

Coverage: Northern Ireland

Date: 25 September 2014 (9.30am)

Geographical Area: Northern Ireland

Theme: Population

Estimates of the population aged 85 and over, Northern Ireland, 2013 (and revised 2001-2012)

Key Points:

- In June 2013, 33,300 people (1.8 per cent of the population) were aged 85 years and over;
- the population aged 85 and over has increased by 40 per cent (9,500 people) in the 10 year period between June 2003 and June 2013. This is nearly six times faster than the growth in the rest of the population over this period (7 per cent). This growth is also noticeably higher than the 33 per cent increase in each of the other UK countries (England, Scotland and Wales).
- within the population aged 85 and over in Northern Ireland, women significantly outnumber men, accounting for 68 per cent of this population group;
- it is estimated that in June 2013 there were 233 centenarians (those aged 100 and over) in Northern Ireland, with the number of centenarians in Northern Ireland having increased by 82 per cent since June 2003.

More detailed figures and analysis are included in the body of the bulletin, including Annex A.

1. Introduction

This statistical bulletin provides NISRA's mid-year population estimates for those aged 85 and over in Northern Ireland as at 30 June 2013. It presents information on how the overall number and gender composition of those aged 85 and over has changed during the decade 2003 to 2013, and presents analyses and commentary for those aged 90 to 99, and centenarians (those aged 100 and over). Similar information relating to England & Wales and Scotland was simultaneously released on 25th September 2014 by the Office for National Statistics (ONS) and National Records of Scotland (NRS) respectively (see Notes section).

The information in this bulletin contributes to the production of population projections and life expectancy statistics for Northern Ireland, all of which are of policy interest because of the implications for pensions and the delivery of front lines services for the older population, such as housing, transport and health care.

2. Background to publication

NISRA produces mid-year population estimates on an annual basis using the cohort component method. Historically, these included estimates on a single year of age basis up to and including age 84. For those aged 85 and over aggregate statistics were produced, as single year of age estimates were considered to be less reliable for this age group due to the small number of people involved.

In 2009 however, NISRA responded positively to an increased demand for more detailed population estimates for those aged 85 and over and started to produce single year of age mid-year estimates for those aged 85-104 using an internationally recognised methodology called the Kannisto-Thatcher Survivor Ratio Method (see Annex B). Similar arrangements were introduced by the other statistical offices across the UK.

Following the release of 2011 Census figures, mid-year population estimates for the years 2001 to 2011 were revised. Part of this revision was to extend the age range of population estimates to provide single year of age estimates up to age 89 with aggregate statistics for ages 90 and over. The Kannisto-Thatcher Survivor Ratio Method is then used to distribute the population estimates for the highest age group into single year of age up to and including 104, and a group aged 105 and over.

It should be noted that the Kannisto-Thatcher Survivor Ratio Method gives rise to minor revisions to the age distribution within the aged 90 and over category as new information on actual deaths becomes available. Accordingly, slightly revised estimates for the 90 and over category are provided for the period 2001 to 2012. The extent of these revisions is discussed in Annex C.

3. Overview of the older age groups in Northern Ireland

The population of Northern Ireland is becoming increasingly older. Improving survival, coupled with a general downward trend in the number of births, has resulted in an ageing population. This progressive ageing is evident in the relative percentage increases among those in different age groups over the decade 2003-2013, which are illustrated in Table 1 below. For example, over the ten year period in question, the population aged 70-79 has increased by 14.6 per cent, while the population aged 90-99 has increased by 43.0 per cent.

Table 1: Mid-year population estimates by age group (2003-2013)¹

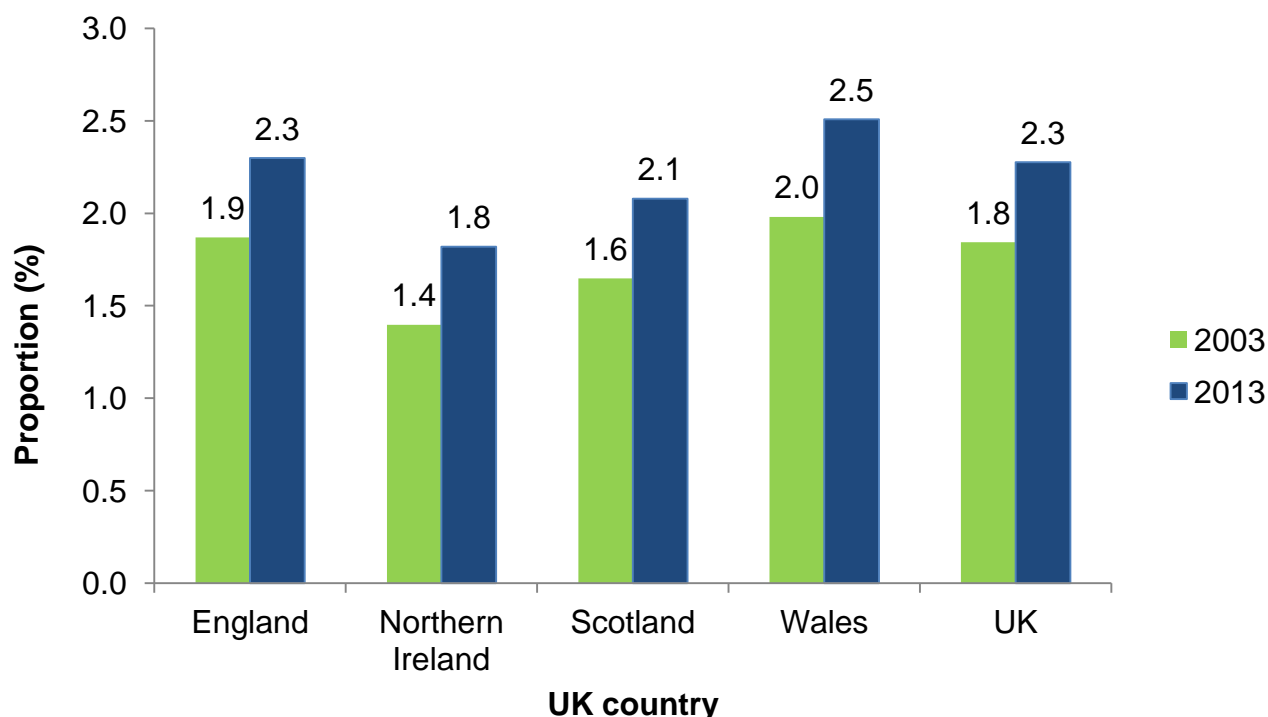
Age Group	2003		2013		% Growth 2003-2013
	Persons	%	Persons	%	
0-69	1,542,800	90.5	1,637,900	89.5	6.2
70-79	105,300	6.2	120,700	6.6	14.6
80-89	49,000	2.9	59,800	3.3	22.1
90-99	7,800	0.5	11,100	0.6	43.0
100 and over	128	0.01	233	0.01	82.0
Total	1,704,900	100.0	1,829,700	100.0	7.3

