

Report:

A demographic portrait of Northern Ireland

Introduction

Today Northern Ireland has the fastest growing and youngest population of all UK countries. Population increase has been a general trend since its inception, due primarily to natural change with births exceeding deaths. Historically, this increase has been tempered by significant population loss due to out-migration. In recent years a different pattern has emerged with Northern Ireland experiencing significant in-migration which has resulted in a larger increase in population.

Northern Ireland's population growth in recent decades has continued despite a fall in both the number of births and the birth rate. This fall in birth rate is tempered with a recent recovery in the number of births recorded. In 2008 the fertility rate in Northern Ireland rose above the replacement level of 2.1 births per woman. This recent fertility increase has in part been driven by in-migration.

Northern Ireland has the lowest crude death rate of all UK countries. This is driven by the population in Northern Ireland having the youngest age structure of the UK countries. Since the mid-1970s Northern Ireland has experienced a general decrease in the annual number of deaths recorded. This decrease in death numbers has occurred despite the population increasing in size and the increasing proportion of the population who are elderly. This has led to an overall reduction in death rates in Northern Ireland which, like other European countries, has led to a significant change in the age-structure of the population.

This report examines the trends in population, births and deaths from 1922, when Northern Ireland was formed, to the present day. The report discusses possible reasons for shifts in demographic trends and makes comparisons with similar trends in other countries of the UK.

Northern Ireland population

Figure 1 shows the general trend of increasing population in Northern Ireland. The population in Northern Ireland has risen from around 1.28 million in 1922 to 1.75 million in 2007. There was an initial period of population loss from 1922 to the early 1930s due to

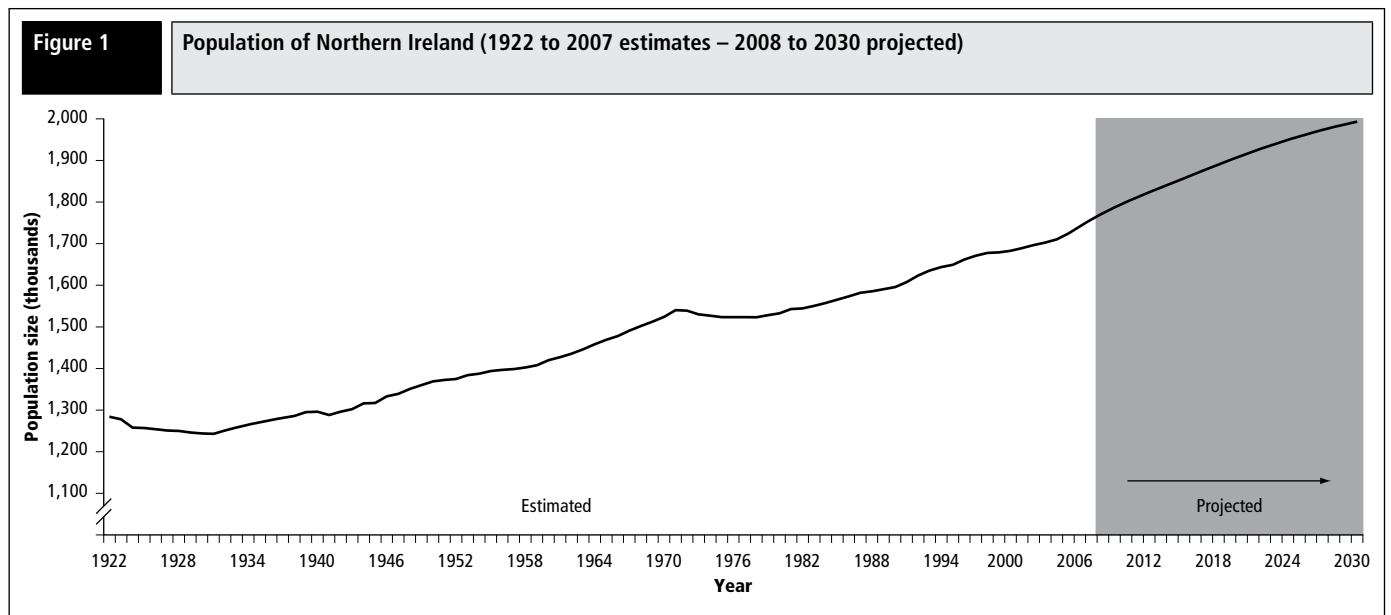
significant out-migration from Northern Ireland. Following this, a rise occurred throughout the twentieth century, with the main exception to this period of growth being in the early 1970s when the size of the population again decreased. This decrease was at the start of a period of civil unrest in Northern Ireland known as 'the Troubles' and was due to particularly high levels of net out-migration which resulted in population loss. The 2006-based population projections indicate that the population in Northern Ireland is projected to continue to increase beyond 2030.

Over the last five years population growth has been driven by both natural change and net migration. Net in-migration has been significant in Northern Ireland since the accession of the eight Central and Eastern European, or A8¹, countries to the European Union in May 2004. In 2007 population gain in Northern Ireland due to migration was half a per cent of the population or 10,000 people.

