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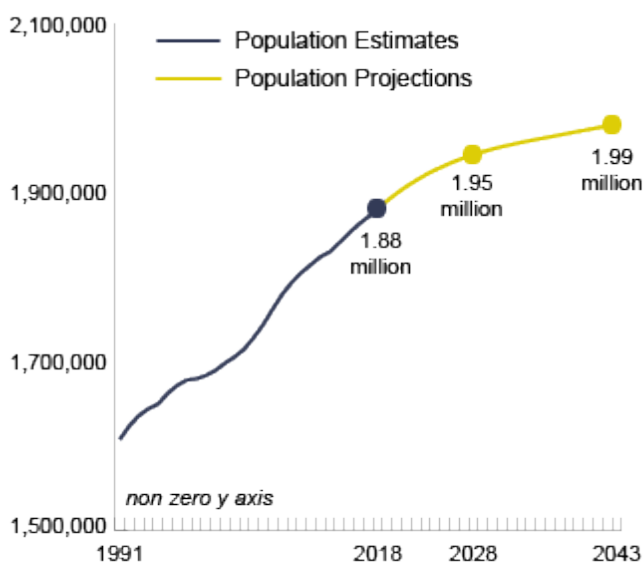
Theme: Population

Time period: mid-2018 to mid-2043

2018-based Population Projections for Northern Ireland

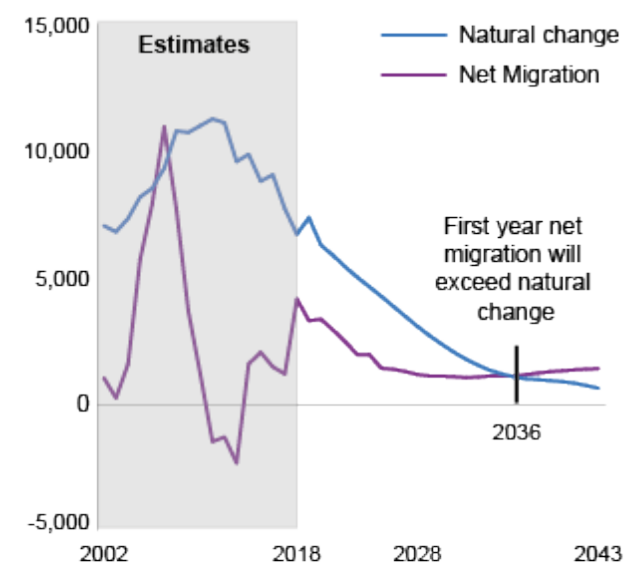


This statistical report provides population projections for Northern Ireland between mid-2018 and mid-2043, by age and sex.



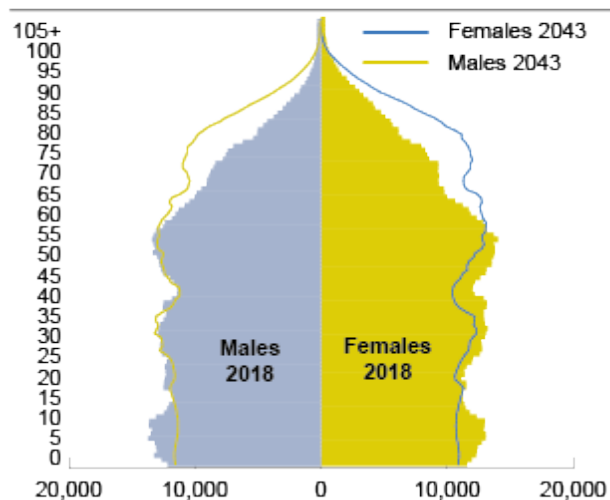
The population of Northern Ireland is projected to reach 1.99 million

The population of Northern Ireland is projected to increase by 85,800 people in the first 10 years to mid-2028. Over the next 25 years the population is projected to grow by 107,600 people to reach 1.99 million in mid-2043.



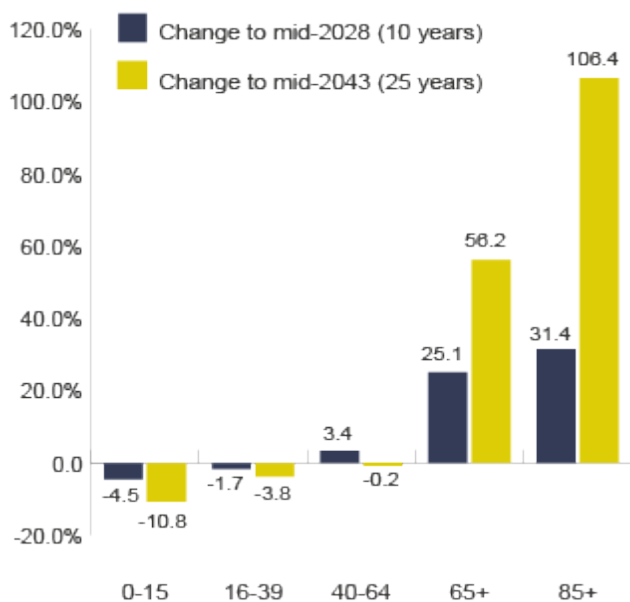
Natural change and net migration are projected to remain positive over the next 25 years

Natural change (births minus deaths) will remain the main driver of population growth for most of the projection period, adding an average 2,800 people to the population, annually. However, by mid-2036 net migration is projected to exceed natural change for the first time since mid-2007.



The ageing of the population is projected to continue

The population of Northern Ireland is projected to become older. The population pyramid shows that by mid-2043 the older age population (65 and over) is projected to increase. The median age is projected to increase from 38.7 to 44.0 years between 2018 and 2043.



Largest population growth projected for the 65+ and 85+ age groups

The largest population growth is projected amongst the 65+ and 85+ age groups. Over the next 25 years the population aged 65+ and 85+ are projected to grow by 56.2 per cent and 106.4 per cent respectively. The population of children (age 0-15) is projected to fall by 10.8 per cent by mid-2043.



Northern Ireland projected the second largest population growth across the UK

Northern Ireland's projected population growth (5.7 per cent) over the next 25 years was the second highest across the UK. England is projected to have the largest population growth (10.3 per cent) between mid-2018 and mid-2043.

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Note: Throughout the report figures have been presented in a rounded form to ease readability. For example population figures have been presented to the nearest 100 and percentage changes have been presented to 1 decimal place. However, all calculations have been undertaken on the basis of unrounded numbers which will, in some instances, give rise to apparent discrepancies.

1 Introduction

National population projections, by age and sex, are produced every two years for the UK, and each of the UK constituent countries, by the Office for National Statistics (ONS) on behalf of the National Statistician and the Registrars General of Scotland and Northern Ireland. Principal Projections are produced based on long-term assumptions about future fertility, mortality and migration levels, with variant projections being produced from various alternative assumptions – usually in the form of high/low variants and their combinations.

While variant projections are available (see [Section 11](#)), this bulletin focusses on the key findings from the 2018-based **Principal Population Projections**.

2 What are population projections used for?

National population projections provide an estimate of the future size and age structure of the population of Northern Ireland. Population projections are widely used in policy development in areas such as housing, healthcare and education. One such use is in projecting the growth of the population aged 65 and over in future years and how this will affect decisions in i) private and communal property planning, and ii) suitable levels of elderly health care. Population projections are also used as the base for other national statistics releases, such as population projections for areas within Northern Ireland and household projections.

3 Key information on population projections

3.1 Overview

It is important to note that population projections are **not** forecasts and do not attempt to predict the impact that future government policies, changing economic circumstances or other factors might have on demographic behaviour. Due to the inherent uncertainty of demographic behaviour, any set of projections will inevitably differ from actual future outcomes to a greater or lesser extent.

3.2 Accuracy of projections

The national population projections use the latest official population estimates as their base year and are inevitably dependent on the accuracy of these estimates. Northern Ireland population estimates are produced using the internationally recognised cohort component method – starting with the population data from the last decennial census and updating each year with the available data on births, deaths and migration.

When considering these projections it should be noted that their degree of reliability is closely associated with their proximity to the base year (mid-2018). It is acknowledged that projections become increasingly uncertain the further they are carried forward and it is noted that long-term assumptions should be treated with caution.

For this reason, we have limited our analysis to a **25 year projection period**. We would encourage users to read the [National Population Projections Accuracy Report](#) to fully understand the limitations of long-term projections.

3.3 Consequences of projections

Population projections, like some other types of projections, may indicate that existing trends and policies are likely to lead to outcomes which are judged undesirable. If new policies are then introduced, they may result in the original projections not being realised. However, this means the projections will have fulfilled one of their prime functions, to show the consequences of present demographic trends with sufficient notice for any necessary action to be taken.

3.4 Setting the principal projection assumptions

An executive summary outlining [how the assumptions are set](#) has been published, we would encourage users to review this document for a detailed account of how decisions were made when setting the fertility, mortality and migration assumptions for the 2018-based population projections.

Each component of the population projections (fertility, mortality and migration) are considered separately when setting the assumptions for each set of projections. The assumptions are based largely on extrapolation of past trends. Inevitably there is some element of subjective judgement, however, choices of main assumptions are informed by the views of an Expert Advisory Panel. Individual papers outlining the rationale for the [fertility](#), [mortality](#) and [migration](#) assumptions can be found on the ONS website.

The assumptions summarised below relate to those applied to the **principal projection**.

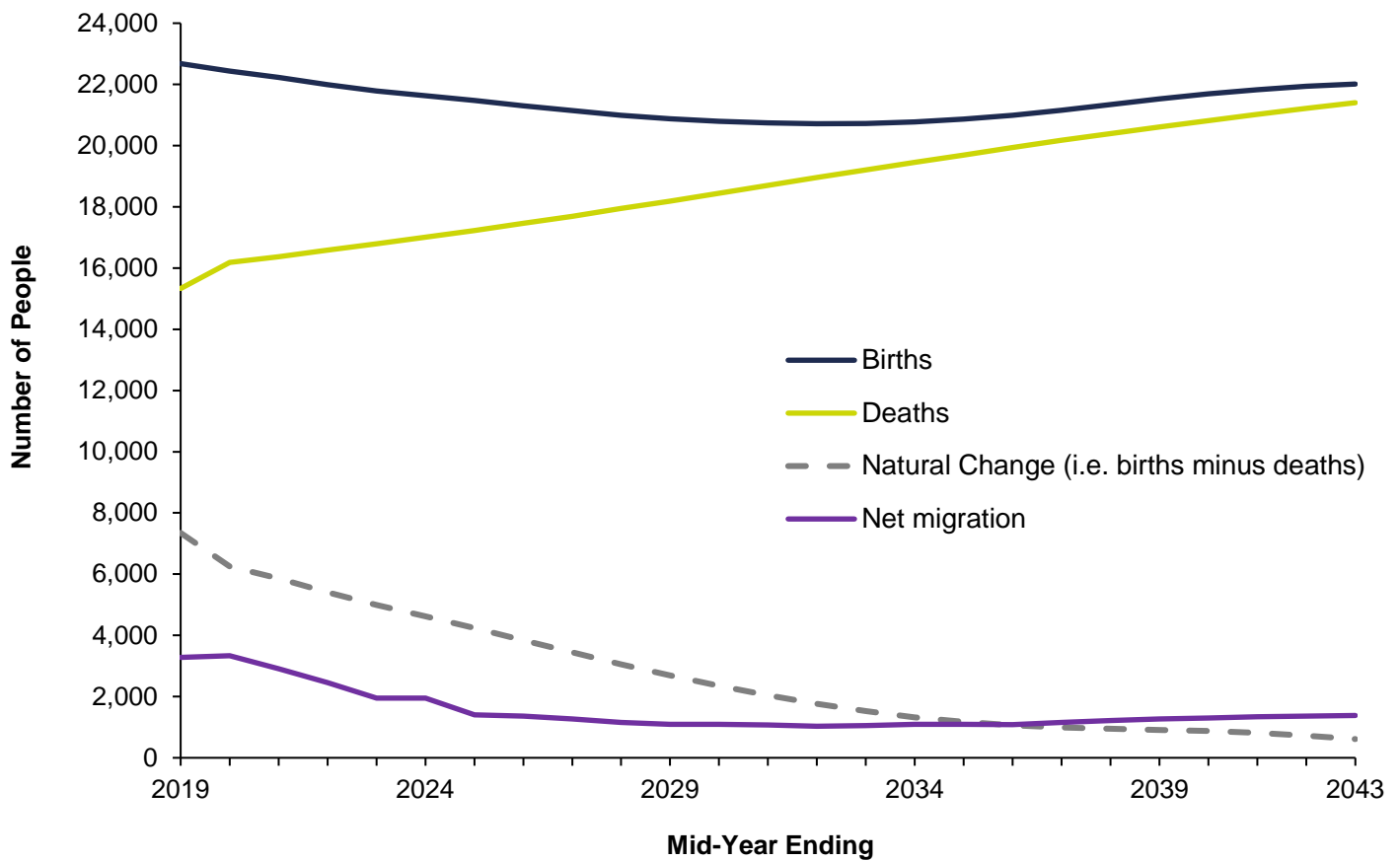
Population projections are by definition based on long-term assumptions about future fertility, mortality and migration levels, in summary the main assumptions are:

