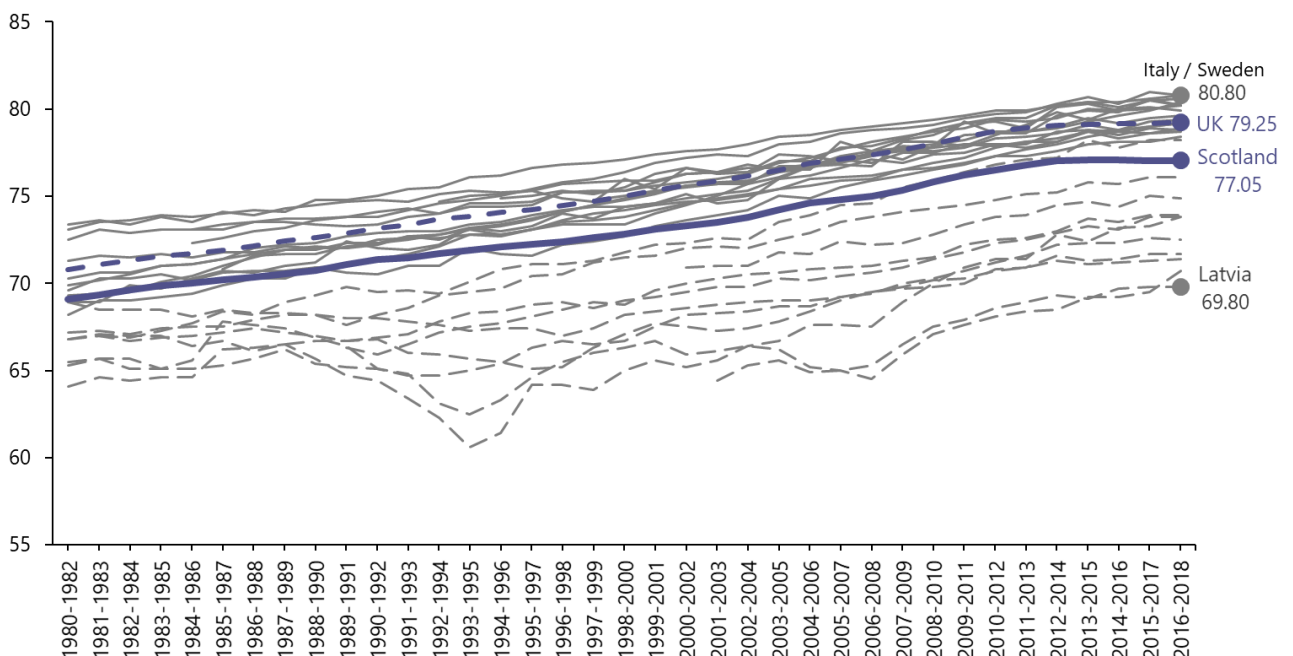
	at birth		age 65	
	males	females	males	females
United Kingdom	79.25	82.93	18.64	21.00
England	79.56	83.18	18.80	21.17
Wales	78.31	82.33	18.17	20.59
Scotland	77.05	81.08	17.53	19.78
Northern Ireland	78.66	82.38	18.34	20.64

Source: National life tables (ONS)  
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**Life expectancy in EU countries**