The Northern Ireland Statistics and Research Agency (NISRA) has carried out research based on administrative data sources to estimate the stock of people of A8 origin living in Northern Ireland². A recent paper estimated the size of the European Union accession countries population resident in Northern Ireland in 2007³ at 30,000 people. This represents almost 2 per cent of the Northern Ireland population of just over 1.75 million.

While all parts of the UK have experienced recent increases in population, in 2007 Northern Ireland had the fastest growing population of all UK countries with a 2006–07 increase of 1.0 per cent (17,500 people), compared to 0.6 per cent in England, 0.5 per cent in Scotland and 0.5 per cent in Wales.

In addition to having the fastest growing population, Northern Ireland also has the youngest population in the UK. In 2007, 22 per cent of the Northern Ireland population were children⁴ and 16 per cent were of pensionable age⁵, while for England it was 19 per cent and 19 per cent respectively. In Scotland 18 per cent were children and 19 per cent were of pensionable age, and in Wales 19 per cent and 21 per cent respectively.



Long-term trends in births

The number of births registered in Northern Ireland between 1922 and 2008 is shown in **Figure 2**. The graph shows the noticeable baby-boom peak in the number of births in Northern Ireland in the decades following the Second World War. The number of births peaked in 1964 at 34,300. Following this there was a marked fall in the number of births registered in the early 1970s.

In the 1980s the number of births levelled off, largely due to the cohort of women from the baby-boom passing through their childbearing years. The decline in the number of births in Northern Ireland resumed in the 1990s with the figure hitting an all-time low of 21,400 births in 2002. Since then there has been a marked recovery in numbers with 25,600 births registered in 2008. This increase restores birth numbers to the figures observed in 1992.

Northern Ireland has consistently had higher overall birth rates than those seen in Great Britain. However, what is remarkable is that the historical pattern in crude birth rates for each of the four UK countries is very similar (see **Figure 3**). While over the last century the birth

rate in Scotland has converged with and then fallen below the rates in England and in Wales, the birth rate in Northern Ireland has begun to converge but remains higher than the rates observed in England and in Wales. A specific point of interest is that all countries of the UK have experienced a similar upturn of greater than 10 per cent in birth rates since the lows of 2001/02.

Total Period Fertility Rates (TPFR)⁶ for the countries within the UK are shown in **Figure 4**. As in Figure 3 it can be seen that the Northern Ireland fertility rate is higher than equivalent rates in Great Britain. Northern Ireland is the only country within the UK which has had fertility levels above replacement level since 1978. It was not until 1992 that Northern Ireland's fertility rate first fell below this level. This compares to 1973 in both England and Wales and 1974 in Scotland. Of particular interest is that following the low of 2002 Northern Ireland's fertility level again reached replacement level in 2008.

Across the UK an increasing number of women are waiting until later in life to have children. This has had an effect on the overall period fertility rate. In Northern Ireland over the past 30 years the most striking change