- [Fertility](#) – In the long-term, the hypothetical woman will have 1.92 children in her life time.
- [Mortality](#) – In the long-term, improvements in mortality rates are projected to be around 1.2 per cent per annum.
- [Migration](#)¹ – In the long-term, beginning mid-2025, net international migration will be observed at +1,500 inflows.

These long-term assumptions are applied in order to calculate the projected number of births, deaths, and net migration occurring each year in the projection period. However, there is a transition period for fertility, mortality and migration to gradually move from current levels to the long-term assumptions.

¹ These assumptions are based on recent trends in migration and do not attempt to predict the impact of the UK leaving the EU.

Figure 1: Projected number of births, deaths and total net migration, year ending mid-2019 to year ending mid-2043



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Figure 1 shows that up to mid-2035 the number of births and deaths (and the difference between them - i.e. natural change), are projected to exceed total net-migration. As such, overall population growth is projected to be mainly due to natural change with the projected number of births exceeding the projected number of deaths. However, from mid-2036 onwards, net migration is projected to become the main driver of population growth as the gap between the number of births and deaths continues to narrow and results in a total natural change lower than net migration.

In terms of overall net migration, in the 25 years to mid-2043 there is projected to be an average annual net migration gain of +1,500 people. Although similar to the net migration assumption above, overall net migration also accounts for migration between Northern Ireland and the rest of the UK². There is projected to be an average annual net loss of 300 people to the rest of the UK, which when combined with the average annual net gain of +1,800 people due to net international migration gives an overall average annual net migration gain of 1,500 people.

We would encourage users to refer to the [Quality and Methodology Information report](#) for more detailed information on how the population projections are produced, their accuracy and the limitations of projections.

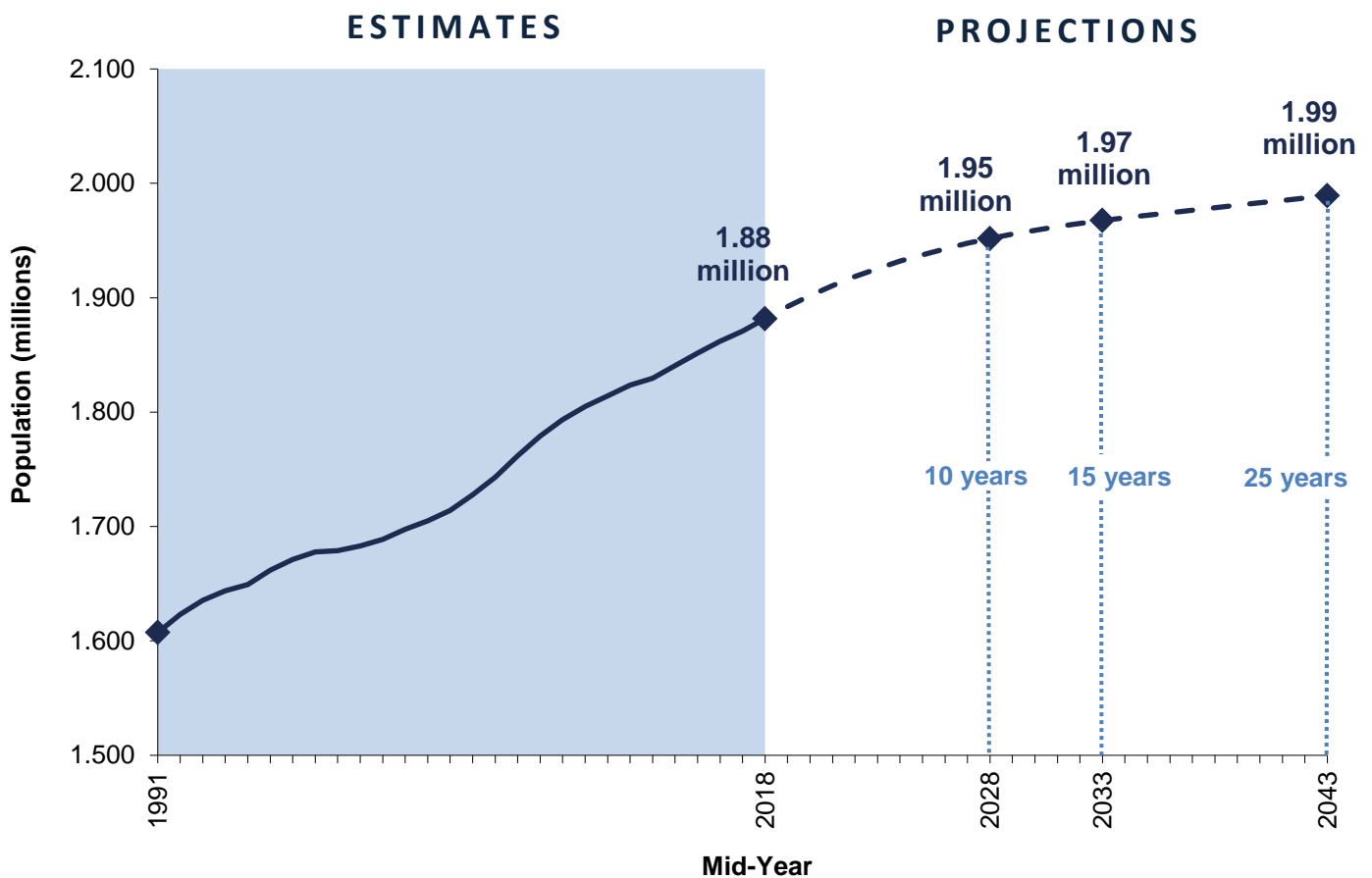
² Migration projections relating to flows to/from the rest of the UK are calculated by applying rates to the overall projected populations each year.

4 The population of Northern Ireland is projected to increase

The population of Northern Ireland is projected to reach **1.99 million** by mid-2043

In mid-2018, the population in Northern Ireland was estimated to be 1.88 million people. Over the next 15 years from mid-2018 to mid-2033, the population of Northern Ireland is projected to increase by 85,800 people to 1.95 million. By way of contrast, over the previous 15 years (2003 to 2018) the population of Northern Ireland increased by 176,700 people. In the longer term the population projections show that the population of Northern Ireland is projected to rise by 107,600 people to reach 1.99 million over the next 25 years to mid-2043 (see Figure 2).

Figure 2: Population of Northern Ireland, estimated and projected, mid-1991 to mid-2043 (non-zero y-axis)



*Figures for mid-1991 to mid-2018 relate to mid-year estimates.

[Download Chart](#) (XLS Format 152KB)

5 Why is the population of Northern Ireland projected to increase?

5.1 Natural change and net migration remain positive over the next 25 years

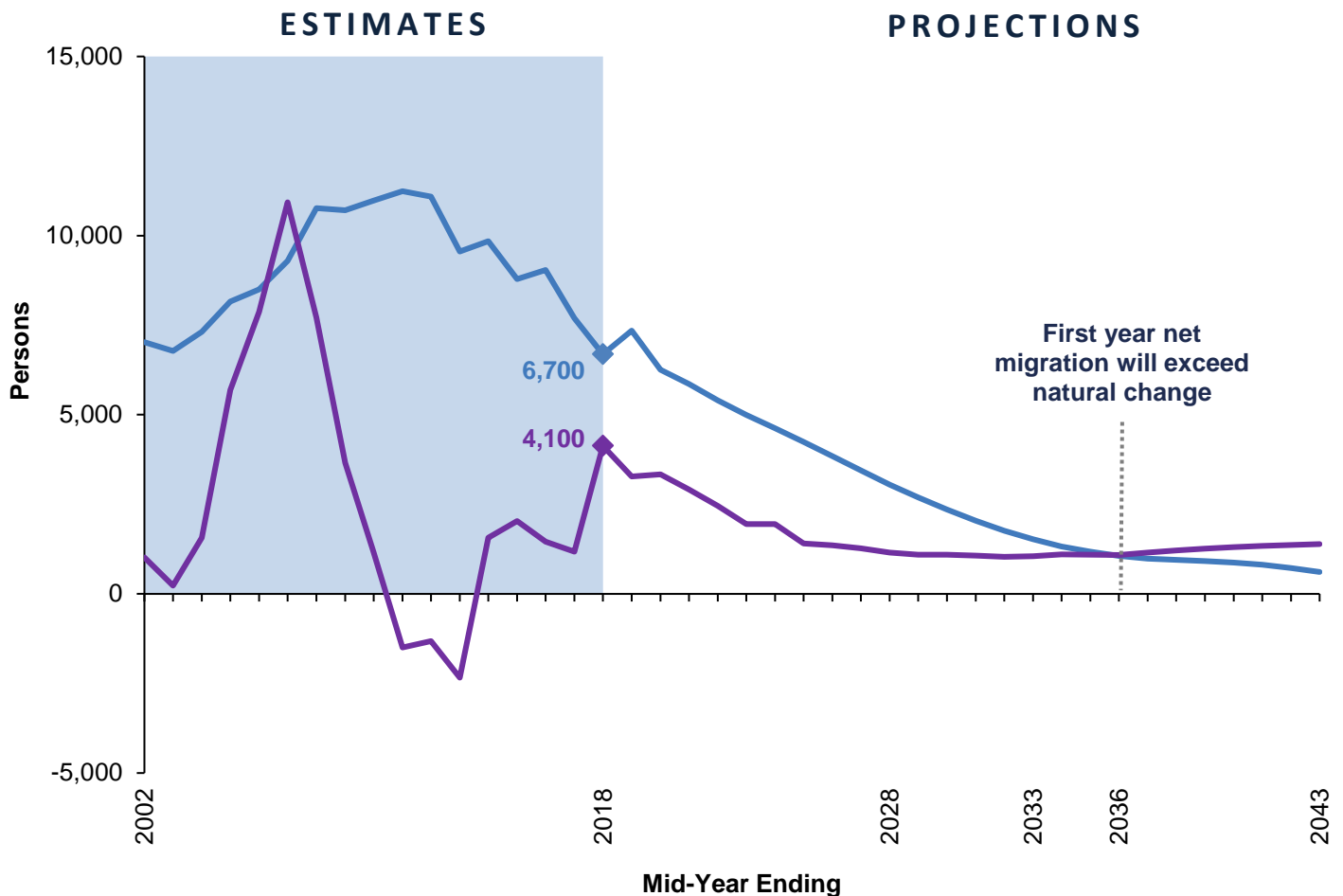
The population of Northern Ireland is projected to increase due to positive natural change and net migration. Figure 3 shows that in recent years natural change has been the main driver of population growth in Northern Ireland, with net migration having a smaller impact in mid-2018 (+6,700 people and +4,100 people, respectively). Natural change and net migration are both projected to remain positive in each year of the projection.