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¹ Counts are rounded to the nearest 100 persons, and percentages to one decimal point, with the exception of the population aged 100 and over due to its relative small numbers

In 2013, one in ten people were aged 70 and over, whilst 1.8 per cent of the population were aged 85 and over². In a UK context, Figure 1 below shows that in 2013 Northern Ireland had the lowest proportion of its population aged 85 and over whereas Wales had the highest (1.8 per cent and 2.5 per cent respectively). This was also the case ten years previously in 2003 (1.4 per cent and 2.0 per cent respectively).

Figure 1: Proportion of population who are aged 85 and over by UK country (2003 and 2013)

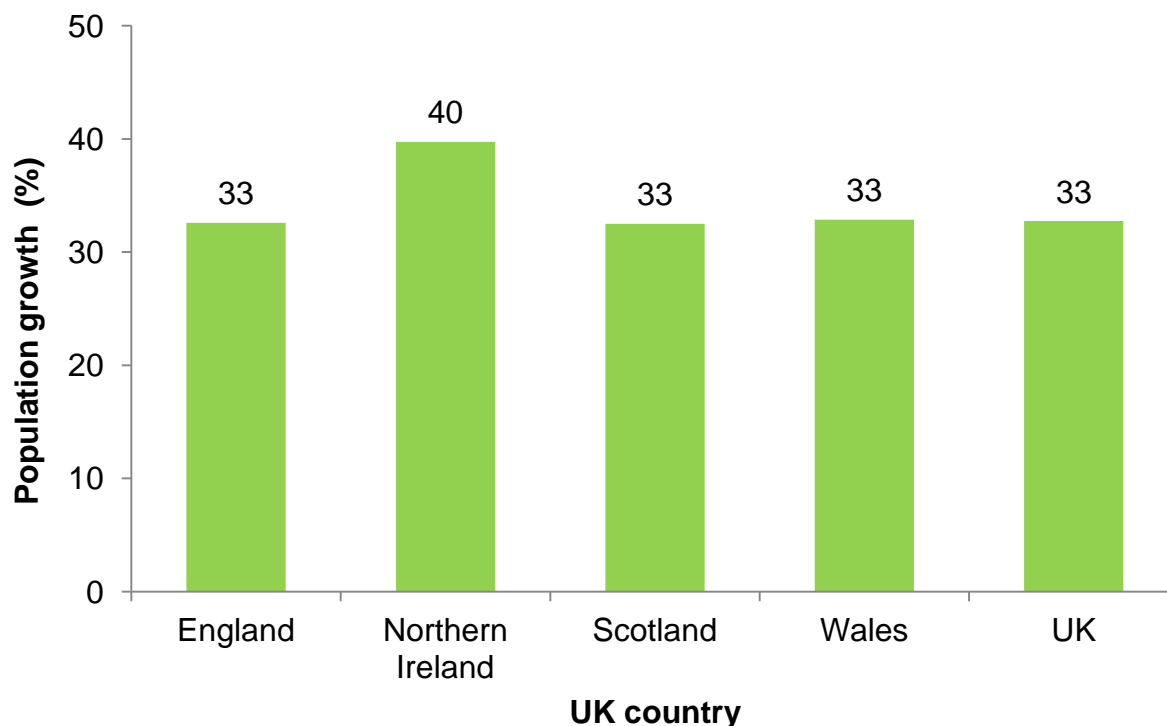


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In contrast, Figure 2 shows that the percentage growth of this age group over the decade 2003-2013 has been noticeably higher in Northern Ireland (40 per cent) than in the other countries of the UK.

² Mid-2013 Population Estimates available from <http://www.nisra.gov.uk/demography/default.asp17.htm>

Figure 2: Growth of population aged 85 and over by UK country (2003-2013)



[Download Chart](#) (XLS Format – 1,499KB)

4. Population estimates by age group

(i) Population aged 85 and over: 2003-2013

It is estimated that there were 33,300 people aged 85 and over living in Northern Ireland at 30 June 2013, 40 per cent more than was the case ten years previously in 2003.