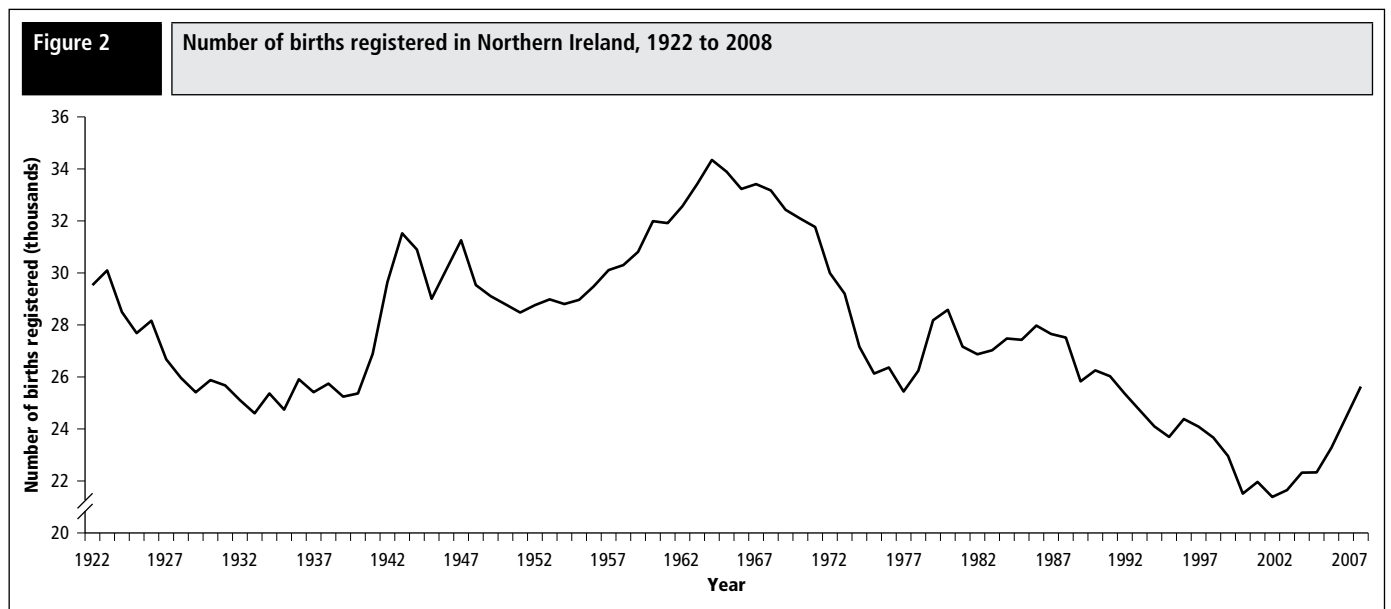
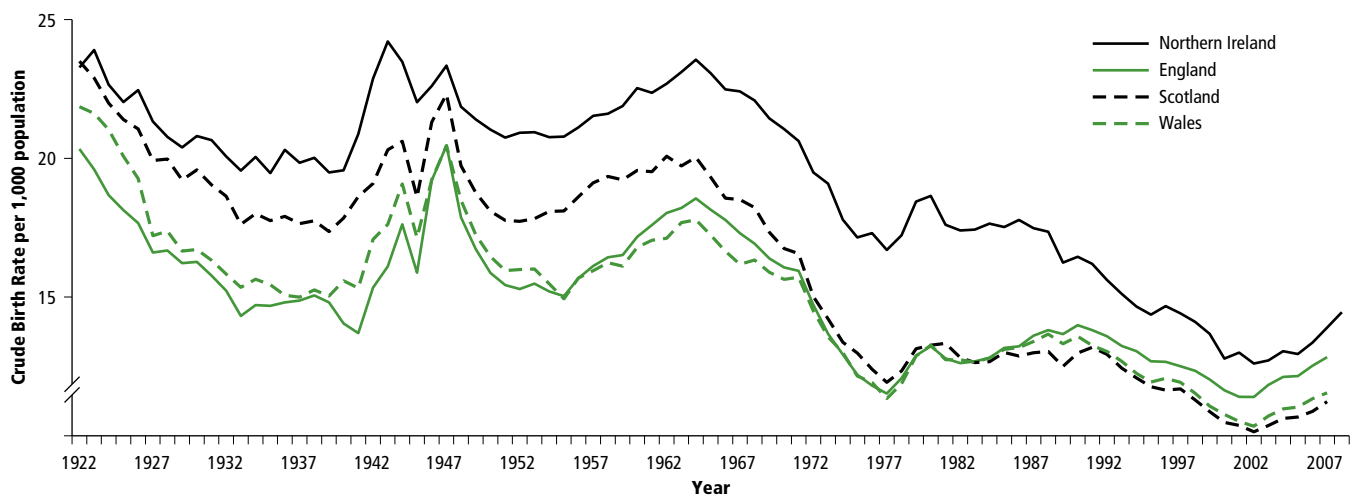


Figure 3 Crude Birth Rates for UK countries, 1922 to 2008



has been the decline in the number of women in their twenties having children. In 2008, just under half (49 per cent) of births were to mothers aged 30 and over compared to under a third (31 per cent) in 1978. The average age of a mother at first birth in 1978 was 24.5 years which increased to 27.4 years in 2008.

Whilst the overall fertility rate in Northern Ireland is higher than that of the rest of the UK, there is a variation in fertility rates with respect to age. **Figure 5** shows the fertility rates for the countries within the UK in 2007 by age of mother. Northern Ireland has lower fertility rates for teenage women but significantly higher rates for those aged over 25, with a peak at around 29 years.

Mother's country of birth

The recent increase in the number of people coming to live in Northern Ireland has had an impact on the number of children born. This is best evidenced by the country of birth recorded for new mothers. The majority of births registered in Northern Ireland are to Northern Ireland born mothers. This percentage has fallen markedly over the last decade from 87 per cent in 1998 to 82 per cent in 2008.

Births to mothers born in the rest of the UK and Ireland account for around 10 per cent of births each year. Therefore the number of births to mothers born outside the UK and Ireland has risen over the last decade, from 2 per cent of births in 1998 to 9 per cent of births (2,300 births) in 2008. Within this number some 4.2 per cent (1,100 births) were to mothers born in one of the A8 countries, compared to only 0.1 per cent (10 births) in 2001.

Births outside marriage

In recent years there has been an increase in the number of births outside marriage. Last year in Northern Ireland, 39 per cent of births were outside marriage, an increase from 6 per cent in 1978. Similar trends are observed in the rest of the UK (see **Figure 6**). In 2007, 38 per cent of births occurred outside marriage in Northern Ireland, compared to 44 per cent in England, 49 per cent in Scotland and 54 per cent in Wales.