Net migration is projected to exceed **natural change** by mid-2036

Natural change is projected to decrease steadily over the projection period to +600 by mid-2043, a decrease of 6,100 (90.9 per cent) from mid-2018. Similarly, net migration is projected to decrease from +4,100 inflows in mid-2018 to +1,400 inflows in mid-2043, a decrease of 2,700 (66.5 per cent).

The simultaneous decrease in both natural change and net migration means that population growth, although positive, will be to a lesser extent over the next 25 years to 2043 (107,600, 5.4 per cent) than the previous 25 years from 1991 (246,100, 17.1 per cent).

Figure 3: Natural change and net migration, year ending mid-2002 to year ending mid-2043



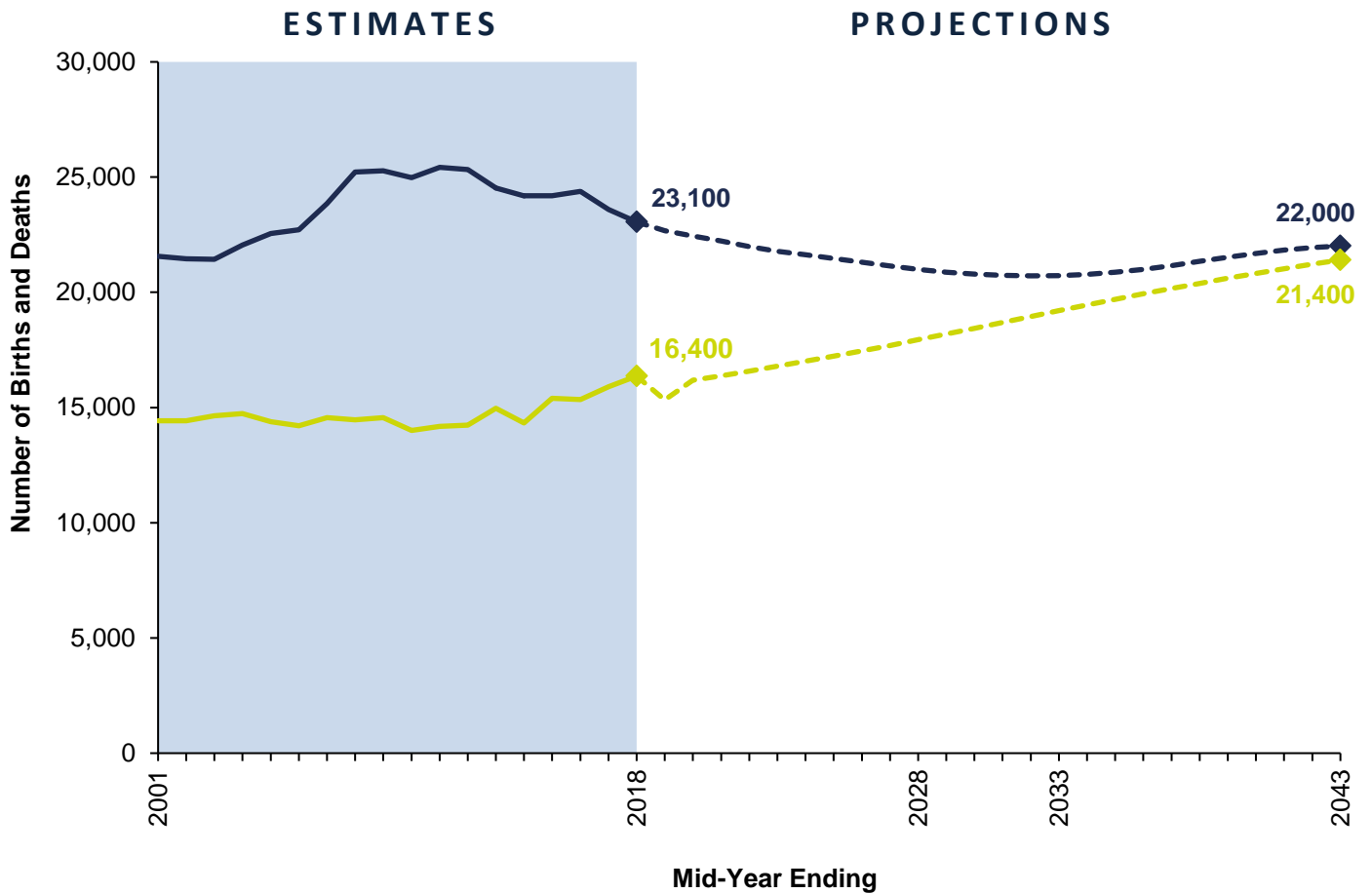
*Figures for mid-2002 to mid-2018 relate to mid-year estimates.

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5.2 Why is natural change projected to decrease?

Natural change is projected to decrease due to a rise in deaths and a fall in births throughout the projection period. The number of births is projected to decrease to a low of 20,700 births in the year ending mid-2032 (a decrease of 10.1 per cent from mid-2018). After this fall, the number of births is projected to recover to 22,000 by mid-2043, however, over the projection period the number of births is projected to decrease by 1,000 (4.5 per cent) between mid-2018 and mid-2043. In contrast, the number of deaths is projected to increase by 30.8 per cent during the same period, from 16,400 to 21,400 (see Figure 4).

Figure 4: Estimated and projected births and deaths, year ending mid-2001 to year ending mid-2043



*Figures for year ending mid-2001 to year ending mid-2018 relate to mid-year estimates.

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5.3 Projected UK and International Migration

Projected migration figures comprise of two components, namely

- (i) migration between Northern Ireland and countries outside the UK (referred to as ‘international migration’) and
- (ii) migration between Northern Ireland and the rest of the UK (referred to as ‘within the UK migration’).

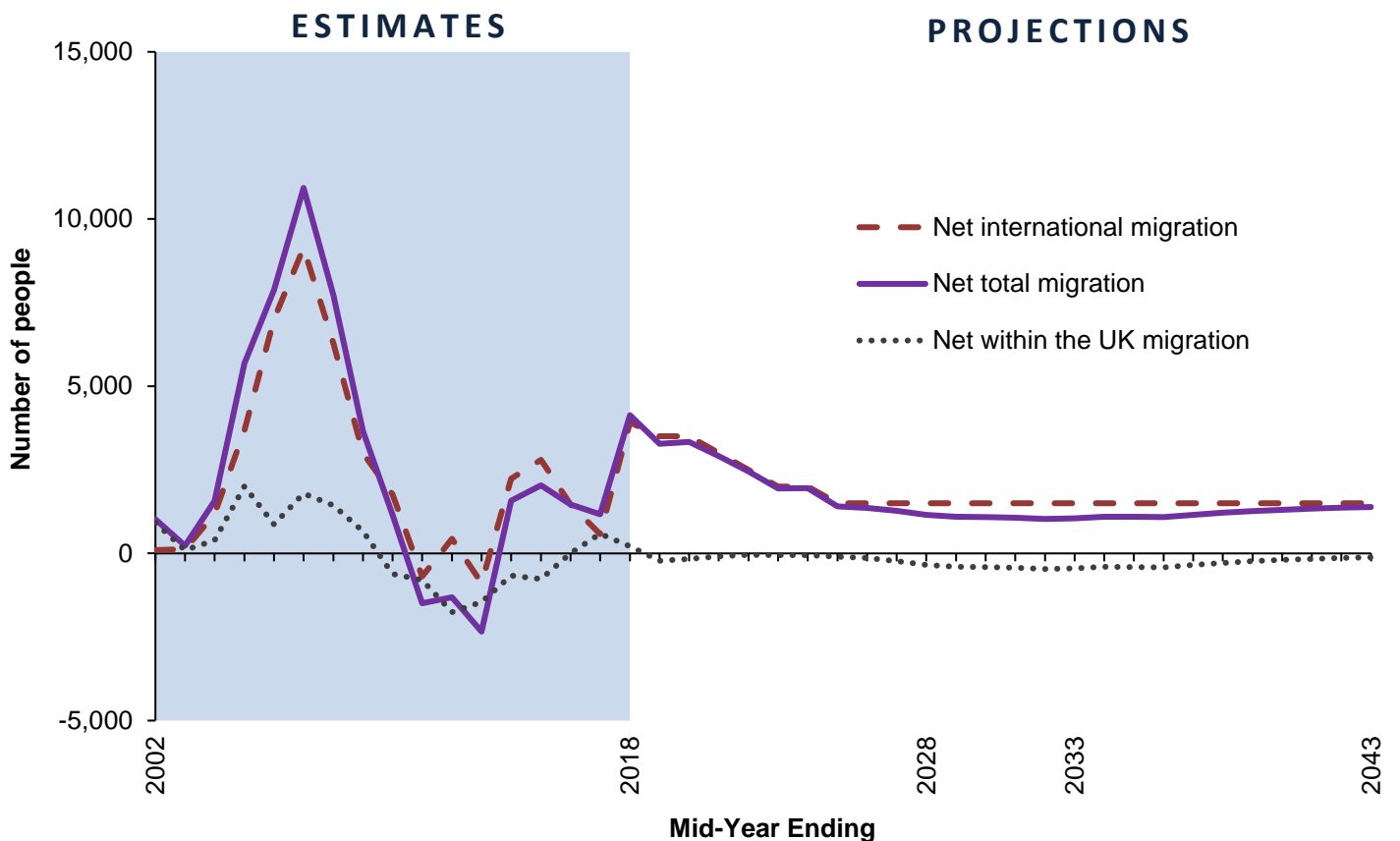
Figure 5 illustrates recent and future trends in both net international migration and migration between Northern Ireland and the rest of the UK. Over the last five years Northern Ireland has experienced an average net international inflow of 2,200 people per year. In comparison, over the same period Northern Ireland has lost an average of 100 people to the rest of the UK.

Net migration is projected to remain **positive** between mid-2018 and mid-2043

As a result of these past trends, the projections assume that Northern Ireland will experience a net inflow of 1,500 international migrants each year, in the long term. The within the UK migration component however varies throughout the projection and results in a net outflow to the rest of the UK. Despite a net outflow to the UK,

Northern Ireland is projected to experience a positive net migration between mid-2018 and mid-2043 due to higher levels of international net migration. In total it is projected that Northern Ireland will gain 38,700 people between mid-2018 and mid-2043, or an average of 1,500 people per annum due to positive net migration.

Figure 5: Estimated and Projected migration, year ending mid-2002 to year ending mid-2043



*Figures for mid-2002 to mid-2018 relate to mid-year estimates.