This increase of 9,500 people in the 10-year period 2003 to 2013 is the result of more people 'ageing into' the age group of 85 and over than are dying each year. Throughout this period, an average of 4,700 people aged 85 and over died each year, whereas 5,700 people 'aged into' the 85 and over category. This has resulted in the number of people aged 85 and over growing by approximately 1,000 people per annum. The impact of migration is negligible for this age group. Further detailed breakdown of the population aged 85 and over is presented in Annex A.

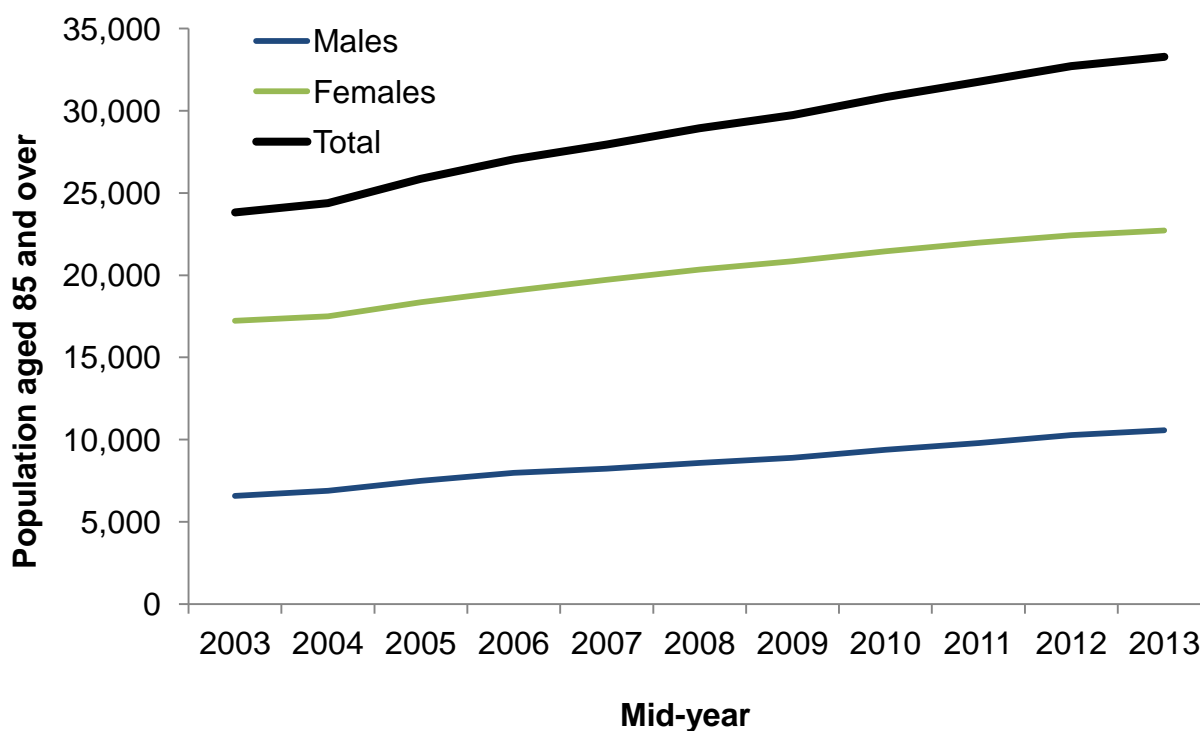
Table 2 and Figure 3 show how the size and gender composition of the population aged 85 and over have changed over the ten year period from 2003 to 2013.

Table 2: Estimates of the population aged 85 and over, by sex (2003-2013)

Mid-year	Persons	Males		Females	
		Number	%	Number	%
2003	23,800	6,600	27.6	17,200	72.4
2004	24,400	6,900	28.2	17,500	71.8
2005	25,900	7,500	29.0	18,400	71.0
2006	27,000	8,000	29.5	19,100	70.5
2007	27,900	8,200	29.4	19,700	70.6
2008	28,900	8,600	29.7	20,300	70.3
2009	29,700	8,900	29.9	20,800	70.1
2010	30,800	9,400	30.4	21,400	69.6
2011	31,800	9,800	30.8	22,000	69.2
2012	32,700	10,300	31.4	22,400	68.6
2013	33,300	10,600	31.8	22,700	68.2

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Figure 3: Estimates of population aged 85 and over, by sex (2003-2013)