Trends in births outside marriage show variation between areas within Northern Ireland. Greater Belfast and the North of Northern Ireland had the highest proportion of births outside marriage in 2008 at 46 per cent and 44 per cent respectively, while the West and South of Northern

Figure 4 Total Period Fertility Rate for UK countries, 1978 to 2008

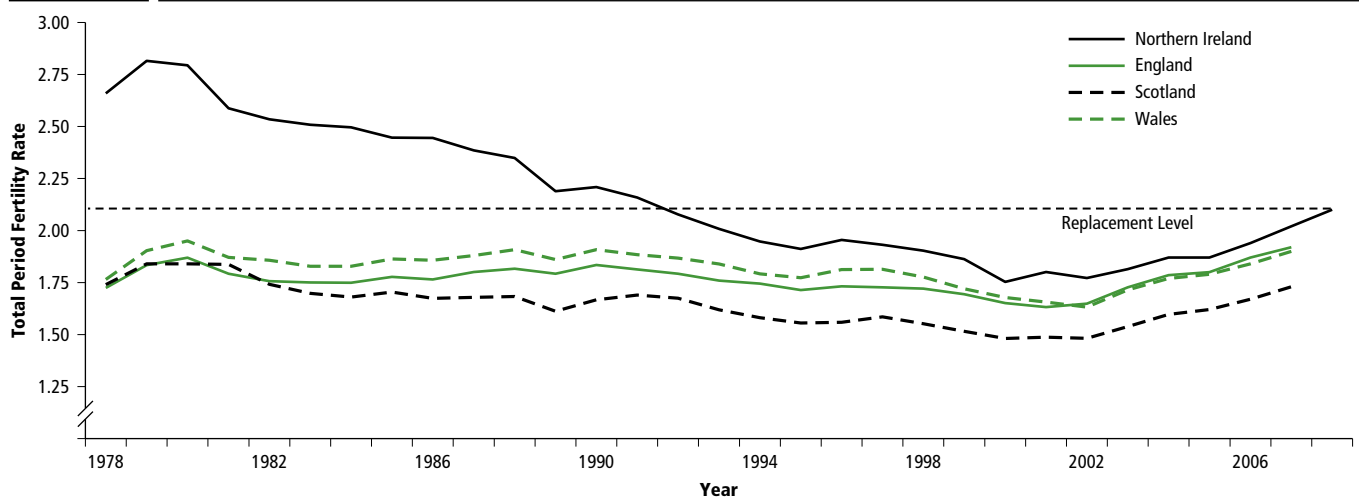
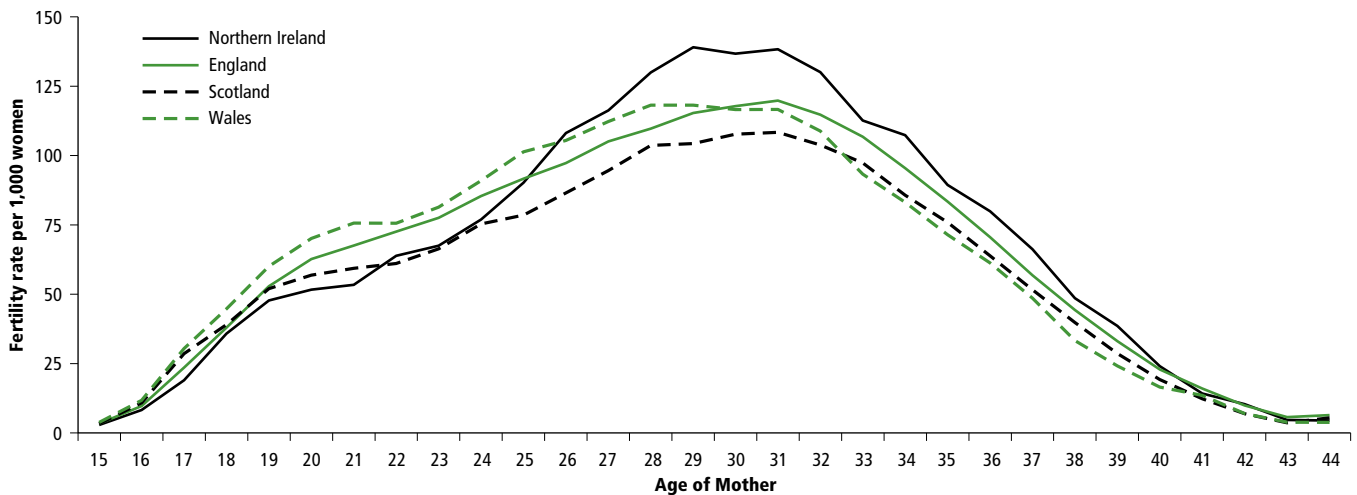


Figure 5 Fertility Rate by UK-country and age of mother, 2007



Ireland had the lowest percentage at 28 per cent. The East of Northern Ireland had 36 per cent of births occurring outside marriage.

Family size

Over the past thirty years there has been a significant change in family size. Prior to 1997 birth order statistics were not collected for unmarried mothers. Therefore this analysis relates to births within marriage only. In 1978, 18 per cent of all births within marriage were to mothers who already had at least three other children. This percentage has steadily fallen to 10 per cent of all births within marriage in 2008. **Figure 7** shows that the number of first-time mothers within marriage has fluctuated over the years. In 2008, 36 per cent of births within marriage were to first-time mothers.

