

National Life Tables for Scotland 2015-2017

Published on 25 September 2018

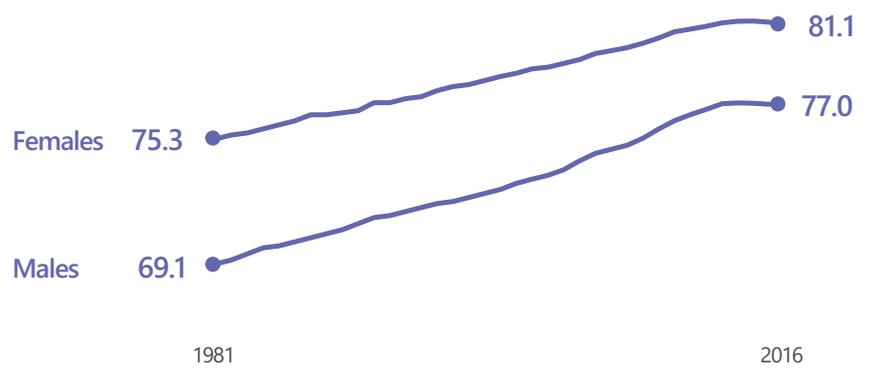


This statistical report details life expectancy estimates for Scotland for the period 2015-2017. It examines the long terms trends and recent changes to those trends and includes comparisons with the UK and constituent countries.

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, the most recent estimate shows a small decrease in life expectancy for both females and males

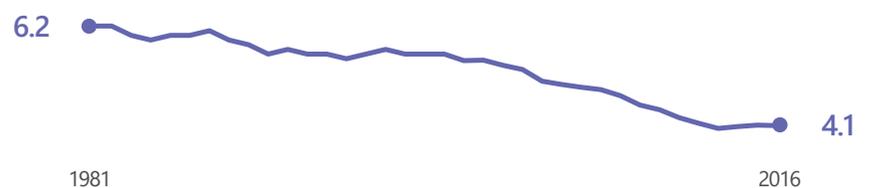
Life expectancy at birth (years)



The gender gap has decreased

The gender gap in life expectancy decreased from 6.2 years for those born around 1981 to 4.1 years for those born around 2016.

Gender gap in life expectancy (female - male in years)



The increase in life expectancy has slowed in recent years

Over the most recent period, life expectancy for both females and males declined by approximately 0.1 years for the first time since the 1980s.

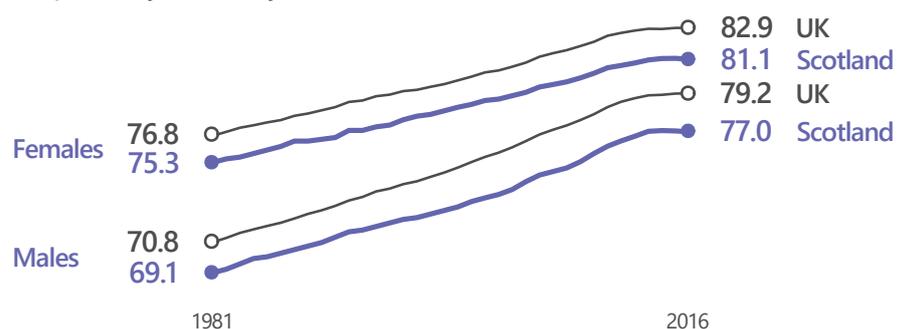
Annual change (years)



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)



Contents

1. Main points	3
2. Introduction.....	3
3. Life expectancy at birth.....	4
4. Life expectancy at older ages	5
5. Recent trends in life expectancy	5
6. Scotland's life expectancy compared with the rest of the UK	7
7. Life expectancy and population dynamics- time to death statistics	9
8. Links to related statistics	11
9. Background notes	11
10. Methodology and comparisons across the UK	11
11. Quality of administrative data sources	11
12. Notes on statistical publications.....	11
13. Information on background and source data	12

List of figures

Figure 1. Life Expectancy at Birth, Scotland, 1981-2042.....	4
Figure 2. Life expectancy at older ages in Scotland. 1980-82 to 2015-2017.....	5
Figure 3. Annual change in life expectancy at birth in Scotland, 2000 02 to 2015-17.....	6
Figure 4. The slowing rate of improvement to life expectancy in Scotland. 2000-02 to 2015-17.....	7
Figure 5a. Life expectancy for females at birth in UK constituent countries. 1980-82 to 2015-17.....	8
Figure 5b. Figure 5b. life expectancy for males at birth in UK constituent countries. 1980-82 to 2015-17.....	8
Table 1. Life expectancy at birth and age 65 in UK and constituent countries, 2015-17.....	8
Figure 6. Age at which a person has 15 years remaining life expectancy in Scotland 1981-83 to 2015-17.....	9
Figure 7a. Percent of male population aged 65 years or older and with 15 or fewer years of remaining life expectancy. 1981-83 to 2015-17.....	10
Figure 7b. Percent of female population aged 65 years or older and with 15 or fewer years of remaining life expectancy. 1981-83 to 2015-17.....	10