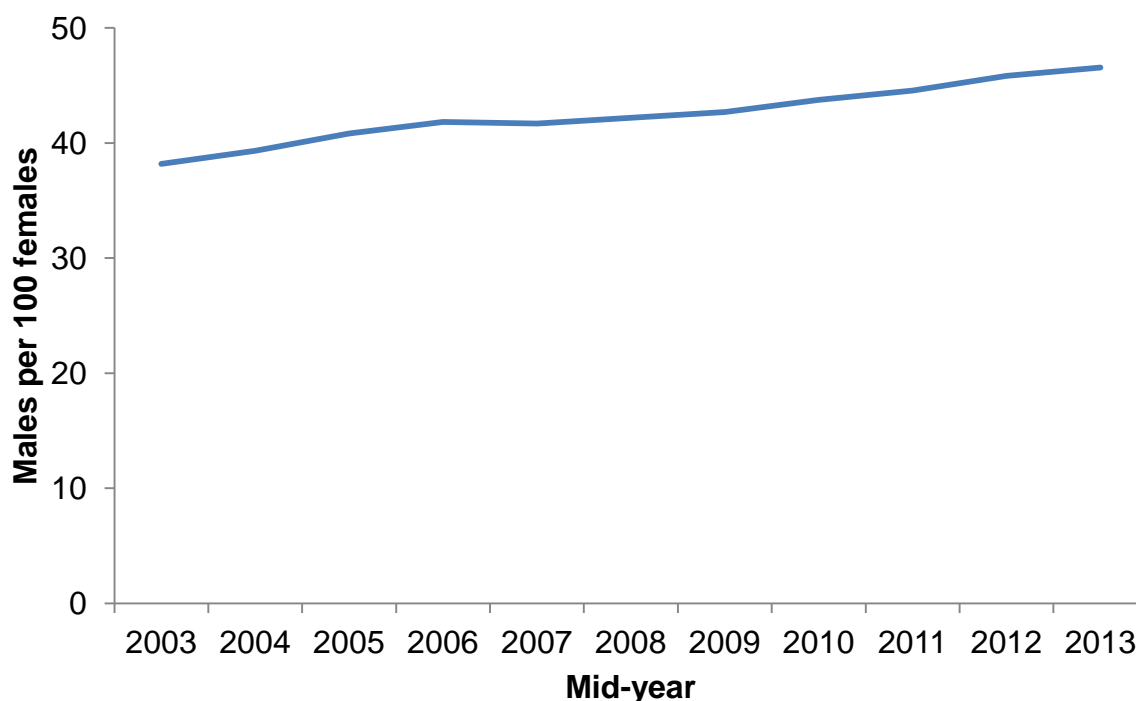


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Between 2003 and 2013, the percentage increase in the number of males aged 85 and over (61 per cent – from 6,600 to 10,600) has been noticeably higher than that among females (32 per cent – from 17,200 to 22,700).

In 2013 males accounted for approximately 32 per cent of those aged 85 and over, whereas ten years previously in 2003 they accounted for 28 per cent. This compositional change, which has seen an increase in the ratio of males per 100 females from 38 in 2003 to 47 in 2013 (See Figure 4 below), is indicative of improved survival rates at older ages in recent decades.

Figure 4: Number of males per 100 females, population aged 85 and over (2003-2013)



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(ii) Population aged 90-99: 2003-2013

It is estimated that there were 11,100 people aged between 90 and 99 in Northern Ireland at 30 June 2013, 73 per cent were females (8,100) and 27 per cent were males (3,000). Ten years previously in 2003, females accounted for 77 per cent of those aged 90 to 99 and males accounted for 23 per cent.

In the period 2003 to 2013, the population aged 90 to 99 increased by 43 per cent from 7,800 to 11,100. The percentage increase among males (70 per cent) over the decade in question was double that of females (35 per cent); males increased from 1,800 in 2003 to 3,000 in 2013 whereas females increased from 6,000 to 8,100.

This age group contains some people who were born during the First World War. For example, someone born in 1914 (the year the War started) would be aged 99 in 2013 whereas someone born in 1918 (the year the War ended) would be aged 95 in 2013. Note that the population estimates relate to mid-year (30 June), so that only those born in the first six months of 1918 would reach 95 before the 30th June, and those born in the last six months of 1918 would still be aged 94 at that point.

