

INFORMATION
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Health Inequalities

NI Health & Social Care Inequalities
Monitoring System

Life Expectancy Decomposition 2015:
Explaining the Variations



Department of
**Health, Social Services
and Public Safety**

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NI Health & Social Care Inequalities Monitoring System

Life Expectancy Decomposition 2015

Explaining the Variations

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Statistics and research for the **Department of Health, Social Services and Public Safety** is provided by **Information Analysis Directorate (IAD)**. It comprises four statistical sections: Hospital Information, Community Information, Public Health Information & Research and Project Support Analysis.

IAD is responsible for compiling, processing, analysing, interpreting and disseminating a wide range of statistics covering health and social care.

The statisticians within IAD are out-posted from the Northern Ireland Statistics & Research Agency (NISRA) and our statistics are produced in accordance with the principles and protocols set out in the Code of Practice for Official Statistics.

About Public Health Information and Research Branch

The role of Public Health Information and Research Branch (PHIRB) is to support the public health survey function and to provide support on public health issues within the Department. The head of the branch is the Principal Statistician, Mr. Bill Stewart.

In support of the public health survey function, PHIRB is involved in the commissioning, managing and publishing of results from departmental funded surveys, such as the Health Survey Northern Ireland, All Ireland Drug Prevalence Survey, Young Persons Behaviour & Attitudes Survey, and the Adult Drinking Patterns Survey.

PHIRB also has responsibility for the management of a programme of patient experience surveys across the Health and Social Care sector.

PHIRB provides support to a range of key DHSSPS strategies including Making Life Better, a 10 year cross-departmental public health strategic framework as well as a range of other departmental strategies such as those dealing with suicide, sexual health, breastfeeding, tobacco control and obesity prevention. It also has a key role in supporting the Alcohol and Drug New Strategic Direction 2011-2016, by maintaining and developing key departmental databases such as, the Drug Misuse Database, Impact Measurement Tool and the Census of Drug & Alcohol Treatment Services, which are all used to monitor drug misuse and treatments across Northern Ireland.

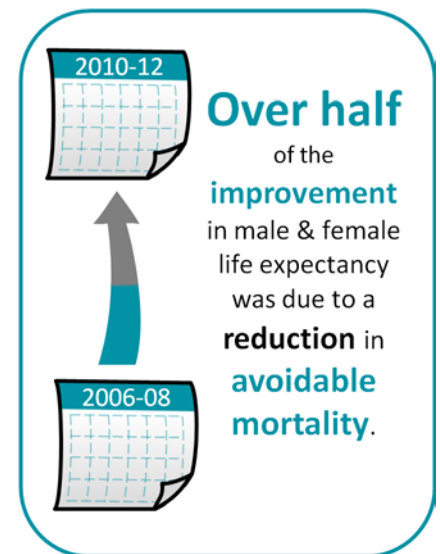
The branch also houses the NI Health and Social Care Inequalities Monitoring System which covers a range of different health inequality/equality based projects conducted for both the region as well as for more localised area levels.

<http://www.dhsspsni.gov.uk/index/statistics/health-inequalities.htm>

Executive Summary

Changes in Northern Ireland life expectancy over time

- Male life expectancy at birth in NI increased by 1.4 years from 76.3 in 2006-08 to 77.7 years in 2010-12, while female life expectancy increased by 0.9 years over the period to stand at 82.1 years.
- These improvements were mainly driven by falling mortality within the population aged 60 years and over and reduced mortality due to circulatory disease and avoidable causes.
- In 2010-12, male life expectancy at age 65 stood at 17.8 years, 1.0 years higher than that in 2006-08. Over the same period, female life expectancy at age 65 increased by 0.7 years to 20.5 years.
- Improvements in life expectancy at age 65 were mainly driven by falling mortality due to circulatory disease.