Long-term trends in deaths

Compared to fertility, trends in mortality in Northern Ireland show a more variable but definitive trend. **Figure 8** shows the number of deaths registered in Northern Ireland over the last century and indicates a picture of broadly falling mortality albeit with an increase during the 1970s. The

figures also show that female deaths exceeded male deaths from the early 1920s until the mid-1940s. After this the number of male deaths were higher until the end of the 1980s.

Female mortality improved at a faster rate from the 1930s to the 1970s. Since the 1980s, male mortality rates have improved, resulting in a narrowing of the 'gender gap'. Although female deaths have exceeded male deaths since 1989, male mortality rates still remain higher than those for females.

Northern Ireland had higher crude death rates than Great Britain until the late 1930s when the rate began to fall more sharply. Since the early 1950s Northern Ireland has had consistently lower death rates than Great Britain. As with births, there is a similar fluctuating pattern in death rates for each of the four UK countries (see **Figure 9**).

In recent years all UK countries have seen a general downward trend in death rates. Death rates for Scotland and Wales have become almost identical and have remained higher than England and Northern Ireland. Northern Ireland's lower death rates are a consequence of it having a younger population than the other parts of the UK.

Figure 6 Percentage of births outside marriage, 1978 to 2007

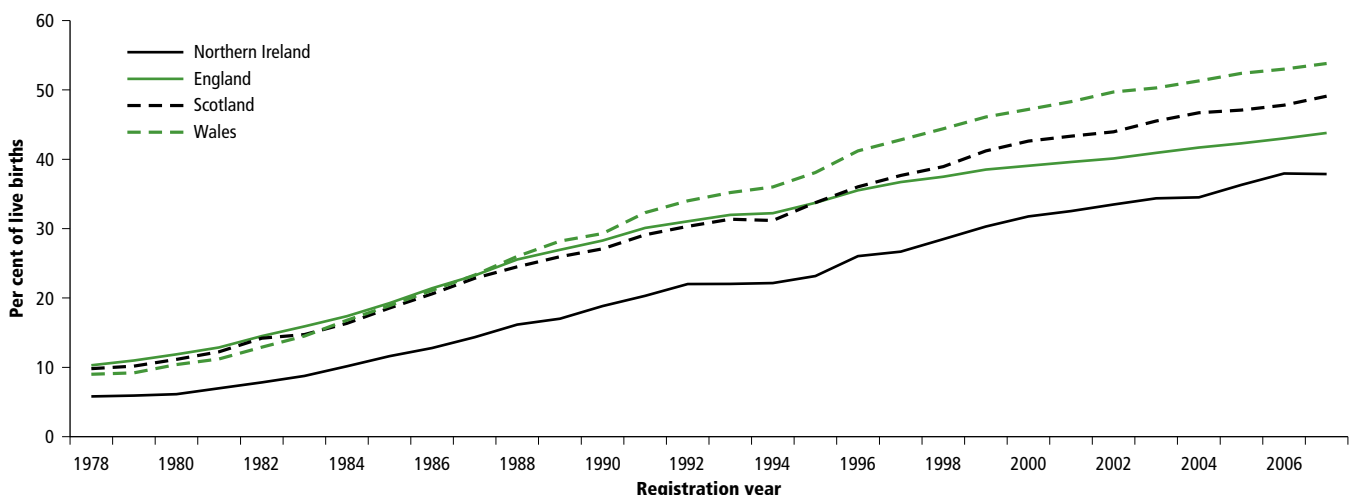
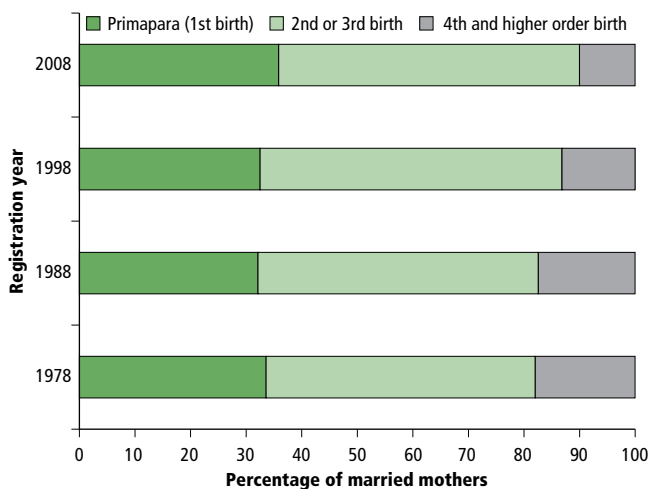


Figure 7 Distribution of live birth order within marriage in Northern Ireland, 1978 to 2008



Age at death

Although the number of deaths in Northern Ireland increased in 2008 to 14,900 from 14,600 in 2007, the long-term trend is one of falling death rates. The reduction in the number of deaths in recent years has occurred despite the population increasing in size and containing a greater proportion of elderly people. In 2008, 62 per cent of deaths were to people aged 75 and over compared to 44 per cent in 1978. Improvements to health care systems contributed to this reduction in the death rate.