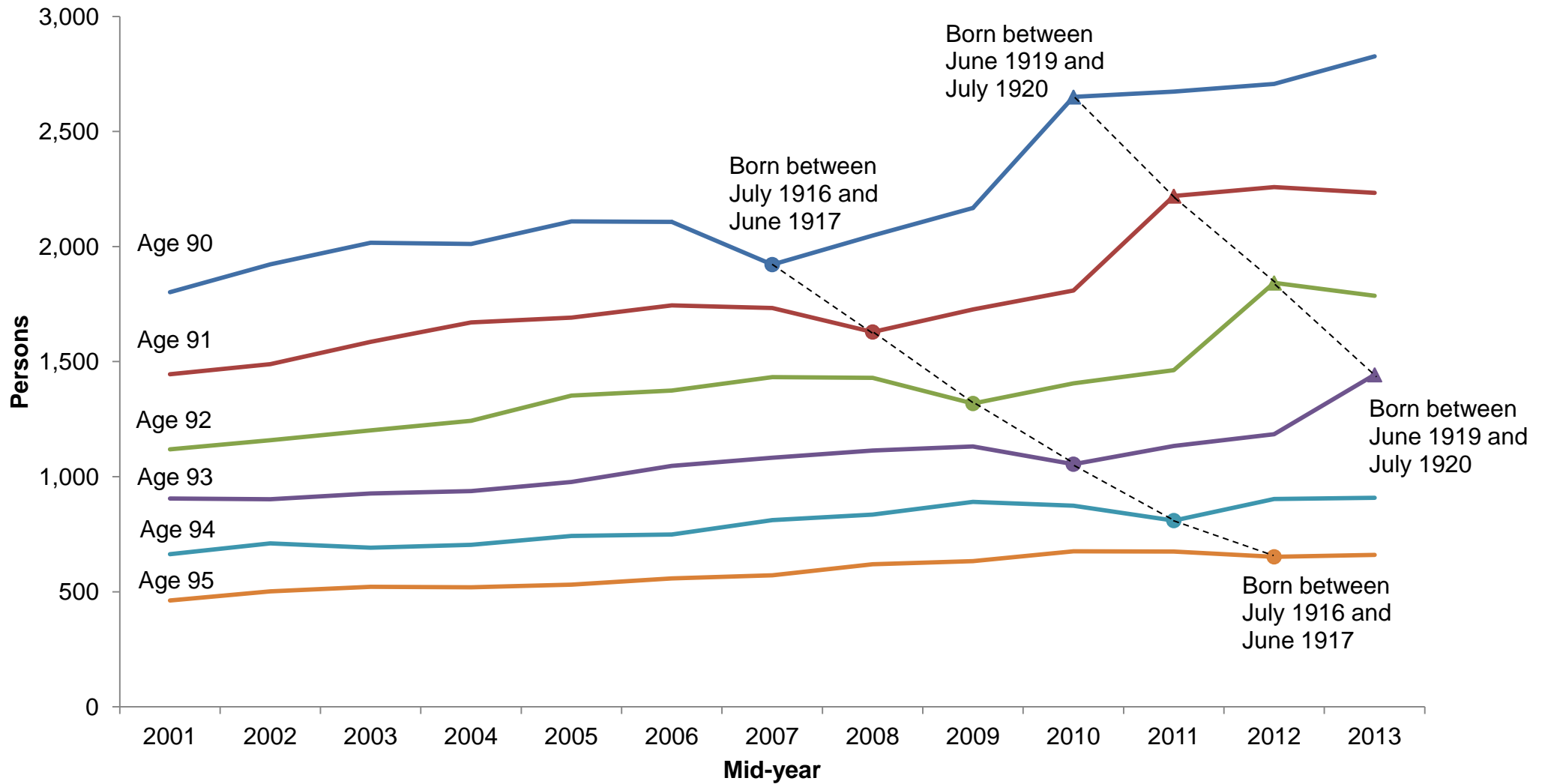
Just prior to the War there were around 30,000 births registered each year. While this number fell to a low of 25,000 in 1917, it then rose year on year until peaking at around 32,500 births in 1920, before stabilising around 30,000 births per annum in the period 1921 to 1923.

As can be seen in Figure 5, the low number of births in 1917 can still be observed in the dips in the population estimates for those aged 90 in 2007, those aged 91 in 2008, those aged 92 in 2009, and so on. Equally, the peak in the number of births in 1920 are still visible in the number of those aged 90 in 2010, those aged 91 in 2011 and those aged 92 in 2012.

It is remarkable how historic birth registrations during this period are still reflected in the population estimates in the early part of the 21st century, despite other events such as the 1918 influenza outbreak and the Second World War, as well as emigration throughout the years.

The population estimates can also be expressed as a proportion of the historic number of births. For example, the number of 90 year olds in 2003 accounts for 6.7 per cent of the number of births between July 1912 and June 1913 (30,200 births), whilst this percentage rises to 9.5 per cent for 90 year olds in 2013 (29,600 births between July 1922 and June 1923).

Figure 5: Population aged 90-95, Northern Ireland (2001-2013)



[Download Chart](#) (XLS Format – 1,544KB)

(iii) Number of centenarians (aged 100 and over): 2003-2013

It is estimated that there were 233 centenarians living in Northern Ireland on 30 June 2013, the vast majority of whom (81 per cent) were female.

When considering change over time, it is important to note that the number of centenarians is relatively small when compared with other population age groups and, as such, small changes in the numbers can equate to sizeable changes in percentage terms.

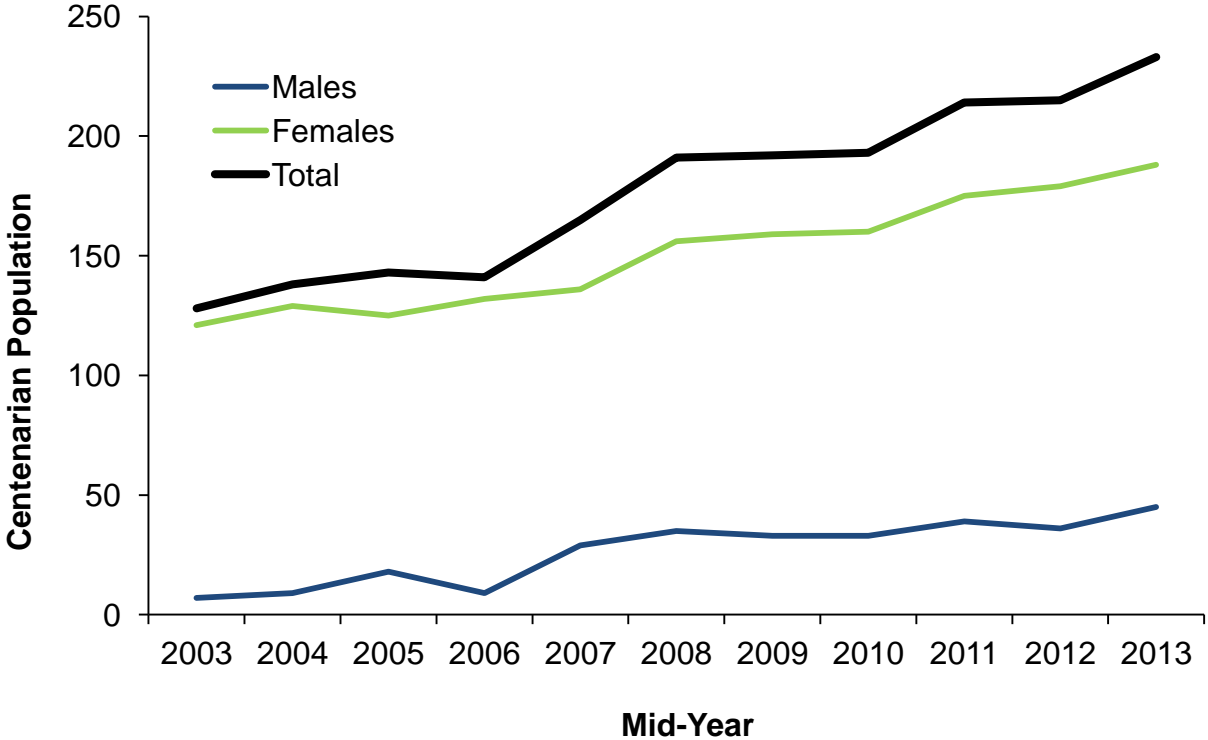
Table 3 and Figure 6 below show how the size and gender composition of the relatively small centenarian group has changed over the ten year period 2003 to 2013.