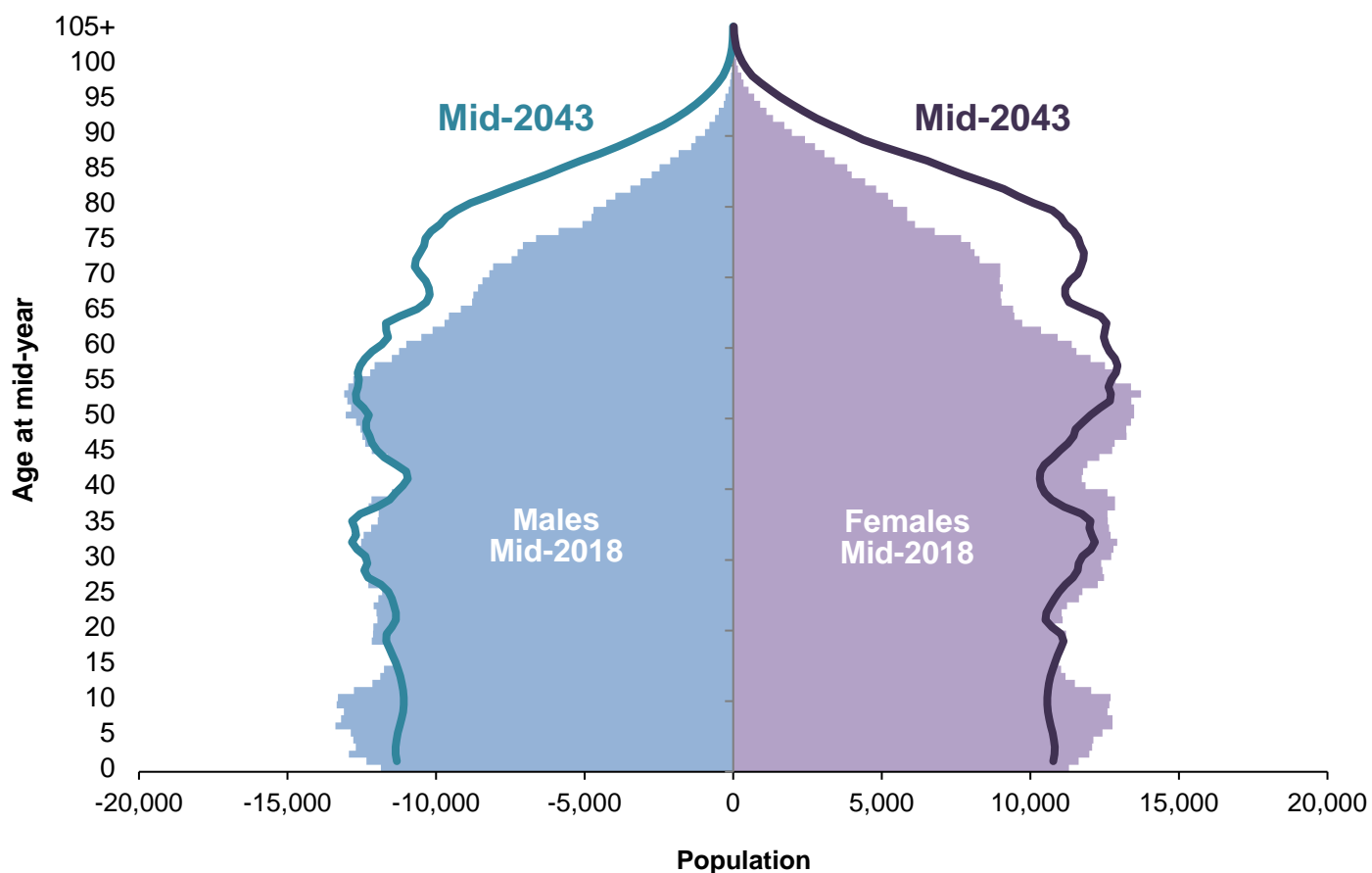
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6 How is the age structure of Northern Ireland projected to change?

6.1 The population of Northern Ireland is projected to get older

As well as a projected growth in the overall numbers of people in Northern Ireland over the 25 year projection period, the age structure of the population is also projected to change. Figure 6, a population pyramid, is an illustrative way of showing that the age profile of both the male and female population is projected to get older.

Figure 6: Estimated and projected population by age and sex, mid-2018 and mid-2048



*Figures for mid-2018 relate to mid-year estimates.

[Download Chart](#) (XLS format – 168Kb)

By mid-2043, it is evident that the population around the older ages (65 and over) is projected to increase significantly, resulting in the shape of the population pyramid changing to a more rectangular outline.

Furthermore, an ageing population is also evident through the projected rise in the median age³, from 38.7 years in mid-2018 to 44.0 years by mid-2043. For males, the median age is projected to rise from 37.5 year in mid-2018 to 42.5 years by mid-2043. Similarly, the median age for females is projected to rise from 39.8 years in mid-2018 to 45.5 years by mid-2043.

³ Median age is the age at which half of the population is older and half the population is younger.

6.2 How are population age groups projected to change?

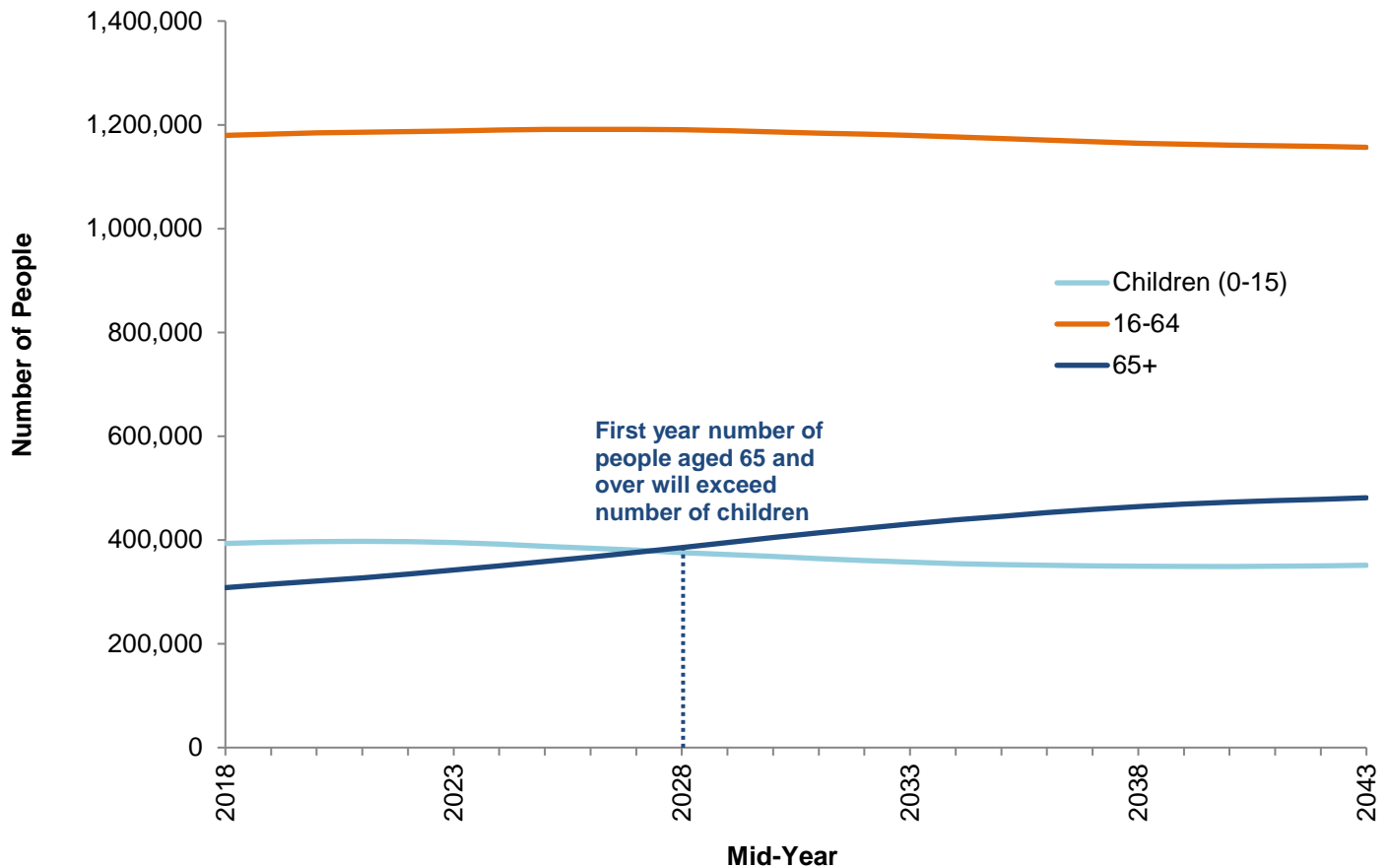
The projected ageing of the population can also be shown by breaking down the population into specific age groups, as shown in Figure 7. The number of children (aged 0-15) in Northern Ireland is projected to decrease over the next 25 years, from 393,500 in mid-2018 to 351,100 in mid-2043 (10.8 per cent). Similarly, the number of people aged 16-64 is also projected to decrease by mid-2043, from 1,179,900 to 1,156,700 (2.0 per cent).

By mid-2028 the number of people aged 65 and over is projected to overtake the number of children

In contrast, Figure 7 shows that the number of people aged 65 and over in Northern Ireland is projected to see considerable growth over the next 25 years. In mid-2018, the number of people aged 65 and over in Northern Ireland was estimated to be 308,200 and is projected to increase to 481,400 (56.2 per cent increase) by mid-2043.

The population aged 85 and over, referred to as the 'oldest old', is also projected to have considerable growth. In mid-2018, there was an estimated 37,700 people aged 85 and over and by mid-2043 this population is projected to increase to 77,900, a growth of 106.4 per cent over the next 25 years.

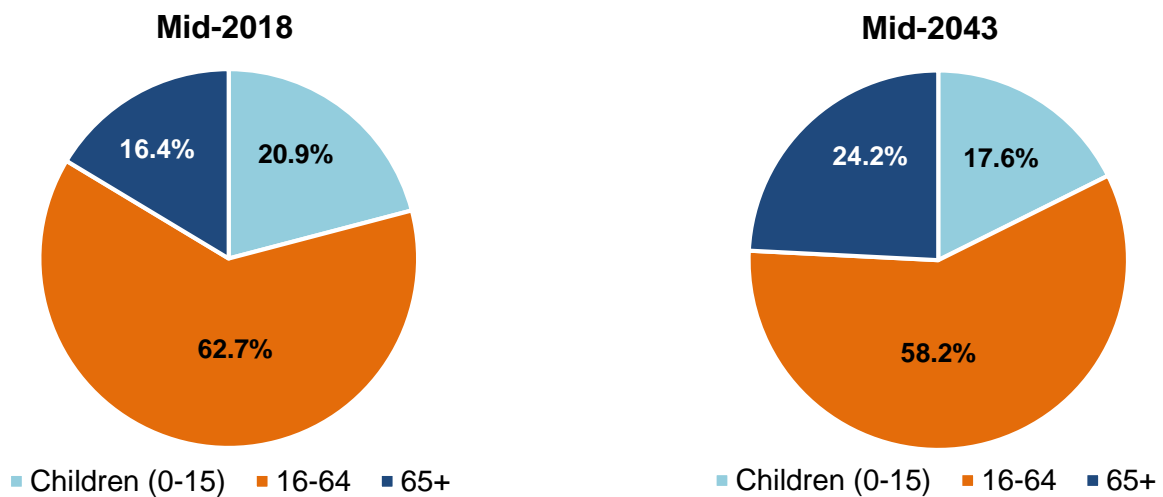
Figure 7: Projected population by age, mid-2016 to mid-2043



*Figures for mid-2018 relate to mid-year estimates.

[Download Chart](#) (XLS Format 147KB)

Figure 8: Estimated and projected proportion of population by age, mid-2018 and mid-2043



*Figures for mid-2018 relate to mid-year estimates.