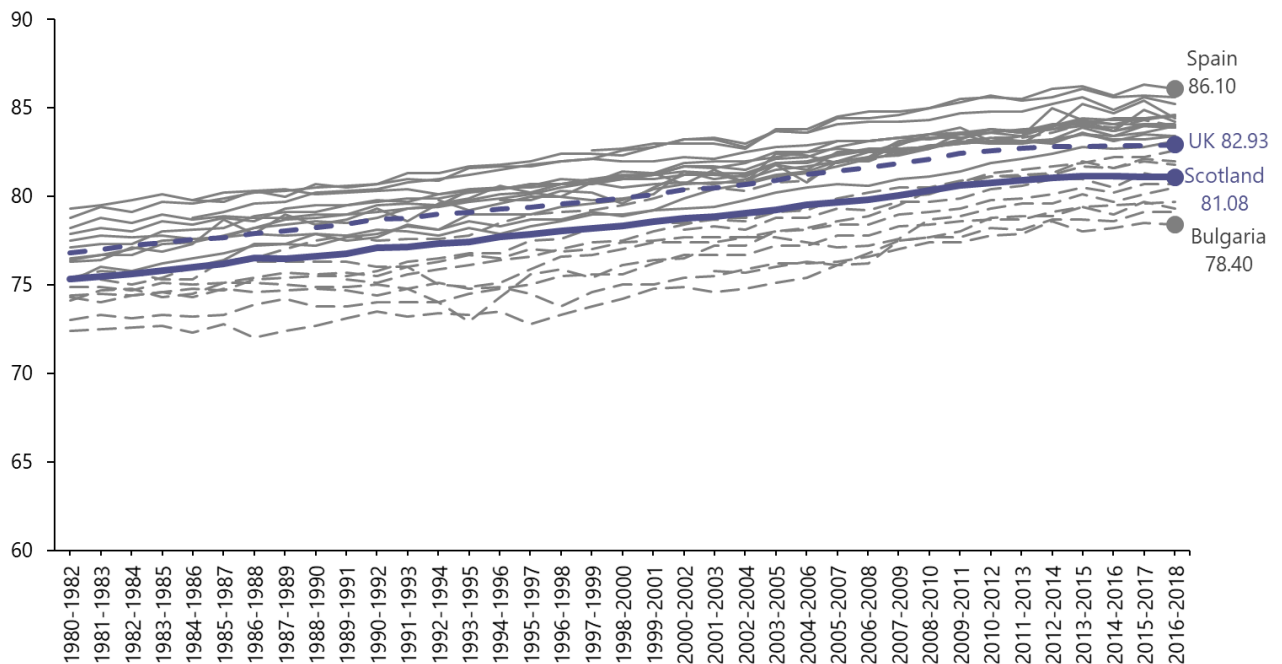
Figure 6a and figure 6b show life expectancy at birth in Scotland and the UK compared with countries in the EU. In 2016-2018, life expectancy for males was highest in Italy and Sweden (both 80.8 years) and lowest in Latvia (69.8 years). For females, life expectancy at birth was highest in Spain (86.1 years) and lowest in Bulgaria (78.4). The majority of European countries have experienced a slowing in the rate of life expectancy increase from 2012-2014 onwards and a few have effectively stalled (for example, males in Greece and females in France). This trend is not universal however with some countries such as the Republic of Ireland continuing to see increases in life expectancy at a similar rate before and after 2012-2014.

**Figure 6a. Life expectancy at birth in EU countries. 1980-1982 to 2016-2018, Males**



Source: National life tables for Scotland (NRS), National life tables for the UK (ONS), Eurostat (tps00025)  
Dashed lines represent Eastern European countries which have historically lower life expectancy. Life expectancy for non-UK countries is based on one year of data, e.g. 2016-2018 is based on population and deaths in the year 2017