Figures 10 and 11 show the age-specific death rates for males and females in Northern Ireland by age group for 1978 and 2008. Over this thirty year period, mortality rates have improved across all age groups. Male mortality rates remained higher than female mortality rates throughout the period although there has been a gradual narrowing of the 'gender gap'. The largest declines in male age-specific death rates occurred in the 0–4 age group (down 68 per cent) and for those aged 55–59 (down 62 per cent). Female age-specific death rates declined most substantially for those aged 10–14 (down 75 per cent) and for ages 0–4 (down 66 per cent).

Figure 8 Number of deaths registered in Northern Ireland, 1922 to 2008

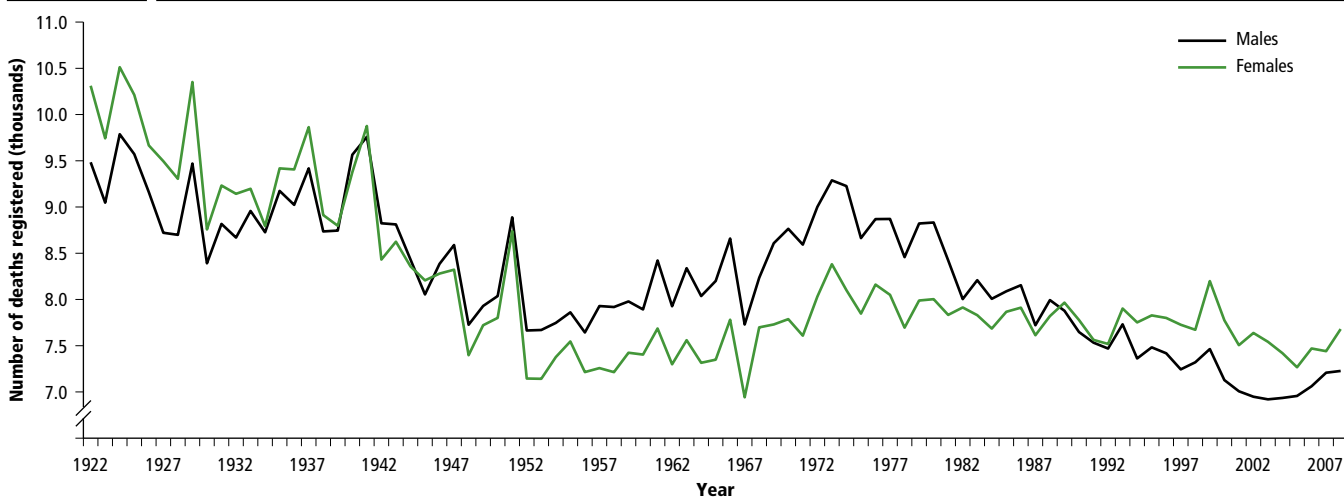


Figure 9 Crude death rates for UK countries, 1922 to 2007

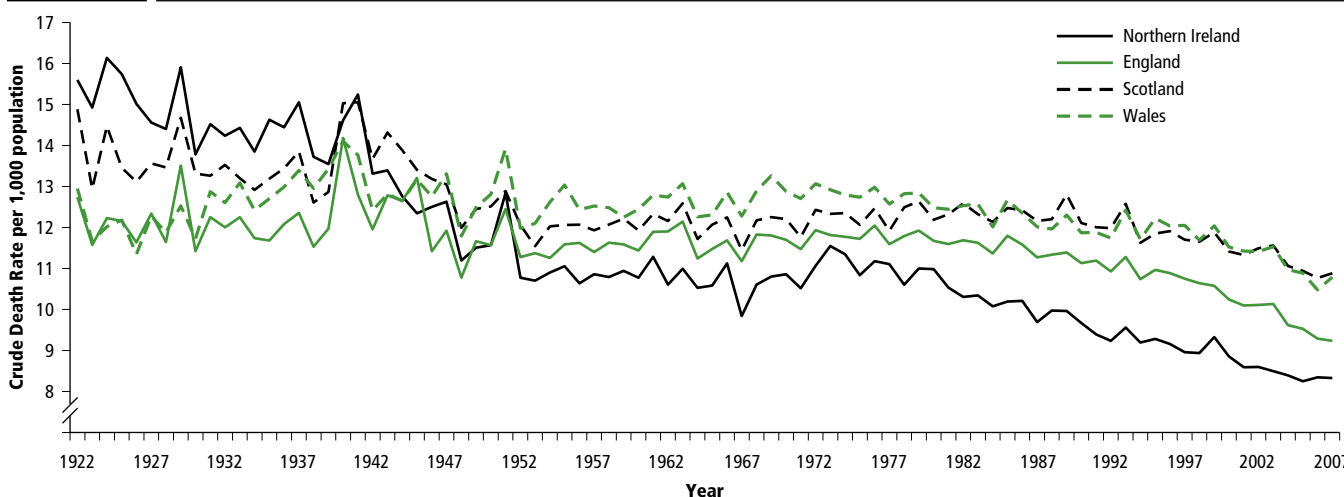


Figure 10 Age-specific death rates by sex (up to 60 years), 1978 and 2008

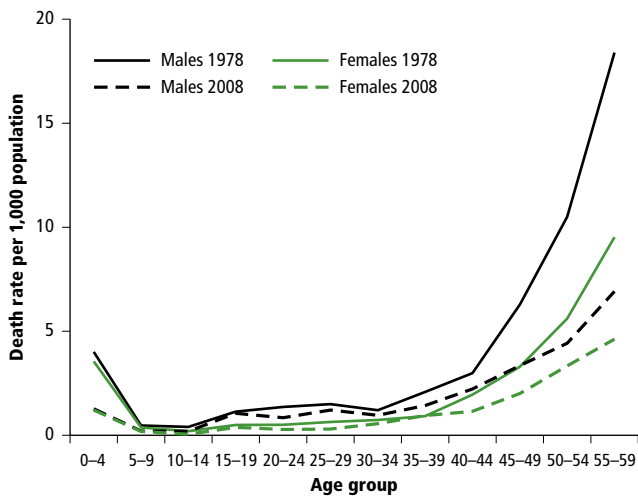


Figure 11 Age-specific death rates by sex (60 years and over), 1978 and 2008

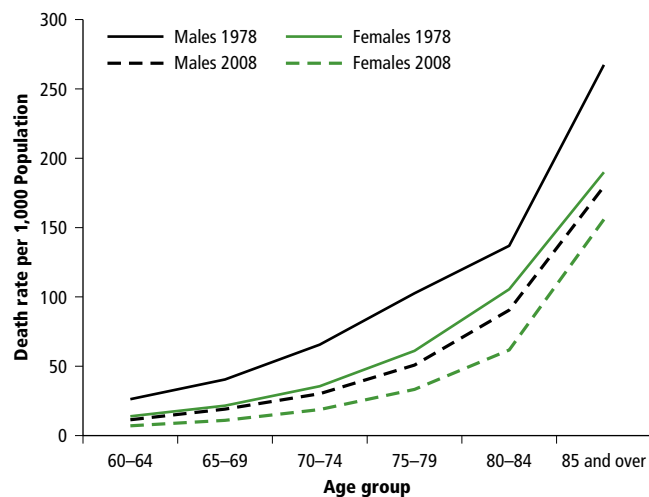
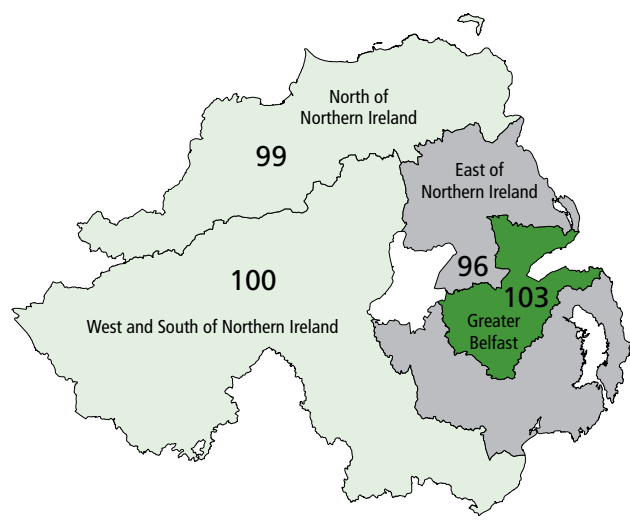


Figure 12 Standardised Mortality Ratios by NUTS III area, 2006 to 2008



One remarkable statistic is that, if the age-specific death rates of thirty years ago still applied today, the number of deaths registered in Northern Ireland in 2008 would have been almost 11,000 higher (25,500) than the actual number registered. Thus, in overall terms, the weight of mortality has nearly halved in the last thirty years.