[Download Chart](#) (XLS Format 151KB)

Figure 8 shows how the proportion of the population in each age group is projected to change over the next 25 years. The proportion of children is projected to decrease from just over 1 in 5 (20.9 per cent) in mid-2018 to 17.6 per cent by mid-2043. Conversely, it is projected that the population aged 65 and over will increase from 16.4 per cent in mid-2018 to almost 1 in 4 of the population (24.2 per cent) by mid-2043. It is also worth noting that the proportion of the population aged 16 to 64 is also projected to decrease between mid-2018 and mid-2043, from 62.7 per cent to 58.2 per cent.

6.3 Working Age⁴ Population

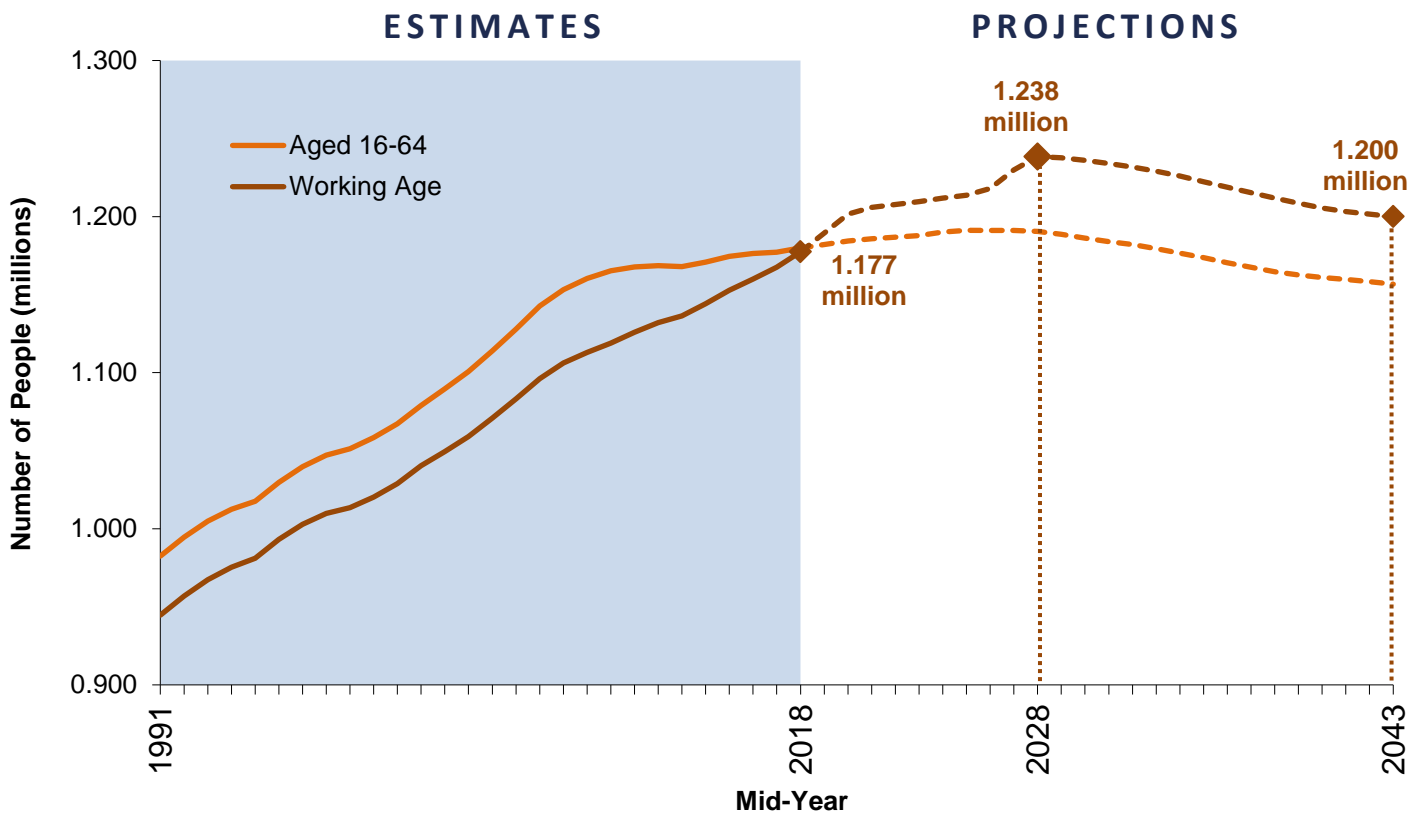
The 'working age' population is projected to increase by 1.9 per cent between mid-2018 and mid-2043

It is important to consider the projected change in the 16 to 64 age group, who make up the majority of the working age population, with the projected change in the actual 'working age' population.

Since 6 April 2010, the state pensionable age for women has been gradually increasing from 60 to bring it in line with the state pensionable age of 65 for men⁵, with women's state pension age reaching 65 in November 2018. The state pension age for both men and women will then increase further to 66 by October 2020, to 67 by 2028, and to 68 by 2046. These figures take account of these planned changes⁶.

Taking this into account, the number of people of working age in Northern Ireland is projected to rise by 5.2 per cent from 1,177,400 in mid-2018 to a peak of 1,238,400 people in mid-2028. Between mid-2028 and mid-2043, the working age population is then projected to decrease by 3.1 per cent to 1,200,000 (see Figure 9). Over the 25 year period, the working age population is projected to increase by 22,600 people (1.9 per cent).

Figure 9: Estimated and projected population aged 16 to 64 and working age, mid-1991 to mid-2043 (non-zero y-axis)



*Figures for mid-1991 to mid-2018 relate to mid-year estimates.

[Download Chart](#) (XLS Format 153KB)

⁴ Working age population takes into account the changes in pensionable age resulting from the [Pensions Act 2011](#) and the [Pensions Act 2014](#).

⁵ Further information on State Pension Age and a current timetable can be found [here](#).

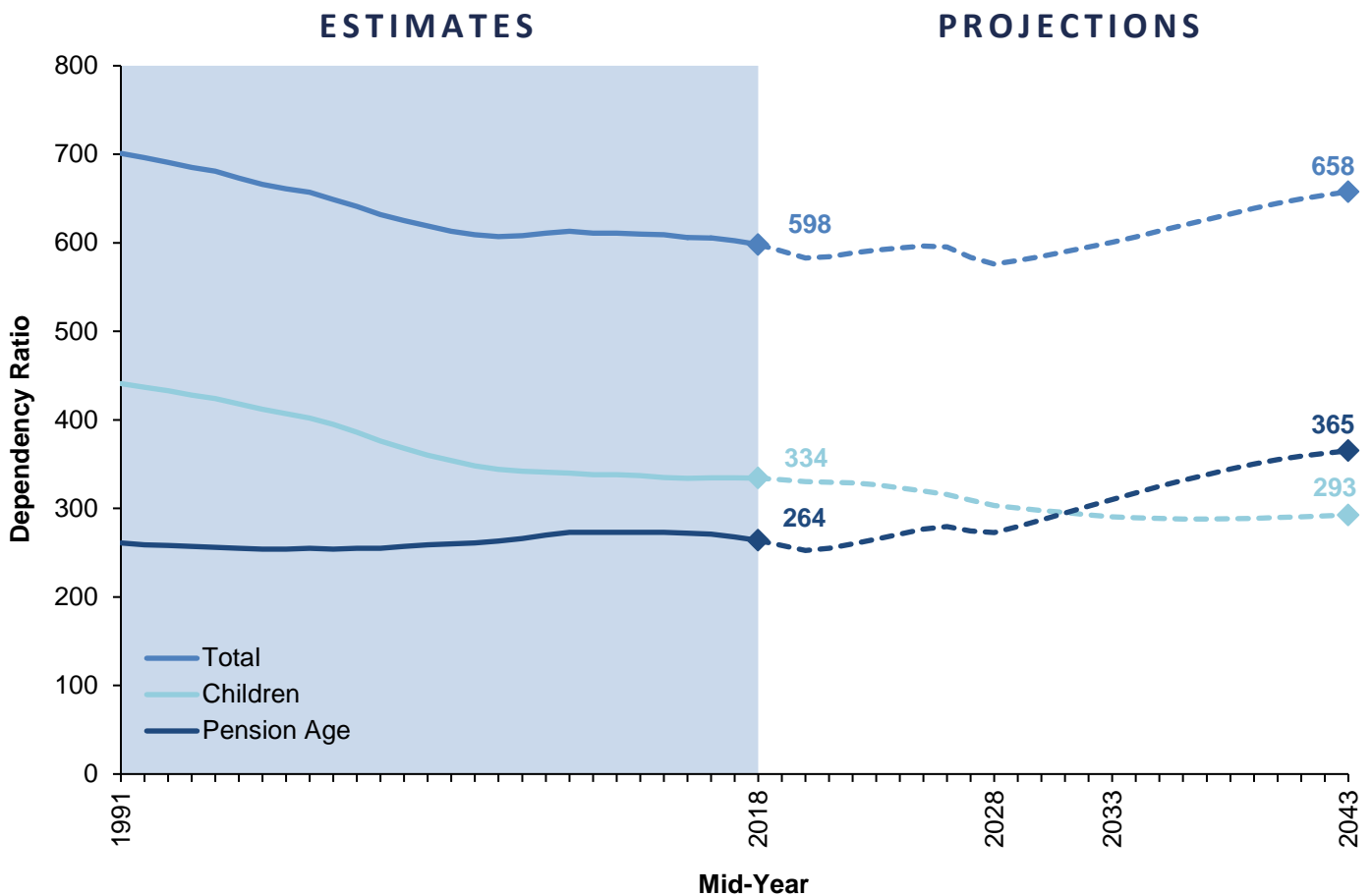
⁶ In addition the State Pension age is under further [review](#) and is likely to change further in the future; with the possibility of pension age rising to 68 by 2039. This proposed change is not reflected in these figures.

7 How does a changing age structure affect Northern Ireland?

7.1 Projected change in dependency ratios

A dependency ratio gives insight into the number of people of non-working age compared to the number of those of working age⁷. A simple interpretation is the number of older people or children who are 'dependent' on the working age population, the assumption being that older people and children are not economically active. A high ratio means that those of working age, and therefore the overall economy, face a greater burden in supporting the greater number of people of non-working age (typically the elderly and/or young).

Figure 10: Estimated and projected dependency ratios for children and pension age, mid-1991 to mid-2043



*Figures for mid-1991 to mid-2018 relate to mid-year estimates.

[Download Chart](#) (XLS Format 163KB)

Figure 10 shows the number of dependents per 1,000 people of working age. The total dependency ratio is projected to decrease between mid-2018 and mid-2022 before beginning to rise again to reach 658 per 1,000 in mid-2043. The increase in the dependency ratio is due to the increase in the number of people of pensionable age per 1,000 working age population.

The dependency ratio for children is projected to decline slightly from 334 per 1,000 in mid-2018 to 293 per 1,000 working age in mid-2043. Alternatively, the dependency ratio for people of pensionable

⁷ 'Working age' and 'pensionable age' take account of the changes resulting from the [Pensions Act 2011](#) and the [Pensions Act 2014](#).

age is projected to increase from 264 per 1,000 in mid-2018 to 365 per 1,000 working age in mid-2043.

It is important to note that dependency ratio figures should be used with care. For example, not all people of working age will be economically active or in full time employment (e.g. students). Furthermore, not all people who are eligible for retirement will leave their employment, or become dependent on others if they do retire. Despite these limitations, dependency ratios remain a useful tool for analysing the population's relative age structure.