1. Main points

- Estimated life expectancy at birth in Scotland was 77.0 years for males and 81.1 years for females born in the period 2015-2017.
- These estimates represent a decrease in life expectancy at birth of approximately 0.1 years for both males and females since the previous estimate for 2014-2016.
- Life expectancy at birth has increased by around eight years for males and six years for females since 1980-1982, however improvements have slowed in recent years and have now stalled.
- Life expectancy at age 65 in 2015-2017 was 17.4 years for males and 19.7 years for females.
- Scotland has the lowest life expectancy in the UK. All UK constituent countries have experienced a slow-down in the rate of improvement to life expectancy over the last few years.

2. Introduction

This publication summarises the life expectancy figures for Scotland for the years 2015-17 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 2015, 2016 and 2017. 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 2015-2017 period. For simplicity, these are sometimes referred to as life expectancy for those born around 2016.

The figures presented in this publication relate to period life expectancies. Period life expectancies are calculated using age specific mortality rates for a given period. They do not make allowance for any actual or projected future changes in mortality after that period. This means that life expectancy at birth for a given time period and area is an estimate of the average number of years a new born baby would survive if he/she experienced the particular area's age specific mortality rates for that time period throughout his/her life. The figure reflects mortality among those living in the area in each period, rather than mortality among those born in each area. Life expectancy at birth is not simply the number of years a baby born in the area during the three year period is expected to live (although the term 'can expect to live' is used throughout this publication for ease of reading), both because death rates are likely to change in the future and because many of the new-borns may live elsewhere for at least some part of their lives.

Uses of life expectancy

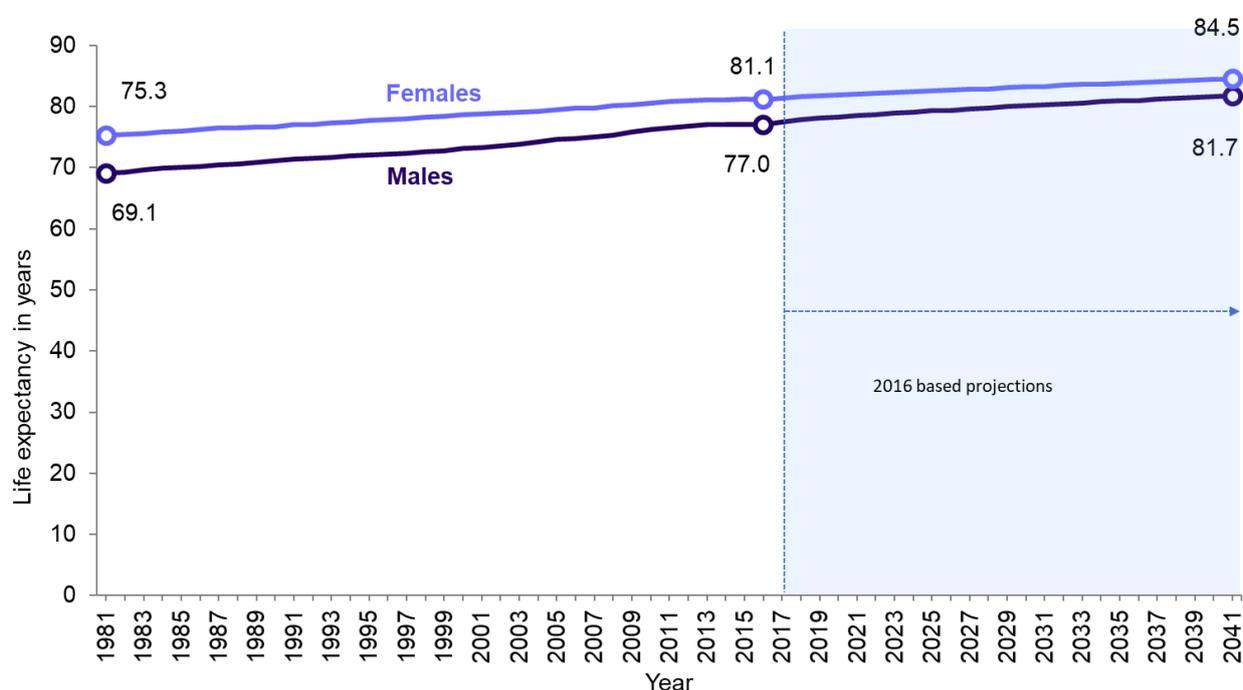
Life expectancy at birth is a very useful indicator of mortality conditions across a population at a particular point in time. It also provides an objective means of comparing trends in mortality over time, between areas of a country and with other countries. This is used to monitor and investigate health inequalities and to set public health targets. Life expectancy is also used to inform pensions policy, research and teaching.