Table 3: Estimates of population aged 100 and over, by sex (2003-2013)

Mid-year	Persons	Males		Females	
		Number	%	Number	%
2003	128	7	5.5	121	94.5
2004	138	9	6.5	129	93.5
2005	143	18	12.6	125	87.4
2006	141	9	6.4	132	93.6
2007	165	29	17.6	136	82.4
2008	191	35	18.3	156	81.7
2009	192	33	17.2	159	82.8
2010	193	33	17.1	160	82.9
2011	214	39	18.2	175	81.8
2012	215	36	16.7	179	83.3
2013	233	45	19.3	188	80.7

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Figure 6: Estimates of population aged 100 and over by sex (2003-2013)



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Throughout the period in question, the centenarian group is estimated to have increased by 82 per cent (128 centenarians in 2003 compared with 233 centenarians in 2013), with the number of females consistently and notably exceeding the number of males (see Figure 6). During this decade, the male proportion of those aged 100 and over increased from 5 to 19 per cent.

NISRA
September 2014

NOTES

1. The Northern Ireland mid-year population estimate relates to the usually resident population of Northern Ireland including Her Majesty's Forces stationed here. Births and deaths are reported on an occurrence basis, as registered by the General Register Office up to December 2013.
2. Figures are controlled to mid-year population estimates for the 90 and over age group.
3. The method used to estimate the size of the 90 and over population is an internationally recognised standard approach known as the Kannisto-Thatcher Survivor Ratio Method. This method requires previous years' estimates to be revised when death registration data of a new year is added. See Annex C for further detail.
4. Whilst this report concentrates on the significant increase in the population aged 85 and over, it is still important to recognise that the number of people aged 85 and over represents a small proportion of the whole population of Northern Ireland.
5. We welcome feedback from users on the content, format and relevance of this release. Please complete a short [survey](#) or send feedback directly to census.nisra@dfpni.gov.uk.
6. Follow NISRA on [Twitter](#) and [Facebook](#).
7. Detailed estimates of the population aged 90 and over for [England and Wales](#) and [Scotland](#) will also be released on 25 September 2014. Population estimates for the [Republic of Ireland](#) are available by single year of age up to the age group 99 years and over.
8. National Statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. They undergo regular quality assurance review to ensure they meet customer needs. They are produced free from any political interference.

9. United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics.

Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods; and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

10. All media inquiries should be directed to the DFP Communications Office:

Telephone: 028 9016 3389

11. Further statistical information can be obtained from NISRA Customer Services:

Telephone: 028 9034 8160

Fax: 028 9034 8161

E-mail: census.nisra@dfpni.gov.uk

Responsible Statistician: Brian Green

Annex A: Mid-2001 to mid-2013 estimates of those aged 85 years and over, by sex and 5 year age bands

Mid-year	Persons 85-89	Persons 90-94	Persons 95-99	Persons 100-104	Persons 105+	Persons 85+	Persons All Ages
2001	16,216	5,934	1,173	128	9	23,460	1,688,838
2002	16,160	6,182	1,260	119	6	23,727	1,697,534
2003	15,925	6,422	1,341	123	5	23,816	1,704,924
2004	16,300	6,565	1,373	131	7	24,376	1,714,042
2005	17,392	6,871	1,449	133	10	25,855	1,727,733
2006	18,343	7,021	1,535	132	9	27,040	1,743,113
2007	19,208	6,981	1,592	154	11	27,946	1,761,683
2008	20,028	7,056	1,655	186	5	28,930	1,779,152
2009	20,562	7,235	1,743	186	6	29,732	1,793,333
2010	20,977	7,794	1,866	187	6	30,830	1,804,833
2011	21,335	8,299	1,917	210	4	31,765	1,814,318
2012	21,673	8,896	1,929	209	6	32,713	1,823,634
2013	21,947	9,197	1,907	226	7	33,284	1,829,725