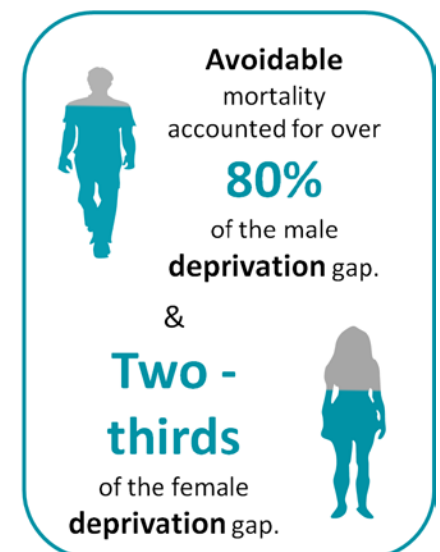


Gender gap in Northern Ireland life expectancy at birth

- In 2010-12 the gender differential stood at 4.4 years, with female life expectancy higher than males.
- Lower mortality rates within the female population aged 60 years and over were the largest contributor to the gap.
- In terms of cause of death, higher mortality for males due to circulatory disease and cancer (excluding breast cancer) were the largest contributors to the gap.
- Three-fifths of the gap (2.7 years) was attributable to avoidable causes of death.

Deprivation gap between the most and least deprived

- The gap in life expectancy at birth between the most and least deprived areas stood at 7.3 years for males and 4.3 years for females in 2010-12, remaining broadly similar from 2006-08.
- Mortality among males aged between 50 and 80 was attributable for three-fifths (4.4 years) of the gap in male life expectancy, while the same age group was attributable for four-fifths (3.4 years) of the female life expectancy gap.
- Circulatory disease and cancer accounted for almost half of the male deprivation gap while higher cancer mortality in the most deprived areas was the largest contributor to the female deprivation gap.
- Four-fifths (5.8 years) of the male inequality gap and three-quarters (3.3 years) of the female inequality gap were attributable to avoidable causes of death.



In 2010-12, over **a quarter** of deaths were considered **avoidable**.

Life expectancy gap between urban and rural areas

- In 2010-12, males in rural areas could expect to live on average 2.3 years longer than those in urban areas. Female life expectancy was also higher (2.0 years) in rural areas than in urban areas.
- The largest contributor to both rurality gaps was cancer.

Life expectancy gap between England and Northern Ireland

- Although life expectancy at birth in Northern Ireland has grown at a faster rate than in England since 1980-82, it remains 1.3 years lower for males, and 0.7 years lower for females.
- The differences were due to higher rates of mortality in Northern Ireland across all age groups for both males and females.
- For males, the largest contributing cause of death to the difference was higher mortality in NI from suicide (0.4 years), although accidents (0.3 years) and coronary heart disease (0.3 years) also each explained more than a fifth of the total difference.
- For females, higher levels of mortality for the majority of causes examined, most notably perinatal conditions (0.1 years) and coronary heart disease (0.1 years), led to the difference.

Life expectancy gap between Wales and Northern Ireland

- Since 1980-82, life expectancy at birth for both males and females in Northern Ireland has increased at a faster rate than seen in Wales. However, while female life expectancy in NI is now the same as in Wales, male life expectancy in NI remains 0.4 years lower.
- Higher mortality due to suicide, maternal & infant conditions and selected forms of cancer (lymphatic, lung and prostate) in NI were the largest contributing causes to the male life expectancy gap.

Life expectancy gap between Scotland and Northern Ireland

- Similar to the comparisons with England and Wales, life expectancy at birth in NI has grown at a faster rate than in Scotland, with male life expectancy now 1.2 years higher in NI, and NI females expected to live 1.4 years longer than their Scottish counterparts.
- The differences were due to higher rates of mortality in Scotland for the majority of age groups, particularly those aged over 60.
- For both males and females, the largest contributing causes of death to the differences were higher mortality in Scotland from circulatory disease and cancer.

Life expectancy gap between Republic of Ireland and Northern Ireland

- In 2010-12, both male and female life expectancy in NI were 0.6 years lower than in the RoI.
- The differences were due to higher rates of mortality in NI across all age groups, with the exception of those aged 80 years and over.
- Higher mortality in NI due to a range of causes, including mental and behavioural disorders (0.2 years), as well as various forms of cancer and respiratory diseases, were the largest contributors to the male gap.
- The most notable contributors to the difference in female life expectancy were mental and behavioural disorders (0.3 years) and respiratory diseases (0.2 years).