3. Life expectancy at birth

The most recent estimates show that a baby boy born in Scotland in the period 2015-2017 could expect to live until he was 77 years old. A baby girl born in the same period could expect to live for 81.1 years. For both males and females this is a decrease of approximately 0.1 years from the previous estimate for 2014-2016.

Figure 1 shows how life expectancy at birth in Scotland has been increasing for most of the past three decades from 69.1 years for males and 75.3 years for females in 1980-1982. The 2016 based population projections show that life expectancy at birth is projected to increase to 84.5 years for females and 81.7 years for males by 2041.

Figure 1. Life expectancy at birth in Scotland. 1981-2041¹.



Footnote:

1. Figures to 2016 are from National Life Tables produced by the Office for National Statistics (ONS). They are based on three years of data. For example, the 2016 figure uses data for 2015-2017. Figures from 2017 are projected single year life expectancies (2016 based), ONS.

As life expectancy has increased, the gap between male and female life expectancy has decreased from 6.2 years in 1980-1982 to 4.1 years in 2015-2017. This is due to life expectancy increasing at a faster rate for males than for females and may be related to a move away from high risk jobs in heavy industry in recent decades and also a reduction in the number of men who smoke¹.

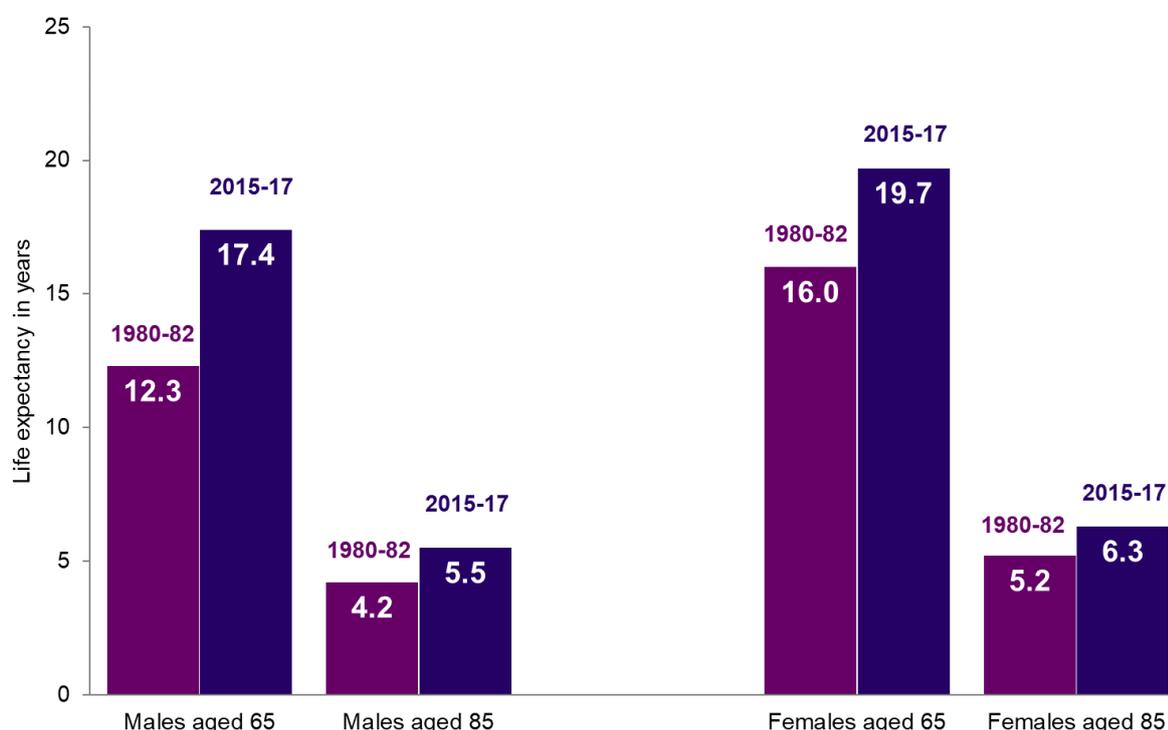
Between 2002-2004 and 2012-2014 the gap decreased by 1.3 years compared to 0.9 years over the previous 23 years (between 1981 and 2003). The recent stalling in life expectancy has meant that the gender gap has remained constant from 2012-2014 to 2015-2017.