**Figure 6b. Life expectancy at birth in EU countries. 1980-1982 to 2016-2018, Females**

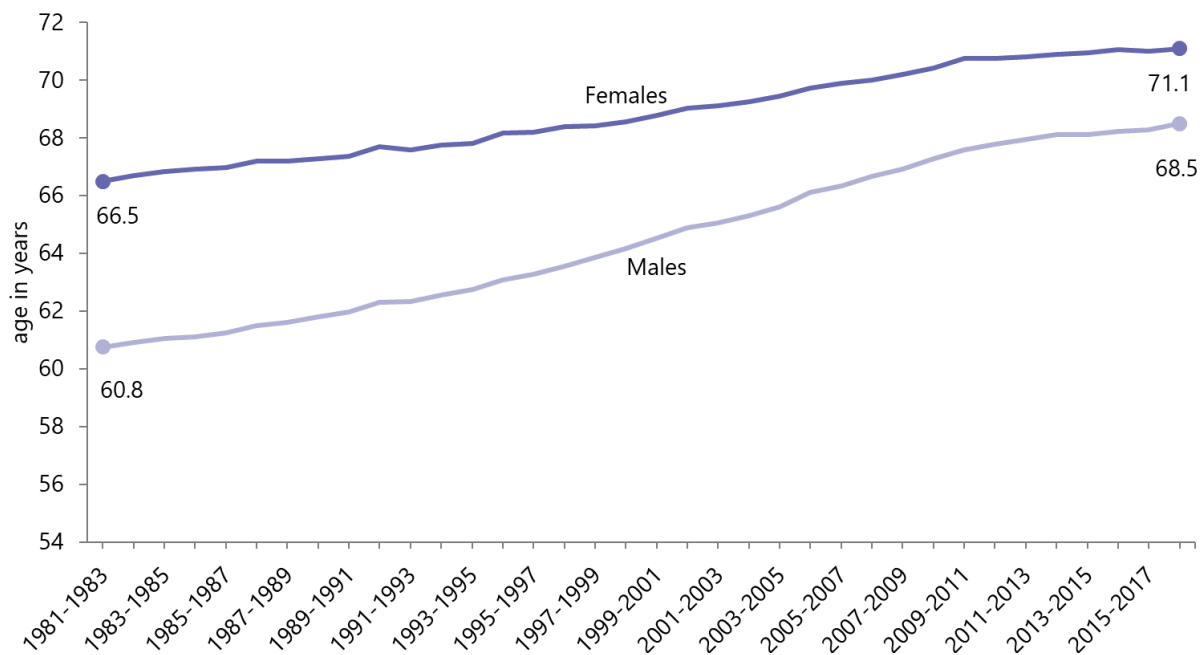


Source: National life tables for Scotland (NRS), National life tables for the UK (ONS), Eurostat (tps00025)  
 Dashed lines represent Eastern European countries which have historically lower life expectancy. Life expectancy for non-UK countries is based on one year of data, e.g. 2016-2018 is based on population and deaths in the year 2017

## 6. Life expectancy and population dynamics: time to death statistics

Life expectancy estimates can also be used to look at population ageing. As life expectancy increases, the age at which a person is 'elderly' or approaching death changes. Figure 7 shows the average age at which males and females in Scotland have only 15 years of life remaining. This age has risen from age 66.5 in females in 1981-1983 to 71.1 in 2016-2018. For males, the average age at which 15 years of life remains has risen from 60.8 to 68.5 over the same period.

**Figure 7. Age at which a person has 15 years remaining life expectancy in Scotland, 1981-1983 to 2016-2018**



Source: National Life Tables for Scotland (NRS)  
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**Why does 'time to death' matter?**

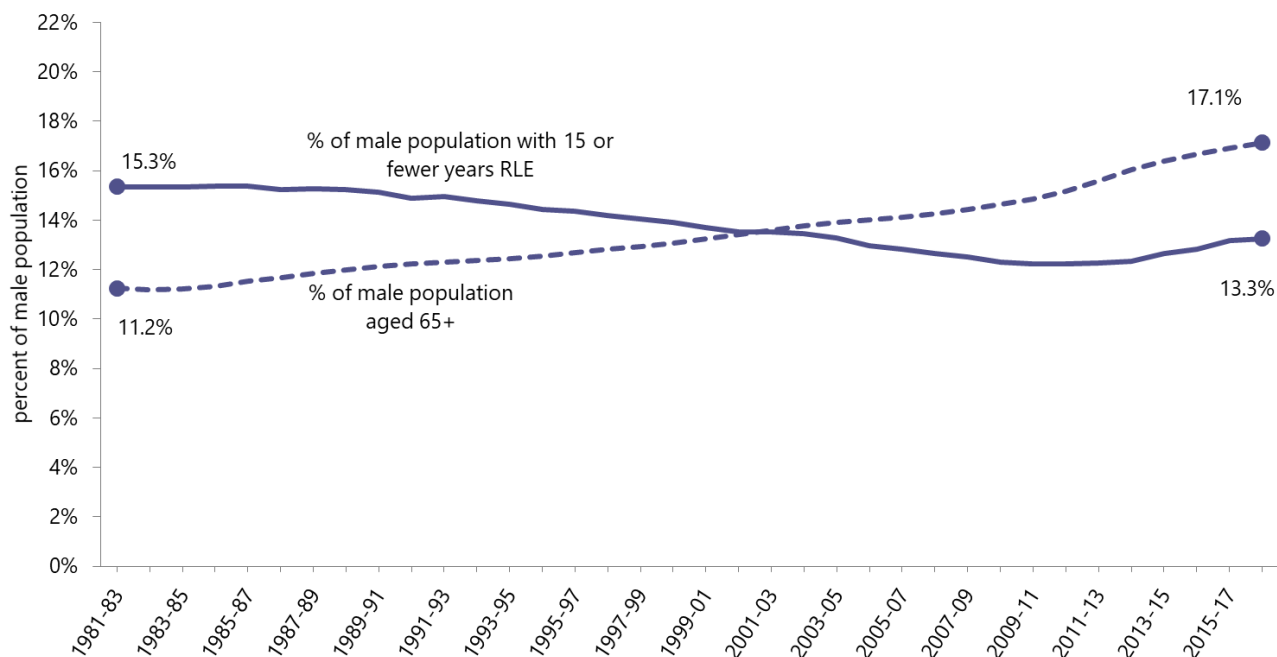
Often, we define the 'elderly' population as those aged over 65. However, studies show that a lot of the health problems related to old age are more closely associated with how long someone has left to live rather than how long they have already lived. This means it may be more useful for health and social care policy to look at how many people have only 15 years of life expectancy remaining, rather than the number of people aged 65 and over.