As with births, trends in deaths vary by region within Northern Ireland. **Figure 12** shows standardised mortality ratios (SMRs) based on three years mortality data (2006 to 2008), comparing local death rates with the overall death rate for Northern Ireland and taking account of the different population age structures in each area. Greater Belfast is the only region which has a standardised mortality ratio significantly higher than the Northern Ireland average. In contrast, the East of Northern Ireland is the only area with a standardised mortality ratio significantly lower than the Northern Ireland average.

Cause of death

Over the last century there have been changes in the most common causes of death (see **Figure 13**). In Northern Ireland at the beginning of the 20th Century a large number of deaths (on average 19 per cent of all deaths registered) were due to infectious diseases such as diphtheria, influenza and tuberculosis. In more recent years infectious diseases have only accounted for, on average, 1 per cent of all deaths registered. Conversely, deaths from diseases such as malignant neoplasms (cancer) have increased over the period. In 1922, 6 per cent of all deaths registered were a result of malignant neoplasms. In 2008 cancer accounts for 27 per cent of all deaths registered.

Care needs to be taken when interpreting **Figure 13**, as during the period 1922 to 2008 there were multiple changes in coding practice for cause of death. This is particularly noticeable between 1967 and 1968 when the coding changed from version 7 to version 8 of the International Classification of Diseases (ICD) and resulted in an increase in the number of deaths classified as 'Circulatory diseases'.