Footnote 1. [How has life expectancy changed over time? \(ONS\)](#)

4. Life expectancy at older ages

Figure 2 shows that life expectancy at age 65 was 17.4 years for men and 19.7 years for women in 2015-2017. This means that a man aged 65 in 2015-2017 could expect to live until he was 82.4 years old and a 65 year old woman could expect to live until she was 84.7 years old. This represents an increase in life expectancy at 65 of 5.1 years for men and 3.7 years for women since 1980-1982 when life expectancy at age 65 was 12.3 years and 16.0 years respectively. Figure 2 also illustrates the increase in life expectancy at age 85 from 4.2 to 5.5 years for men and 5.2 to 6.3 years for women (increases of 1.3 and 1.1 years respectively).

Figure 2. Life expectancy at older ages in Scotland. 1980-82 to 2015-2017



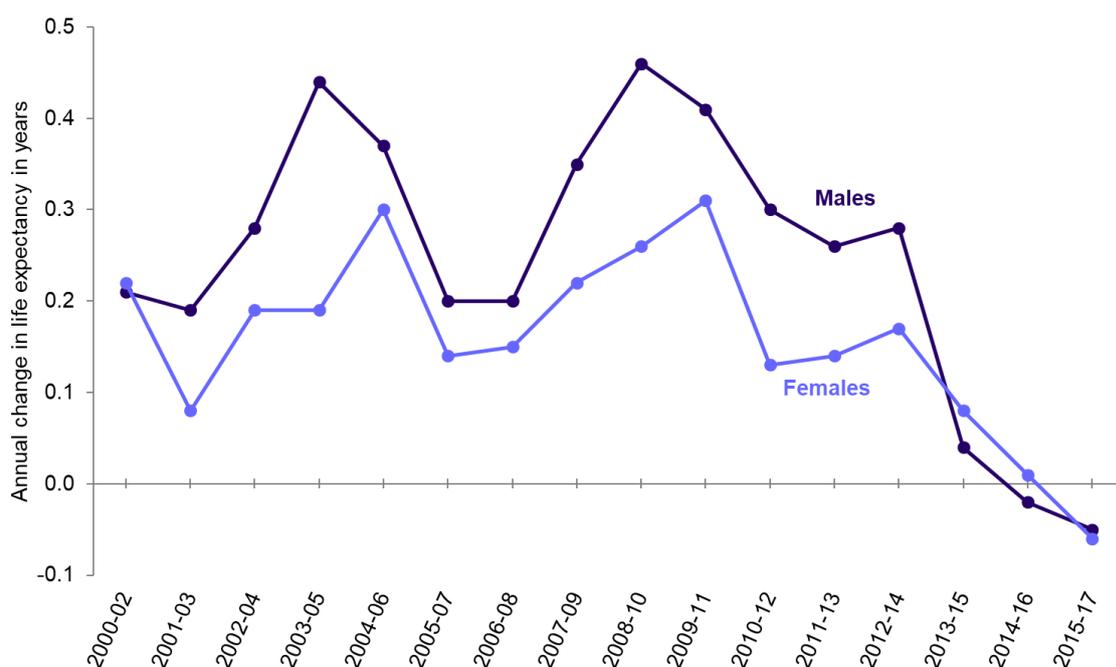
Source: Office for National Statistics (National Life Tables for UK and constituent countries)

The gender gap in life expectancy at older ages has also become smaller, decreasing from 3.7 years in 1980-1982 to 2.3 years in 2015-2017 for persons aged 65. The life tables in table 2 on the NRS website shows life expectancy at selected ages.

5. Recent trends in life expectancy

Figure 3 shows the annual change in life expectancy for males and females for every year from 2000-2002. Between 2000-2002 and 2013-2015, annual change was always positive, meaning that life expectancy improved every year (although there was some year on year fluctuation in the size of the increase). From 2013-2015 to 2014-2016, the annual change in life expectancy was less than 0.1 year, reflecting the slowdown in improvements to Scottish life expectancy. In 2015-2017, estimated life expectancy at birth fell by 0.05 years for males and 0.06 years for females. This is the first year that life expectancy has decreased in Scotland for both males and females.

Figure 3. Annual change in life expectancy at birth in Scotland, 2000-02 to 2015-17