Mid-year	Males 85-89	Males 90-94	Males 95-99	Males 100-104	Males 105+	Males 85+	Males All Ages
2001	4,771	1,396	197	11	0	6,375	824,273
2002	4,805	1,463	227	5	0	6,500	828,986
2003	4,817	1,518	239	7	0	6,581	833,104
2004	5,012	1,591	267	9	0	6,879	838,251
2005	5,520	1,682	274	18	0	7,494	845,301
2006	5,934	1,739	293	9	0	7,975	853,110
2007	6,187	1,720	287	29	0	8,223	862,256
2008	6,476	1,762	312	35	0	8,585	870,998
2009	6,679	1,874	308	32	1	8,894	878,562
2010	6,879	2,119	351	32	1	9,382	884,535
2011	7,116	2,254	383	39	0	9,792	889,322
2012	7,389	2,475	379	34	2	10,279	894,548
2013	7,545	2,592	393	43	2	10,575	897,145

Mid-year	Females 85-89	Females 90-94	Females 95-99	Females 100-104	Females 105+	Females 85+	Females All Ages
2001	11,445	4,538	976	117	9	17,085	864,565
2002	11,355	4,719	1,033	114	6	17,227	868,548
2003	11,108	4,904	1,102	116	5	17,235	871,820
2004	11,288	4,974	1,106	122	7	17,497	875,791
2005	11,872	5,189	1,175	115	10	18,361	882,432
2006	12,409	5,282	1,242	123	9	19,065	890,003
2007	13,021	5,261	1,305	125	11	19,723	899,427
2008	13,552	5,294	1,343	151	5	20,345	908,154
2009	13,883	5,361	1,435	154	5	20,838	914,771
2010	14,098	5,675	1,515	155	5	21,448	920,298
2011	14,219	6,045	1,534	171	4	21,973	924,996
2012	14,284	6,421	1,550	175	4	22,434	929,086
2013	14,402	6,605	1,514	183	5	22,709	932,580

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Annex B: Methodology

The Northern Ireland Statistics and Research Agency have produced annual mid-year population estimates by single year of age from 0 to 89 using the 'cohort component' method. Using the most recent census as the baseline, each year the population is aged on by one year, births are added, deaths subtracted and estimates of migration are used for those moving in or out of Northern Ireland. For the official 30 June population estimate, ages 90 and over are aggregated into one age-group (See <http://www.nisra.gov.uk/demography/default.asp17.htm>).

To produce single year of age estimates of the population aged 90 and over, NISRA have adopted the Kannisto-Thatcher Survivor Ratio Method³, an internationally recognised method used to provide a more detailed breakdown of the older population by age.

Using death registration data, an estimate is produced of the number of people at a given age alive in a particular year. For the most recent year, the Kannisto-Thatcher Survivor Ratio Method uses an average of the last five years death data to produce an estimate of the number of survivors.

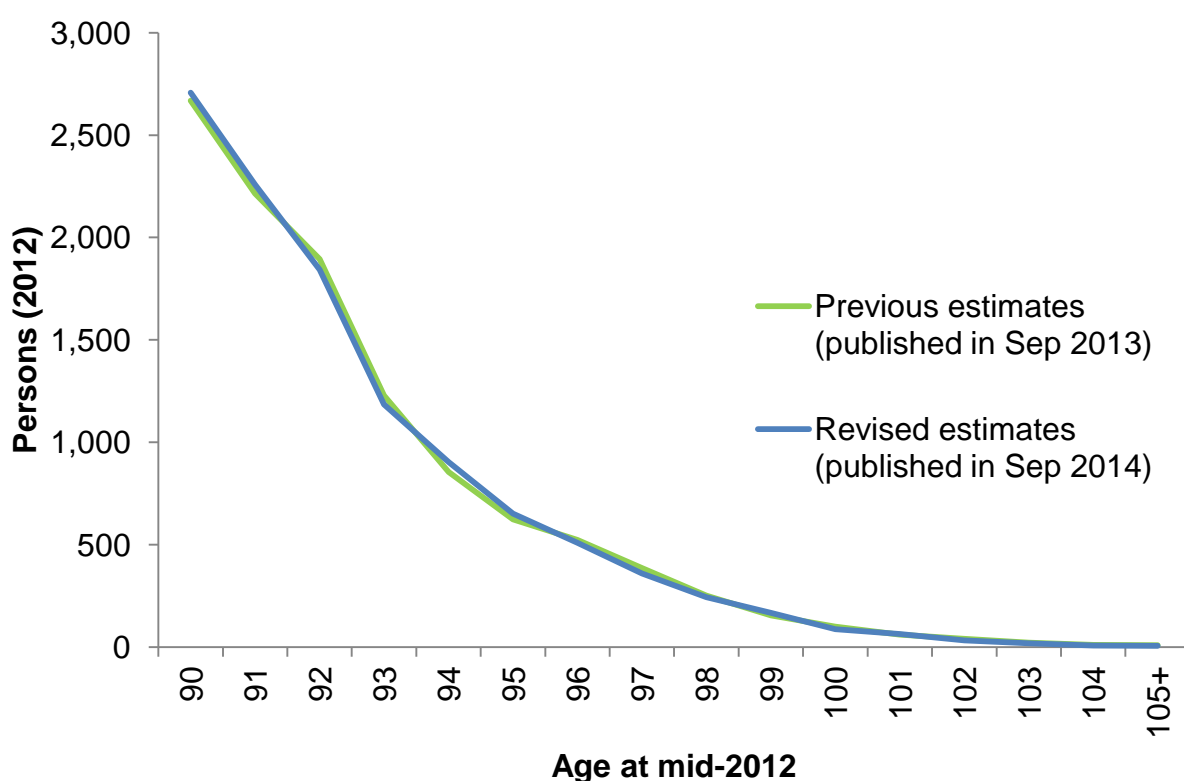
For earlier years, if someone died aged 100 in 2013, this means that they were alive in 2012 aged 99, and aged 98 in 2011 and so on. This is used to produce age distribution profiles. The number of people aged 99 alive in 2012 is estimated from the number of people alive aged 100 in 2013, plus the number of deaths aged 100 in 2013. One outcome of this method is that each year the estimates for earlier years become more accurate as more death data become available to inform age profiles. It also assumes that migration for those aged 85 and over is negligible. Estimates are then controlled to agree with the NISRA mid-year population estimates for those aged 90 and over.