8 How is life expectancy projected to change?

Table 1 shows life expectancy for males and females at selected years over the projection period. Life expectancy for females is projected to increase from 82.4 years in 2018 to 85.0 years in 2043. Males are projected to experience a larger increase in life expectancy, from 78.7 years in 2018 to 82.0 years in 2043.

Table 1: Expectation of life at birth, 2018 to 2043 (selected years)

Year	Males	Females
2018*	78.7	82.4
2023	79.5	83.0
2028	80.2	83.5
2033	80.8	84.0
2038	81.4	84.5
2043	82.0	85.0

*Figures for 2018 are estimates taken from [National Life Tables](#).

[Download Table](#) (XLS Format 146KB)

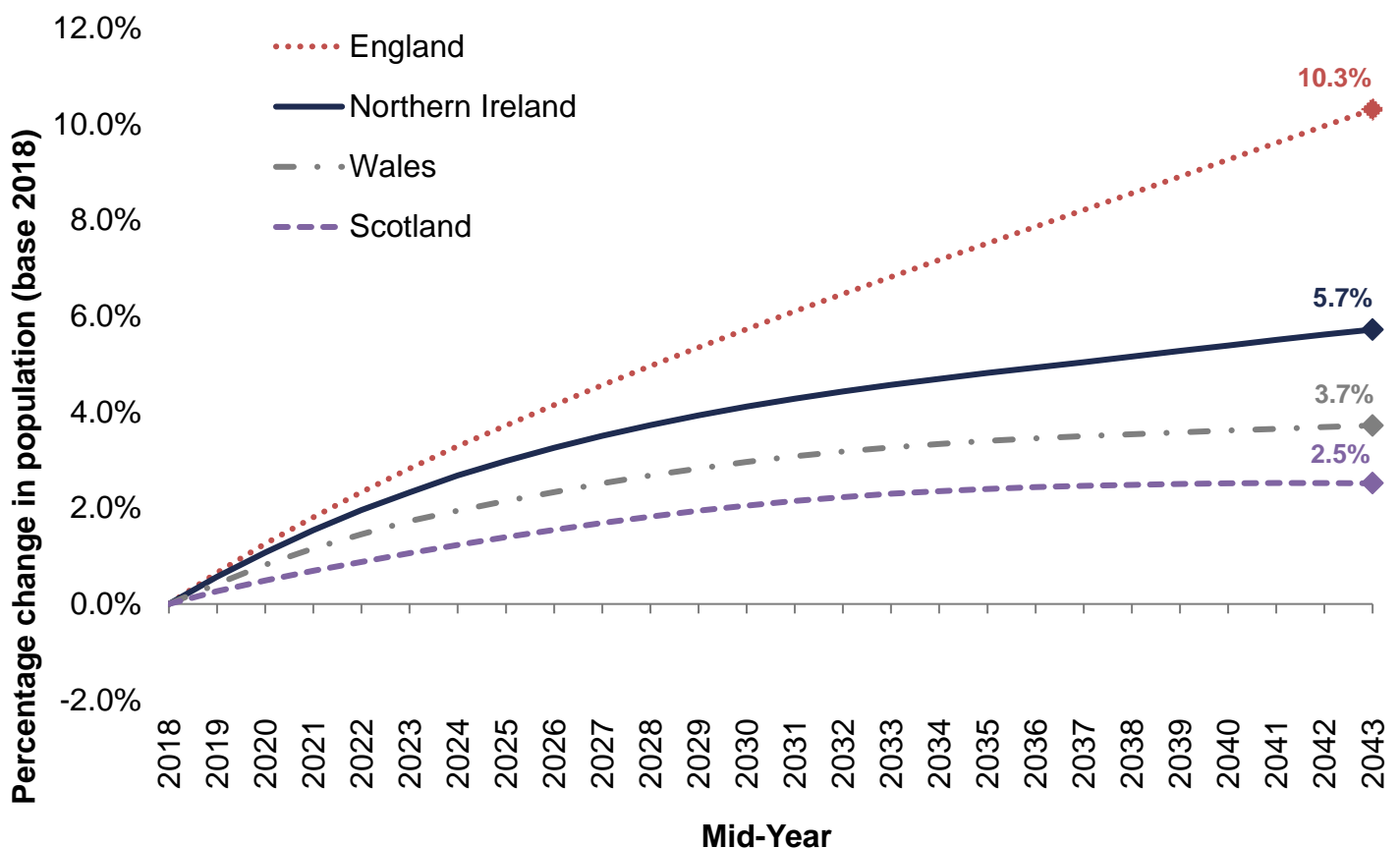
9 Comparison of population projections within the UK

The Northern Ireland population projections are produced as part of the [UK population projections](#). These include figures for each of the four UK countries (England, Wales, Scotland and Northern Ireland) and, as such, provide consistent comparable results for across the UK. Long-term assumptions are set for each country separately based on regional demographic trends.

9.1 Projected population change across the UK

The UK population is projected to increase from an estimated 66.4 million in mid-2018 to 72.4 million by mid-2043. Over the 25 year period this equates to an increase of 6.0 million people (9.0 per cent).

Figure 11: Percentage population change for UK countries, mid-2018 to mid-2043



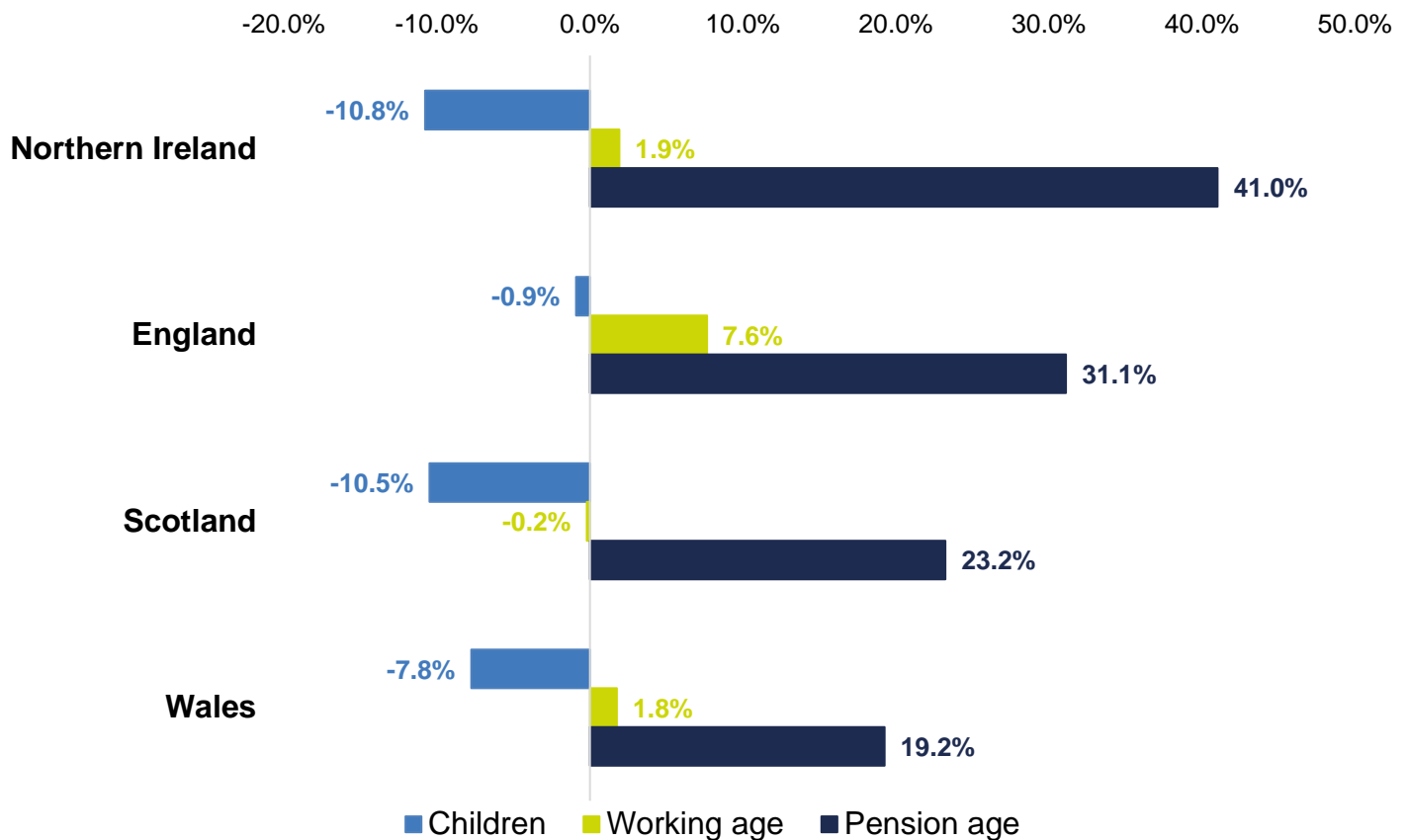
*Figures for mid-2018 relate to mid-year estimates.

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Figure 11 shows the projected population change for each of the UK nations between mid-2018 and mid-2043. The population of England is projected to have the largest increase over the period by 10.3 per cent (5.8 million people). Northern Ireland is projected to have the second largest growth in terms of percentage, 5.7 per cent (107,600 people) over the period. Wales is projected to have the third largest growth in terms of percentage, 3.7 per cent (116,700 people), by mid-2043. Scotland is projected to have the smallest population growth by mid-2043, 2.5 per cent (136,700 people).

9.2 Projected population change by age group across the UK

Figure 12: Percentage population change by age group across the UK, mid-2018 to mid-2043



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Northern Ireland is projected to have the **largest decrease** in the population of children and **largest increase** in the pension age population across the UK

Figure 12 shows the breakdown of the projected change in population across the UK by age group. Between mid-2018 and mid-2043, the largest increase in population across all countries is projected to be for people of pensionable age. Northern Ireland's pension age population is projected to have the largest

increase over the next 25 years (41.0 per cent). The pension age population in Wales is projected to have the smallest growth by mid-2043, although still by a considerable proportion (19.2 per cent).

All four UK countries are projected to have a decrease in the population of children over the next 25 years. Northern Ireland is projected to have the largest decrease in the population of children (10.8 per cent). England is projected to have the smallest decrease in the population of children (0.9 per cent), by mid-2043.

The working age population is projected to increase for Northern Ireland, England and Wales between mid-2018 and mid-2043. The largest increase is projected in England (7.6 per cent), followed by Northern Ireland (1.9 per cent), and Wales (1.8 per cent). For Scotland, the working age population is projected to decrease over the next 25 years, by 0.2 per cent.

9.3 Why is the population projected to change across the UK?

Table 2: Projected components of population change across the UK, mid-2018 to mid-2043

Country	Estimated population 30 June 2018	Total Births	Total Deaths	Natural Change	Net Migration	Estimated population 30 June 2043	Population change %
Northern Ireland	1,881,641	535,659	466,801	68,858	38,696	1,989,195	5.7%
England	55,977,178	15,768,479	14,392,695	1,375,784	4,391,136	61,744,098	10.3%
Scotland	5,438,100	1,255,069	1,588,681	-333,612	470,331	5,574,819	2.5%
Wales	3,138,631	771,121	926,304	-155,183	271,828	3,255,303	3.7%

[Download Table](#) (XLS Format 141KB)

Table 2 shows the components of population change for each of the UK countries over the next 25 years. For Northern Ireland, the majority of projected population growth is due to natural change (births minus deaths), totalling 68,900 people over the period. Net migration is projected to play a smaller part in the Northern Ireland population growth, totalling 38,700 people between mid-2018 and mid-2043.

The projected population growth in England is mainly due to net migration, totalling 4.4 million over the next 25 years. Natural change is also projected to contribute to population growth in England, totalling 1.4 million. In Scotland and Wales, all of the projected population growth over the next 25 years is due to net migration. Both countries are projected to experience negative natural change (more deaths than births) over this period.