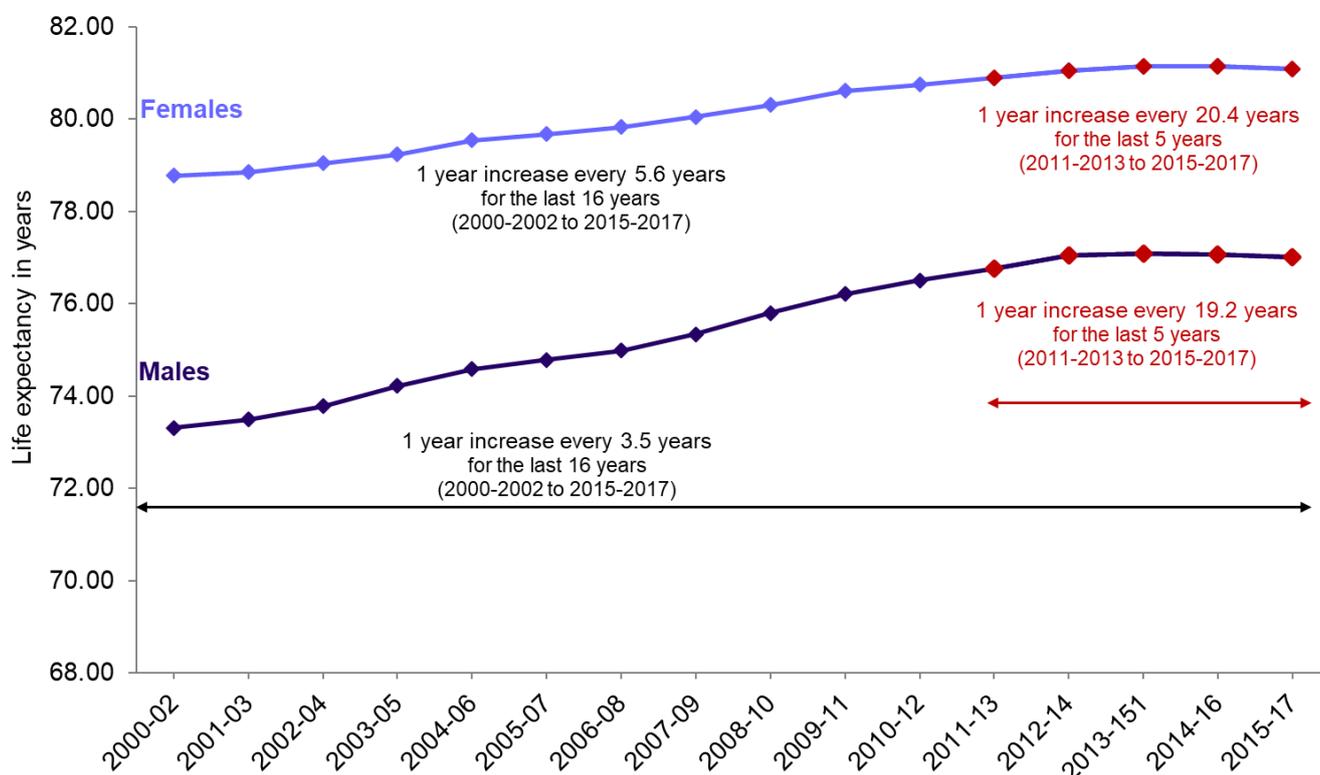
Source: Office for National Statistics (National Life Tables for UK and constituent countries)

Figure 4 shows that although the stall in life expectancy improvements has occurred over the last three estimates, the slow down begins before that. Over the last 16 estimates (since 2000-2002), life expectancy at birth in Scotland has increased by approximately 1 year every 3.5 years for males and every 5.6 years for females (based on linear regression models). Over the past five estimates however (since 2011-2013), the rate of increase has fallen to one year every 19.2 years for males and one year every 20.4 years for females.

It is difficult to pinpoint exactly what the cause of the changing trend in life expectancy has been. Life expectancy is calculated from mortality rates, so changes in life expectancy reflects changes in mortality. In recent years, improvements in mortality rates have also stalled. There has been an increase in older people dying due to dementia and Alzheimer's disease. Amongst younger ages there has also been an increase in the number of drug, alcohol and accidental deaths.

While it is impossible to say whether the stall in life expectancy will continue into the future, after three years of effectively no change, this represents a break in the long term trend for Scotland.

Figure 4. The slowing rate of improvement to life expectancy in Scotland. 2000-02 to 2015-17



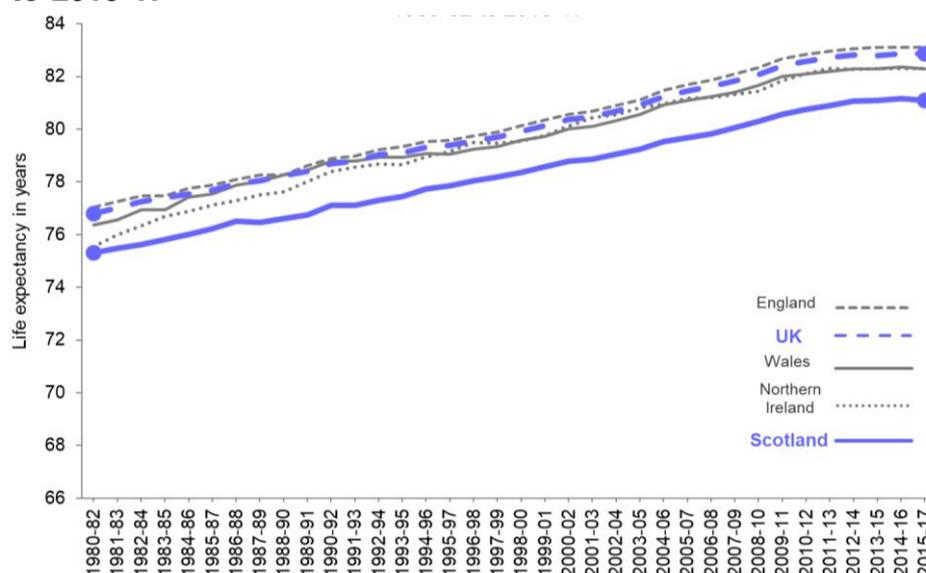
Source: Office for National Statistics (National Life Tables for UK and constituent countries)