Figure 8a and figure 8b show the percentage of the male and female population of Scotland that has on average 15 or fewer years of remaining life expectancy. In both cases, the percentage has fallen between 1981-1983 and 2010-2012, by 3.1% for males and 2.6% for females. Figure 8a and figure 8b also show that the percentage of male and female population aged 65 and above has grown over the same period. As the large birth cohorts from the baby boom years have become older and life expectancy has increased, the number of people over 65 has increased in Scotland. At the same time, from the 1980s until around

2011, life expectancy was increasing, so the average age at death was also increasing. This means that although the elderly population was growing, the number of people close to death was decreasing. Figure 8a and figure 8b show that when improvements to life expectancy began to slow, the percent of the population with

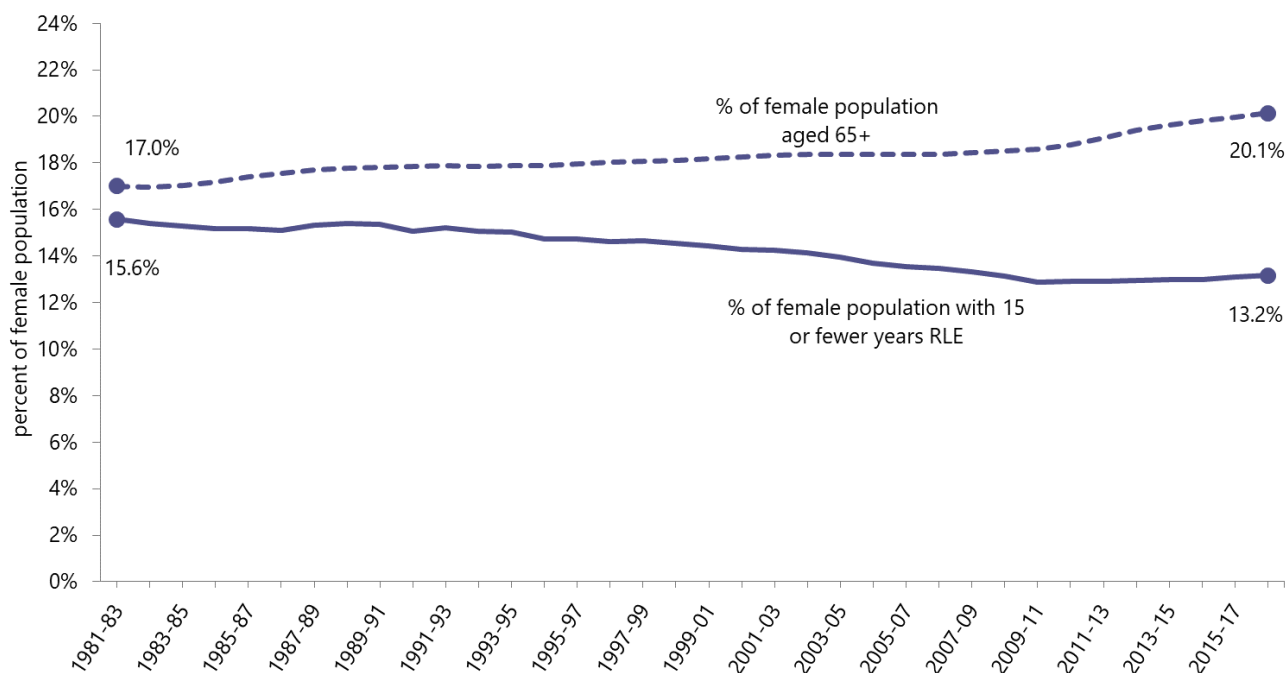
15 or fewer years remaining life expectancy stopped decreasing, indicating that the number of people approaching the end of their lives is no longer decreasing in Scotland. Since 2012-2014, this group has begun to increase slightly.