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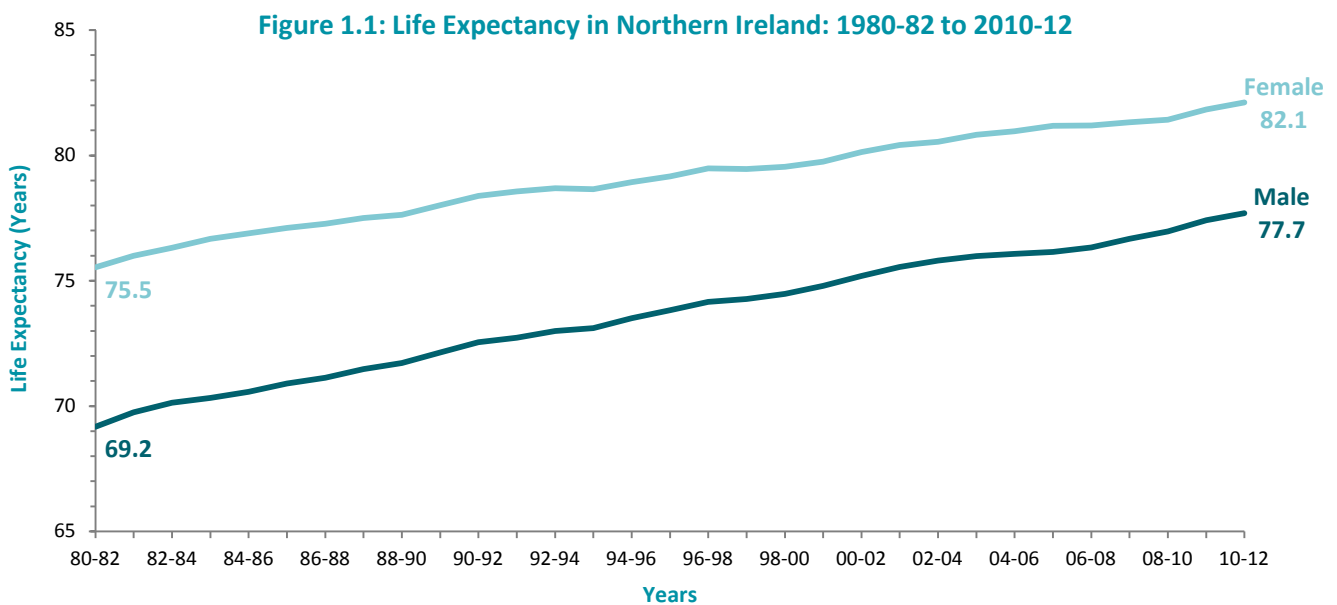
Introduction and Methodology

Northern Ireland Health and Social Care Inequalities Monitoring System

The NI Health and Social Care Inequalities Monitoring System (HSCIMS), developed by the Information Analysis Directorate (IAD) within the Department of Health, Social Services and Public Safety (DHSSPS), was established in 2002. The HSCIMS comprises a basket of indicators which are monitored over time to assess area differences in mortality, morbidity, utilisation of and access to health and social care services in Northern Ireland, and has expanded over recent years to include additional work streams relating to health inequality. All HSCIMS reports can be downloaded from the DHSSPS website¹.

Life Expectancy at Birth Time Series

Life expectancy at birth is the average number of years an individual can expect to live under current age-specific mortality rates. Figure 1.1 shows there has been steady growth in life expectancy over the last thirty years for both males and females. Female life expectancy has consistently been higher than that for males; however this gender gap has narrowed over time.