6. Scotland's life expectancy compared with the rest of the UK

Scotland has historically had the lowest life expectancy of the constituent UK countries and this trend continues in the most recent data. Figure 5a and figure 5b show that over the period 1980-1982 to 2015-2017, life expectancy at birth has been on average 1.6 years lower in Scotland than in the UK for females and two years lower in Scotland for males. England has consistently had the highest life expectancy of all UK countries for both males and females while Wales and Northern Ireland currently have life expectancy in between that of Scotland and the UK average. This pattern is consistent for life expectancy at birth and at older ages as can be seen in table 1.

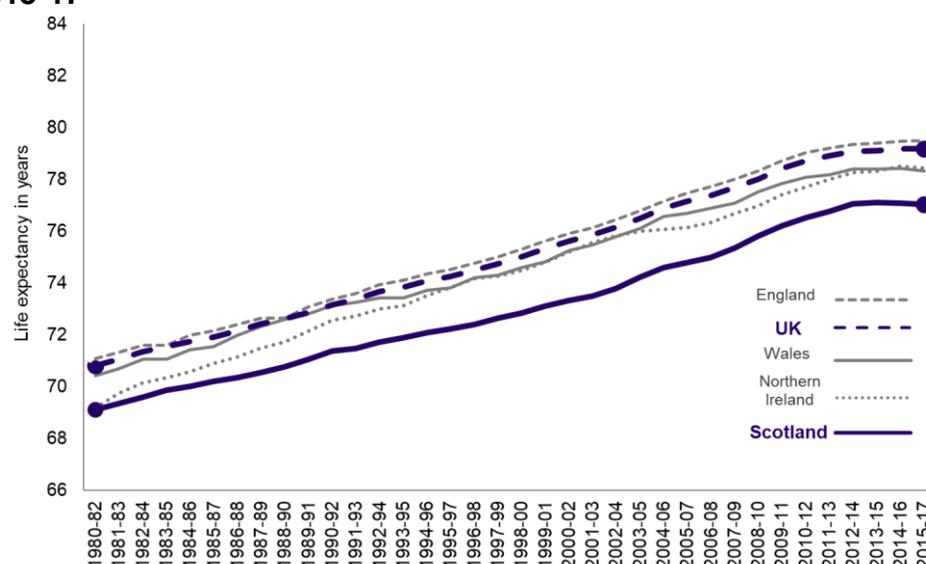
All UK countries have also experienced the recent slow-down of improvements to life expectancy that Scotland has seen. Between 2014-2016 and 2015-2017 life expectancy for the UK as a whole remained virtually unchanged while there was a very slight increase for males in England. Life expectancy at birth in Northern Ireland decreased by just less than 0.1 year for males and in Wales, life expectancy fell by around 0.1 year for both males and females.

Figure 5a. Life expectancy for females at birth in UK constituent countries. 1980-82 to 2015-17



Source: Office for National Statistics (National Life Tables for UK and constituent countries)

Figure 5b. Life expectancy for males at birth in UK constituent countries. 1980-82 to 2015-17



Source: Office for National Statistics (National Life Tables for UK and constituent countries)

Table 1. Life expectancy at birth and age 65 in UK and constituent countries, 2015-2017