**Figure 8a. Percent of male population aged 65 years or older and with 15 or fewer years of remaining life expectancy. 1981-1983 to 2016-2018**



Source: National Life Tables for Scotland (NRS)  
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**Figure 8b. Percent of female population aged 65 years or older and with 15 or fewer years of remaining life expectancy. 1981-1983 to 2016-2018**



Source: National Life Tables for Scotland (NRS)  
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## 7. Links to related statistics

- Life tables for the UK and constituent countries are available on the [Office for National Statistics website](#).
- Life expectancy for subnational areas within Scotland are available on the [National Records of Scotland website](#). This include Scottish council areas, health boards and areas split by Scottish index of multiple deprivation. The next release of subnational life expectancy estimates will be in December 2019. This publication will also contain estimates of healthy life expectancy for Scotland and areas within Scotland.
- The number and causes of deaths registered in Scotland each year are published on the [National Records of Scotland website](#).

## 8. Background notes

- Life expectancy for Scotland is produced by the Office for National Statistics on behalf of the National Records of Scotland.

## 9. Methodology and comparisons across the UK

- The National Records of Scotland website has a guide that describes the [methodology](#) used to produce the life expectancy statistics for Scotland. This methodology is similar to that used to produce life expectancy estimates in other UK constituent countries.

## 10. Quality of administrative data sources

- Life expectancy is calculated using mid-year population estimates and deaths data as inputs. Information about the quality of deaths data is available on the [Vital Events section](#) of the NRS website.

## 11. Notes on statistical publications

The United Kingdom Statistics Authority (UKSA) has designated these statistics as National Statistics, in line with the Statistics and Registration Service Act 2007 and

signifying compliance with the Code of Practice for Official Statistics (available on the [UKSA website](#)).

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value.

All official statistics should comply with all aspects of the Code of Practice for Official Statistics. They are awarded National Statistics status following an assessment by the Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is National Records of Scotland's responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

## **12. Information on background and source data**

Further details on data source(s), timeframe of data and timeliness, continuity of data, accuracy, etc. can be found in the [About this Publication document](#) that is published alongside this publication on the NRS website.

### **National Records of Scotland**

We, the National Records of Scotland, are a non-ministerial department of the devolved Scottish Administration. Our aim is to provide relevant and reliable information, analysis and advice that meets the needs of government, business and the people of Scotland. We do this as follows:

- Preserving the past – We look after Scotland's national archives so that they are available for current and future generations, and we make available important information for family history.
- Recording the present – At our network of local offices, we register births, marriages, civil partnerships, deaths, divorces and adoptions in Scotland.
- Informing the future – We are responsible for the Census of Population in Scotland which we use, with other sources of information, to produce statistics on the population and households.

You can get other detailed statistics that we have produced from the Statistics section of our website. Scottish Census statistics are available on the [Scotland's Census website](#).

We also provide information about future publications on our website. If you would like us to tell you about future statistical publications, you can register your interest on the [Scottish Government ScotStat website](#).

You can also follow us on twitter @NatRecordsScot .

### **Enquiries and suggestions**

Please contact our Statistics Customer Services if you need any further information or if you have comments or suggestions that would help us improve our standards of service.

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