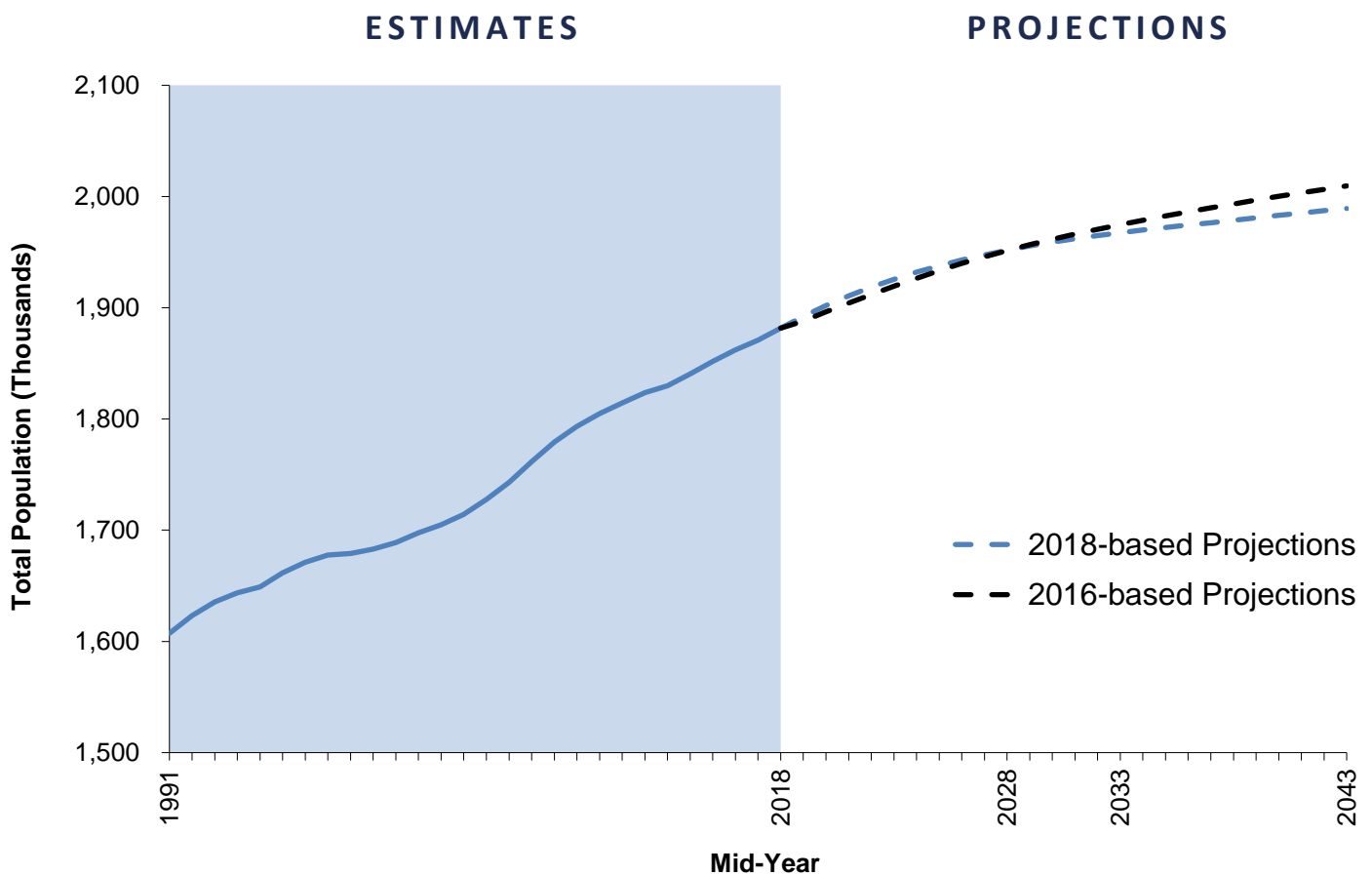
10 Comparison with 2016-based Population Projections

The 2018-based population projections differ from the previous 2016-based projections. This is partly because they are based on the population estimates from mid-2018 rather than mid-2016, as well as the latest data on births, deaths and migration. However, the Northern Ireland assumptions about future fertility, mortality and migration have also changed. In summary:

- In the long-term we assume the hypothetical woman will have 1.92 children in her life time which is lower than the 2016-based projections (2.00 children).
- In the long-term, improvements in mortality rates are projected to be around 1.2 per cent per annum which has remained the same from the 2016-based projections.
- In the 2016-based projections the net international migration assumption was +1,500 inflows for the whole projection period (mid-2016 onwards). For 2018-based projections net international migration in the long-term was also assumed to be +1,500 inflows, however beginning in mid-2025 (after a transition period that allows for a gradual move from current levels to the long-term assumption).

10.1 Projected populations for 2016-based and 2018-based population projections

Figure 13: Estimated and Projected Population (mid-2016 and mid-2018 based), mid-1991 to mid-2043 (non-zero y-axis)



*Figures for mid-1991 to mid-2018 relate to mid-year estimates.

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Figure 13 shows that from the 2018-based population projections there is less growth projected for the Northern Ireland population than previously estimated in 2016. By mid-2043, it is projected that there will be 20,300 less people in Northern Ireland than previously projected in the mid-2016 population projections. The main reason for this decline in growth is a result of lower projected natural change.

The long term fertility assumption in the 2018-based population projections (1.92 children) is lower than previously set in the 2016-based projections (2.00 children). Additionally, the 2018-based projections assume an initial dip in the Total Fertility Rate (TFR) before recovering to the long-term assumption which is greater than previously set out in the 2016-based projections. For example, the 2016-based projections assumed a dip in the TFR to a low of 1.91 by mid-2021 before recovering, while the 2018-based projections assume a dip in the TFR to a low of 1.82 by mid-2023 before beginning its recovery. At the detailed level these differences have an impact on the overall projections.

Likewise, despite the mortality assumptions being broadly the same between the two sets of projections, the number of deaths between the mid-2016 and mid-2018 population estimates had increased, leading to a higher projected number of deaths in the 2018-based projections.

Less projected births and more projected deaths has resulted in lower growth due to natural change within the 2018-based projections. For example, between mid-2016 and mid-2041 the projected growth due to natural change within the 2016-based projections is 127,300 people, while the equivalent projected growth within the 2018-based projections was 45.9 per cent lower at 68,900 people.

The lower projected natural change has been partially offset by an increase in the projected net migration for Northern Ireland over the next 25 years. For the 2018-based projections, a net total of 38,700 people are projected to contribute to population growth due to migration. In comparison, for the 2016-based projections, net migration was projected to contribute a total of only 14,000 people to population growth, between mid-2016 and mid-2041. This increase in net migration is a result of changes to the migration assumptions applied in 2018.

The 2016-based population projections assumed a net rate of +1,500 international inflows throughout the projection period. However, for the 2018-based projections, the long term assumptions of net +1,500 inflows is not projected to begin until mid-2025. In the first six years of the 2018-based projection there is projected to be an average of 2,800 international inflows to Northern Ireland, annually.

Likewise, the 2018-based projections project a lower net loss of people from Northern Ireland to the rest of the UK over the 25 year period. Between mid-2018 and mid-2043, it is projected that Northern Ireland will lose an average of 300 people to the rest of the UK, annually. In comparison, the 2016-based projections, projected an average annual loss of 900 people to the UK between mid-2016 and mid-2041.

11 Variant Projections

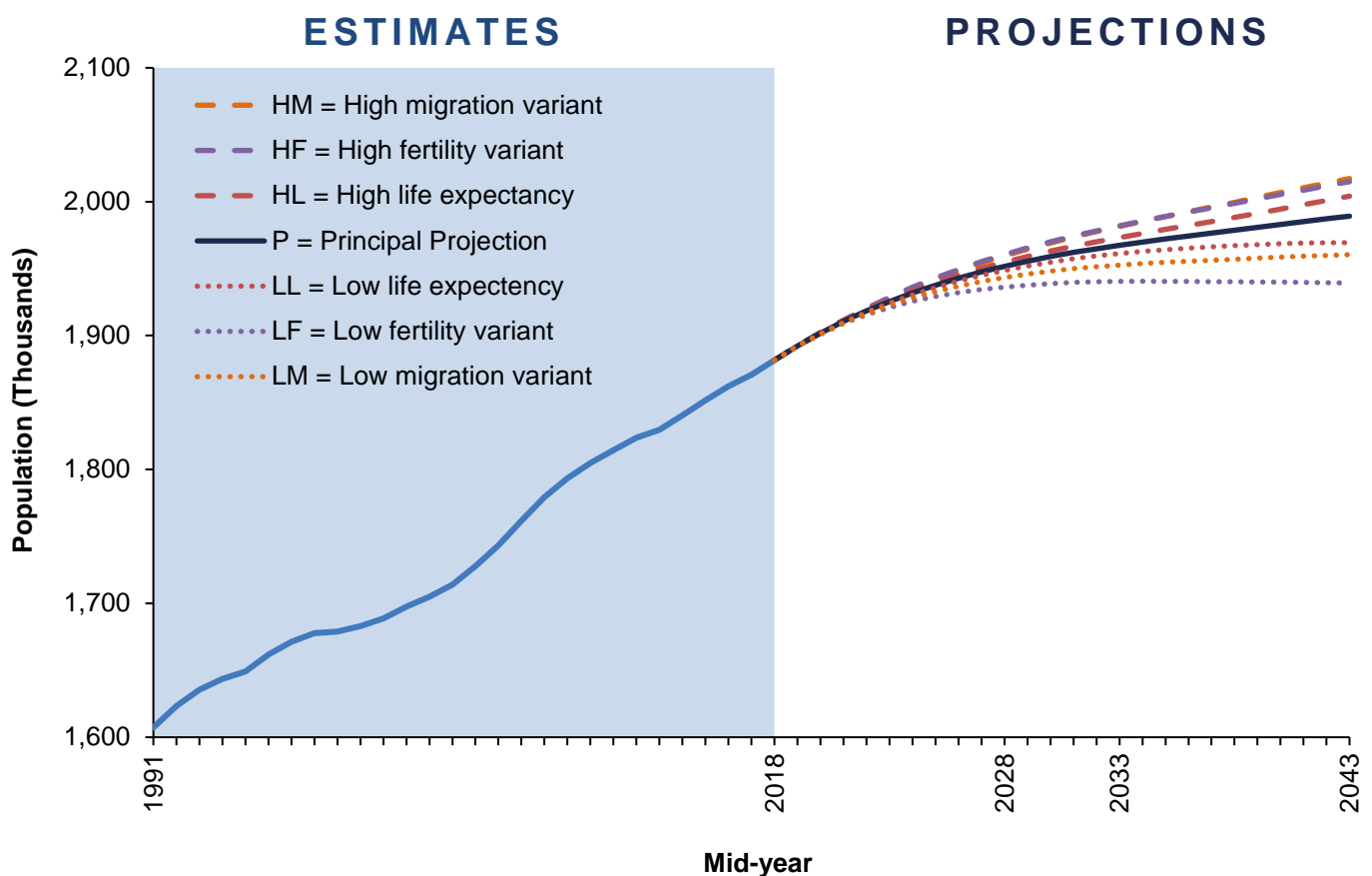
Projections will inevitably differ from actual future outcomes and become increasingly uncertain the further they are carried forward in time. In addition to the principal projection, variant projections are produced based on alternative, but generally plausible, assumptions of future fertility, mortality and net migration. These variant projections are intended to provide an indication of uncertainty and sensitivity to alternative assumptions. They do not represent upper or lower limits of future demographic behaviour, but illustrate plausible alternative scenarios if future fertility, mortality and migration differ from the assumptions made for the principal projection.