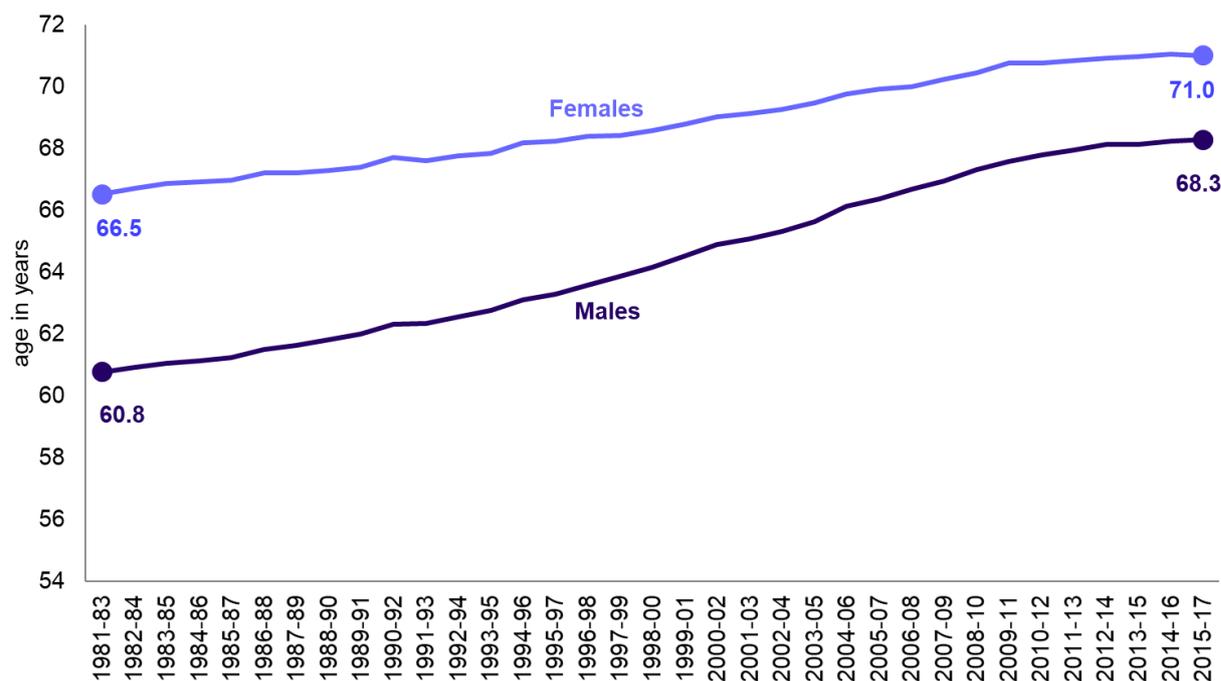
	at birth		age 65	
	males	females	males	females
England	79.5	83.1	18.7	21.1
United Kingdom	79.2	82.9	18.6	20.9
Northern Ireland	78.4	82.3	18.2	20.6
Wales	78.3	82.3	18.2	20.6
Scotland	77.0	81.1	17.4	19.7

Source: Office for National Statistics (National Life Tables for UK and constituent countries)

7. 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 6](#) shows the age at which a person has only 15 years of remaining life expectancy over time. In 2015-2017 a man aged 68.3 years and a woman aged 71.0 years old in Scotland had on average 15 years of life remaining. This compares to a 60.8 year old man and a 66.5 year old woman in 1981-1983.

Figure 6. Age at which a person has 15 years remaining life expectancy in Scotland 1981-83 to 2015-17

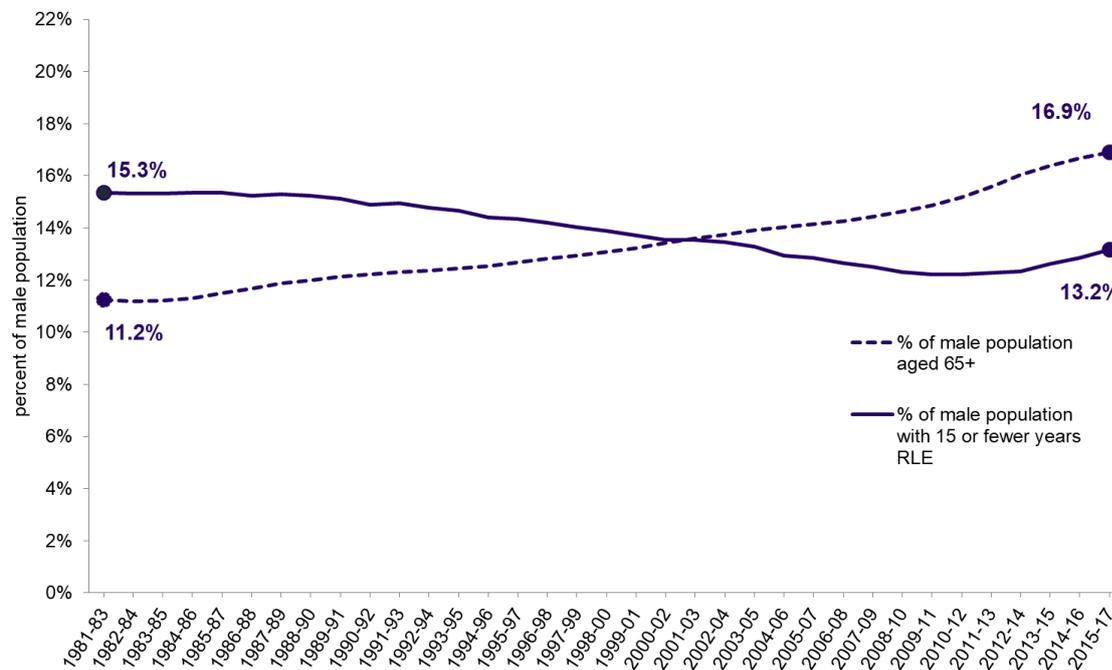


Source: Office for National Statistics (National Life Tables for UK and constituent countries)