³ The Survivor Ratio Method for Estimating Numbers at High Ages, Thatcher R, Kannisto V, Andreev K, 2002. <http://www.demographic-research.org/Volumes/Vol6/1/>. The Demography of Centenarians in England and Wales, *Population Trends* 96 pp5-12, Thatcher R, 1999.

Annex C: Impact of revision

The historical estimates of the population aged 90 and over as a whole are not revised. However, inherent to the Kannisto-Thatcher Survivor Ratio Method (see Annex B), there could be changes in the age distribution within this age group. As such, it is classified as a scheduled revision⁴. Figure C.1 plots the previous estimates for 2012 alongside with the revised 2012 estimates.

Figure C.1: Previous and revised estimates of the population aged 90 and over by age (2012)



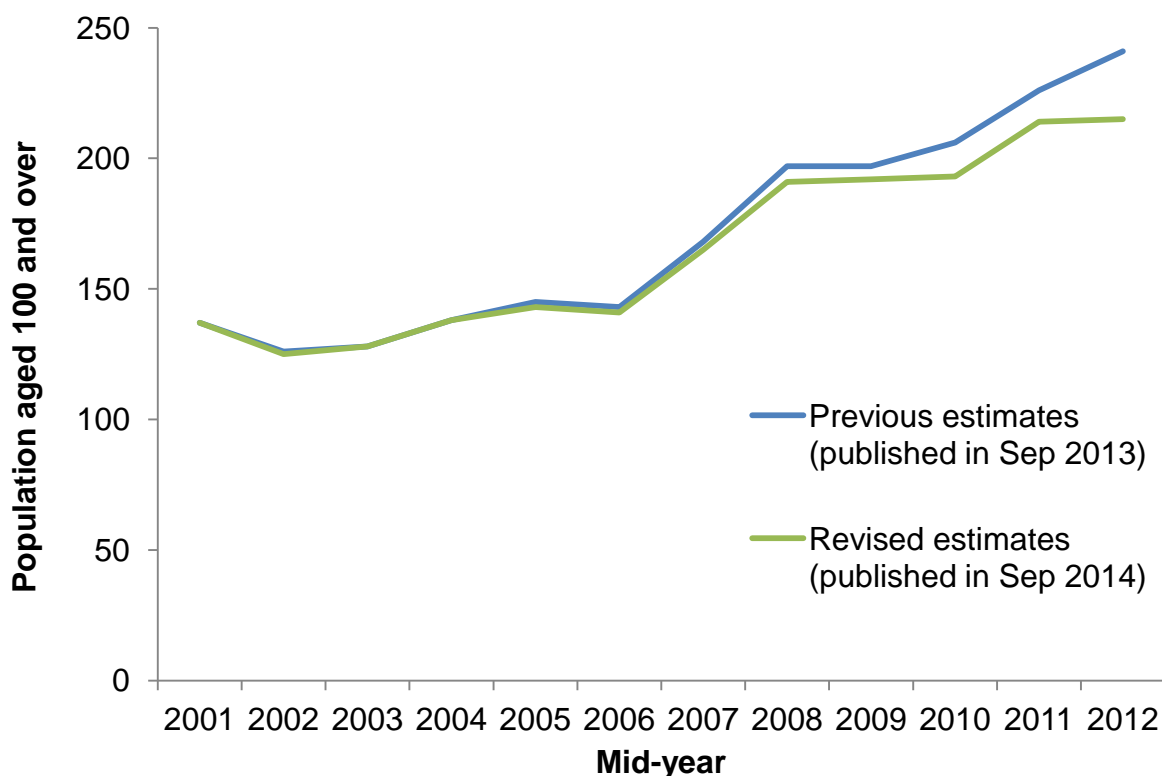
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Most differences are relatively small: the revised figures for the population aged 90 to 94 was 0.4 per cent higher than the previously published estimate, whilst for the population aged 95 to 99 years, it was 0.5 per cent lower. The number of centenarians was 11 per cent smaller in the revised series, but it should be borne in mind that this relates to a very small population.

⁴ <http://www.ons.gov.uk/ons/guide-method/revisions/revisions-policies-by-theme/population/population-statistics-revision-policy.pdf>

Figure C.2 shows the previous and current estimates of the number of centenarians (aged 100 and over) over the period 2001 to 2012. It is evident that the difference between the two series becomes smaller when going further back in time, with negligible differences prior to 2010 and identical figures prior to 2005. Following the methodology, the estimate of the number of centenarians in 2004 will only change if a death is recorded in 2014 of a person aged 110, which is very unlikely.

Figure C.2: Previous and revised estimates of centenarians, 2001-2012



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