Variant projections for the UK and constituent countries are produced by ONS. Full details and figures can be found on the [ONS website](#), with variants specific to Northern Ireland also available on the [NISRA website](#).

11.1 Total projected population under different variant assumptions

Figure 14 below shows the projected trajectory of a selection of variant projections for illustrative purposes. This selection of variants shows the variability of population projections. For example, the high migration variant projects an increase in the population to 2.02 million by mid-2043 which is 28,100 more people than the principal projection (1.99 million). Conversely, the low migration variant projects an increase in the population by mid-2043 to 1,960,400 people which is 28,700 less than the principal projection.

Figure 14: Selected Northern Ireland Variant Projections, mid-1991 to mid-2043 (non zero y-axis)



*Figures for mid-1991 to mid-2018 relate to mid-year estimates.

[Download Chart](#) (XLS Format 152KB)

11.2 Components of population change under different variant assumptions

Table 3 shows the components of population change under the principal projection and a selection of variant projections for illustrative purposes. The variability of the components of population change allows the impact of the differing projection assumptions to be illustrated.

For example, the high life expectancy and high fertility variants both have a greater projected natural change (births minus deaths). This is a result of projected lower numbers of deaths (452,000) and higher numbers of births (561,300) compared to the principal projection. As a result, population change over the projection period is estimated to be greater than the principal projection (5.7 per cent) for the high life expectancy (6.5 per cent) and high fertility variants (7.1 per cent).

Table 3: Components of population change, 2018 to 2043 (selected variants)

Variant	Estimated population 30 June 2018	Total Births	Total Deaths	Natural Change	Net UK Migration	Net RoW Migration	Estimated population 30 June 2043	Percentage change %
Principal Projection	1,881,641	535,659	466,801	68,858	-6,288	44,984	1,989,195	5.7%
High life expectancy	1,881,641	535,724	451,966	83,758	-6,224	44,984	2,004,159	6.5%
Low life expectancy	1,881,641	535,572	486,401	49,171	-6,378	44,984	1,969,418	4.7%
High fertility variant	1,881,641	561,323	466,919	94,404	-6,071	44,984	2,014,958	7.1%
Low fertility variant	1,881,641	485,942	466,573	19,369	-6,749	44,984	1,939,245	3.1%
High migration variant	1,881,641	542,098	467,379	74,719	-6,096	67,074	2,017,338	7.2%
Low migration variant	1,881,641	529,081	466,190	62,891	-6,518	22,461	1,960,475	4.2%

[Download Table](#) (XLS Format 146KB)

[Additional variants](#) using alternative assumptions about future EU migration have also been published. It should be noted, however, that these variants have been produced to address a specific user need and are **not** classed as National Statistics.

12 Background information

12.1 Methodology

Estimates of the usually resident population of the UK and its constituent countries at mid-2018 are used as the starting (base) population for projections. The usually resident population is defined by the standard [United Nations definition](#) for population estimates, and includes people who reside in an area for a period of at least 12 months. Members of the armed forces throughout the UK are included within the usual resident definition. Northern Ireland population projections are based on the [mid-2018 estimates](#).

Projections are produced for successive years, starting with the base year, and running from one mid-year to the next using the cohort component method. In short, the cohort component method involves ageing the population on by one year, with births added and deaths removed. An adjustment is then made to the population to account for net migration. A detailed overview of the method of projection is outlined within the [background and methodology report](#).

12.2 Data Quality

Population projections for the UK and the four constituent UK countries are produced by ONS, and figures for each UK country are sent to their respective statistical organisations for quality assurance. This process includes such exercises as analysing the future fertility, mortality and migration figures (and associated assumptions) to make sure that they are plausible, and calculating and analysing sex ratios.

The following sections take each element of the projections in turn and provide information relating to the quality of the underlying data.

12.3 Base Population – Population Estimates for Northern Ireland (2018)

Mid-year population estimates are created using a variety of administrative data sources. A brief outline of these sources, and how quality is assured for each one, is detailed in the [population estimates and projections data quality document](#). Population estimates have been designated as National Statistics which means that our statistics meet the highest standards of trustworthiness, quality and public value. The last full assessment of population estimates for Northern Ireland by the Statistics Authority was in July 2015, with the continued designation of these statistics as National Statistics confirmed in [August 2016](#).

12.4 Assumptions – Births and Deaths

Information supplied at birth / death registration is generally believed to be correct since wilfully supplying false information may render the informant liable to prosecution for perjury. Birth and death figures by sex (and also by single year of age for deaths) are obtained from registrations with the General Register Office (GRO). All such events which occurred in the year between 1 July and 30 June are included in the mid-year population estimates.

During registrations, information provided is first checked by the informant before being finalised on the GRO's electronic system. Appropriate validation checks are embedded within the system to help the Registrar with this process. Statistics are extracted directly from the system and are subjected to further checks by the Vital Statistics team in NISRA's Demography and Methodology Branch, and again by the Population and Migration team when the relevant data are supplied to them.

Quality Assessment Reports are available online and contain further details on the quality of [birth](#) and [death](#) statistics.

12.5 Assumptions – Migration

Migration is the most difficult component of population change to measure, as unlike births and deaths, there is no complete system for registering migration. Migration is estimated using transfers observed in medical cards, detailing the list of patients registered with a family doctor:

- inflows (people who come to live in Northern Ireland for a period of at least one year) are estimated by counting the number of people who registered or re-registered with a family doctor
- outflows (people who leave Northern Ireland for a period of at least one year) are estimated by counting the number of people who de-registered with a family doctor.

Medical card data⁸ are collated by the Business Services Organisation (BSO) and validation checks are undertaken by the statisticians within that organisation. When the data are then sent to NISRA further checks are carried out, including data cleansing and comparisons with previous years' data. When the medical card data are processed to calculate migration estimates, figures for migration to / from Great Britain are agreed between the different UK administrations to provide as much accuracy and comparison between UK administrations as is possible for users.

⁸ In previous reports, medical card data was referred to as "health card" data.

12.6 Limitations

Population projections are based on assumptions derived from recent observed trends in fertility, mortality and migration. Therefore, these projections are not forecasts and do not attempt to predict the impact that future government policies, changing economic circumstances or other factors might have on demographic behaviour (e.g. the UK leaving the EU). While future policy changes are not taken into account, projections do reflect the impact of past policy and economic changes.

The future population of an area is strongly influenced by the initial base population. The reliability of projections decreases over time due to the cumulative process of population change, as well as the inherent uncertainty of demographic behaviour.

Figures for the number of children are more difficult to project than for the number of adults, due to assumptions around fertility levels and parental migration. In contrast, the number of older adults are relatively more straightforward to project as they are not affected by fertility assumptions, and are less likely to be affected by migration assumptions (the numbers of inflows and outflows decrease with age).

The International Passenger Survey (IPS) is used by England, Wales and Scotland to estimate international migration. NISRA is unable to use this source due to issues relating to the use of the IPS in Northern Ireland. The main issues are i) that the IPS does not cover the land border between Northern Ireland and the Republic of Ireland, and ii) there is uncertainty introduced when “Ireland” is given in response to survey questions – some people stating “Ireland” as their origin or destination may be referring to Northern Ireland. This means there is a methodological inconsistency for the international migration statistics of Northern Ireland and the rest of the UK. Northern Ireland migration statistics have been previously assessed by the UK Statistics Authority, who found them to be fit for purpose⁹.

⁹ [UKSA Assessment Report – Population Estimates and Projections for Northern Ireland](#)

13 Links to related statistics

Population projections for Northern Ireland (2018-based) are available from the [NISRA website](#).

Analysis within the statistical bulletin is limited to a **25 year projection period**. The [associated data tables](#) which can be found on the NISRA website provide population projections up to 2068 (50 years). Users on request can be provided with projections 100 years into the future, however we would encourage users to read the [National Population Projections Accuracy Report](#) to fully understand the limitations of long-term projections.

An [infographic](#) highlighting the important figures and trends in the data has also been released.

Population projections for [sub-national areas](#) (2016-based) are available from the NISRA website. The 2018-based population projections for sub-national areas will be published in April 2020.

[Population estimates for the UK](#) and its constituent countries are available from the Office for National Statistics website.

[Mid-year population estimates for Northern Ireland](#) for mid-2018 were published in June 2019. The estimates refer to the size of the usually resident population at 30 June and include more detailed population estimates for Local Government Districts, Parliamentary Constituencies and associated administrative and statistical geographies. [Population Factsheets for Local Government Districts](#) are now published as a separate summary document.

[Estimates of the population aged 85 and over](#) are were released in September following the mid-year population estimates in June.

[Population estimates for small areas in Northern Ireland](#) are released in November following the mid-year population estimates in June.

How to find data

What are you looking for?

The tables and figures used throughout this publication in Excel format.

Population estimates in Open Data format (3* CSV).

Interactive data to engage with population estimates and compare geographies within Northern Ireland

Where is it?

[Tables and figures](#)

[Open Data NI](#)

Interactive data visualisations

1. [Components of Change](#)
2. [Population Totals](#)
3. [Population by age bands](#)
4. [Population Pyramid](#)

14 National Statistics

National Statistics status means that our statistics meet the highest standards of trustworthiness, quality and public value, and it is our responsibility to maintain compliance with these standards.

Population Projections for Northern Ireland last underwent a full assessment by the Statistics Authority against the [Code of Practice](#) in July 2015. The assessment report can be found [here](#). Following the Statistics Authority assessment the continued designation of these statistics as National Statistics was confirmed in [August 2016](#).

National Statistics status was confirmed subject to NISRA implementing six specific requirements. An action plan outlining how and when NISRA addressed each of these requirements can be found [here](#).

An action plan checklist with supporting documentation can also be found on the [NISRA website](#).

In 2019, UK National Population Projections were subject to a [compliance check](#) by the UK Statistics Authority. As a result of this compliance check, it was confirmed that National Population Projections should continue to be designated as National Statistics.

Since the assessment by the UK Statistics Authority, we have continued to comply with the Code of Practice for Statistics, and have made the following improvements.

- Improved clarity and insight by reviewing the commentary to remove unnecessarily detailed narrative and bring forward the key messages. In addition, key point headlines have been included throughout the bulletin so users are alerted to main points of interest.
- We have designed a key point's summary infographic to disseminate key messages from the projections to improve clarity and insight for users.
- The associated data tables for population projections are disseminated in a more innovative way by including a flat file and tabular format which users can interact with.
- We have improved the accessibility of population projections by publishing data in 3* open data format on Open Data NI. We have also included a new 'Links to related statistics' section within the bulletin so users can explore the whole population statistics package, including older person estimates, population projections, small area population estimates and a range of other supplementary material.
- To add value to the bulletin we have included a 'Key information on population projections' section up front to provide users with an overview of the projections, details on their accuracy and information on how the projection assumptions have been set.

Enquiries and suggestions

1. The revisions policy for Northern Ireland population and migration statistics is available [here](#).
2. We welcome feedback from users on the content, format and relevance of this release. Users can send feedback directly to census@nisra.gov.uk.
3. Follow NISRA on [Twitter](#) and [Facebook](#).
4. All media inquiries should be directed to the DoF Communications Office:
Telephone: 028 9081 6724
5. Further statistical information can be obtained from NISRA Customer Services:
Telephone: 028 9025 5156
E-mail: census@nisra.gov.uk
Responsible Statistician: Jonathan Harvey