This has implications for how population ageing is measured, as many of the health conditions related to old age are associated more with approaching the end of life rather than to the number of years already lived. [Figure 7a](#) and [figure 7b](#) 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 7a](#) and [figure 7b](#) 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 shrinking. [Figure 7a](#) and [figure 7b](#) 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

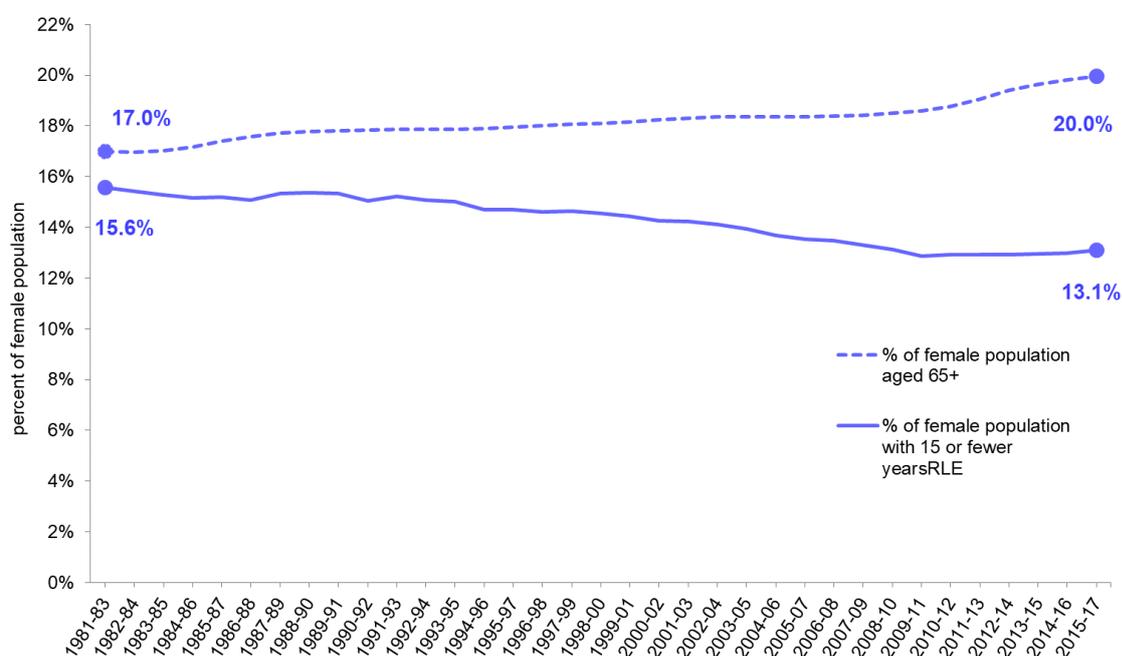
number of people approaching the end of their lives is no longer shrinking in Scotland. For males, after 2012-2014, this group began to increase slightly.

Figure 7a. Percent of male population aged 65 years or older and with 15 or fewer years of remaining life expectancy. 1981-83 to 2015-17



Source: Office for National Statistics (National Life Tables for UK and constituent countries)

Figure 7b. Percent of female population aged 65 years or older and with 15 or fewer years of remaining life expectancy. 1981-83 to 2015-17



Source: Office for National Statistics (National Life Tables for UK and constituent countries)

8. 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 2018.
- Healthy life expectancy is an estimate of the number of years a person could expect to live in good health. Disability free life expectancy is the number of years a person could expect to live without disability. Healthy life expectancy and disability free life expectancy estimates for the UK, constituent countries and council areas are available on the [Office for National Statistics website](#).
- Healthy life expectancy estimates at smaller geographies for Scotland are published by Information Services Division and are available on the [Scottish Public Health Observatory website](#).
- From 2018, NRS will produce healthy life expectancy estimates for Scotland and areas within Scotland as part of the December publication.
- The number and causes of deaths registered in Scotland each year are published on the [National Records of Scotland website](#).

9. Background notes

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

10. 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.

11. 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.

12. 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.

13. 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.
Email: statisticscustomerservices@nrscotland.gov.uk

If you have comments or suggestions that would help us improve our standards of service, please contact:

Alan Ferrier
Senior Statistician
National Records of Scotland
Room 1/2/12
Ladywell House
Ladywell Road
Edinburgh
EH12 7TF

Phone: 0131 3144530
Email: alan.ferrier@nrscotland.gov.uk