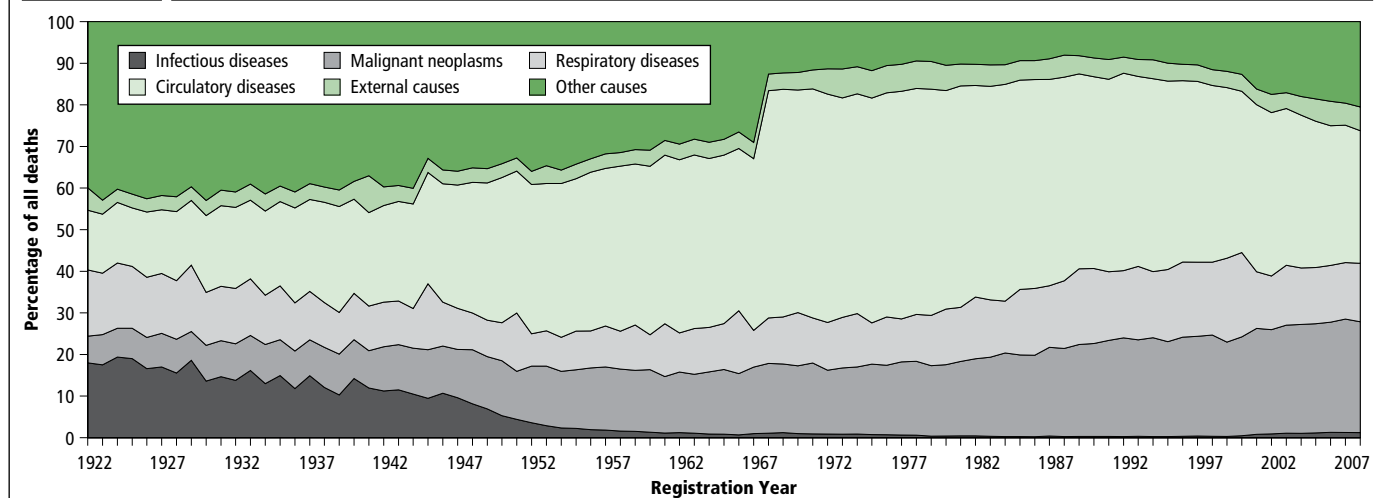
In 2007 the three most common causes of death in Northern Ireland were malignant neoplasms (26 per cent of all deaths), ischaemic heart disease (17 per cent of all deaths) and respiratory diseases (14 per cent of all deaths). Similarly, in Scotland 27 per cent of all deaths were due to malignant neoplasms, 17 per cent due to ischaemic heart disease and 13 per cent to respiratory diseases. Equivalent figures for England were 27 per cent of all deaths due to malignant neoplasms, 16 per cent due to ischaemic heart disease and 14 per cent to respiratory diseases; for Wales these were 27 per cent, 17 per cent and 14 per cent respectively.

Conclusion

Changes in the demographic structure of the population, such as the recent increase in the number of migrants entering the UK, have many public policy implications. Mortality trends will have implications for health policies such as residential care planning and care for the elderly in hospitals, while a change in the birth trend will affect maternity services and school planning.

The latest Northern Ireland trends show an increasing number of children born and more diversification in the family backgrounds of children. Data from the 2008/9 School Census in Northern Ireland show that around 3 per cent of the primary school population has English as an additional language. This figure has more than doubled over the last three years.

Northern Ireland has the lowest all age mortality rate within the UK. This is driven by the population in Northern Ireland having the youngest age structure of the UK countries. It is clear that over the last 30 years there has been a marked improvement in mortality, with the weight of mortality in the late 1970s being almost double that observed today.

Figure 13 Major causes of death in Northern Ireland, 1922 to 2008

There are clear challenges ahead for the measurement of all demographic trends. The changes witnessed in family structure over the last 30 years have been significant. Over the last 150 years, death registration has formed the backbone of the monitoring of the health of the population. However, mortality information in the future will need to be coupled to indicators of morbidity, which are perhaps more suited to monitoring the rapidly ageing population.

Background notes

- 1 Northern Ireland data for the 2008 registration year is provisional until the publication of the 2008 Annual Report of the Registrar General in December 2009.
- 2 See: www.nisra.gov.uk/demography/default.asp.htm for further statistics for Northern Ireland.
- 3 See: www.statistics.gov.uk/default.asp for further statistics for England and Wales.
- 4 See: www.gro-scotland.gov.uk for further statistics for Scotland.

References

- 1 The A8 countries are Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia
- 2 The latest report from this research, 'Long-term International Migration Estimates for Northern Ireland (2006-7)', can be found at: [www.nisra.gov.uk/archive/demography/population/migration/NI_Migration_Report\(2007\).pdf](http://www.nisra.gov.uk/archive/demography/population/migration/NI_Migration_Report(2007).pdf)
- 3 The full paper can be found on the NISRA website at: www.nisra.gov.uk/archive/demography/population/migration/EstimatedA8Pop_2007.pdf
- 4 Children are defined as those in the population aged under 16
- 5 Pensionable age population is defined as the male population aged 65 and over and the female population aged 60 and over
- 6 The total period fertility rate is the average number of children that would be born to a cohort of woman who experienced, throughout their childbearing years, the fertility rate of the calendar year in question