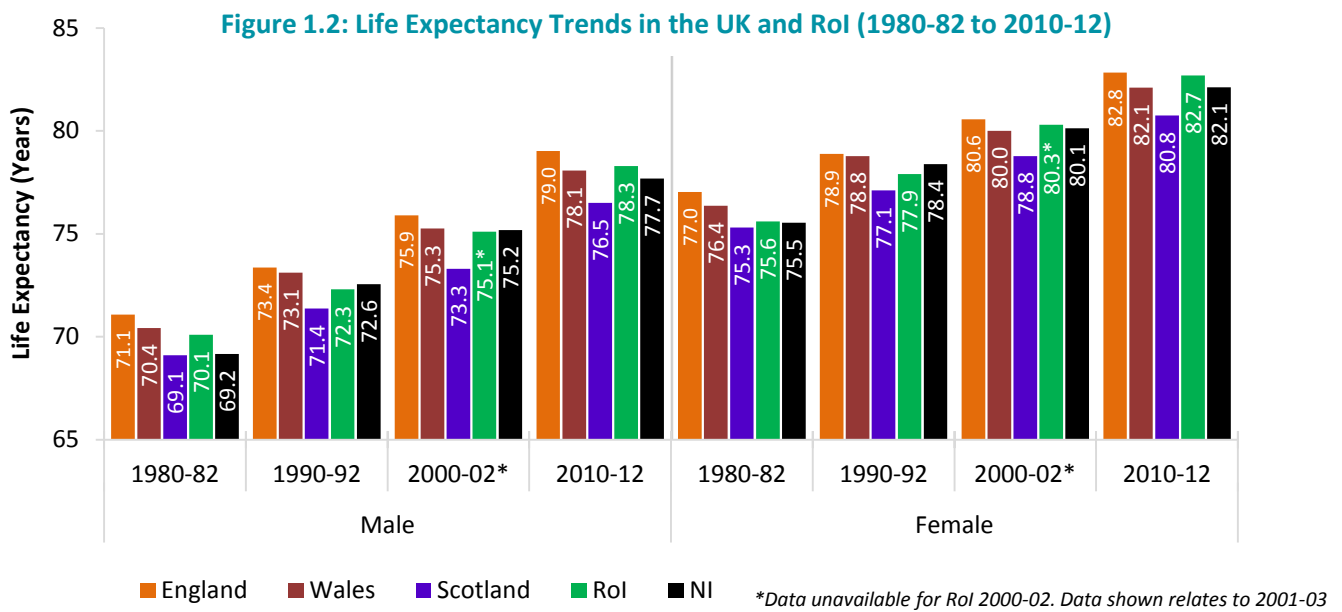


The calculation of life expectancy follows the widely accepted practice of using a three year average of deaths and population. Due to the year-on-year variability of mortality that can exist, especially in smaller populations, a three year average produces a more robust estimate. This report examines changes in life expectancy between the baseline period 2006-08 and 2010-12.

¹ <http://www.dhsspsni.gov.uk/index/statistics.htm>

Comparison with United Kingdom Countries and Republic of Ireland

Figure 1.2 sets out how life expectancy has improved in the UK countries and in the Republic of Ireland (RoI) since the 1980s. England has consistently had the highest life expectancy over this period, whereas life expectancy in Scotland has consistently lagged two to three years behind England. Over the period, male life expectancy in Northern Ireland has risen faster than that in any of the other countries presented, from being on a par with Scotland at the beginning of the period to growing to a similar level as in Wales by the end. Female life expectancy also increased more rapidly in NI than in any of the other UK countries, though not as quickly as that in RoI.



Life Expectancy Gap

A life expectancy gap is simply defined as the difference between life expectancy estimates, either between two populations at a given point in time, or within a single population between two points of time. Life expectancy gaps for the most & least deprived areas and rural & urban areas are routinely calculated for the regional HSCIMS².

To measure the contribution of age-specific mortality changes to the change in the life expectancy gap over time, a life table decomposition method³ for both age and cause of death is used. It assumes that the distribution of deaths by cause is constant within the age groups in each population. The difference in all-cause mortality between populations can then be distributed into contributions from each cause of death within each age group, proportionate to the difference in mortality from each cause of death within each age group.

As with the initial 2008 life expectancy decomposition report, this report will examine the extent to which certain age groups and causes of death contribute to the gap in life expectancy for deprived and rural areas.

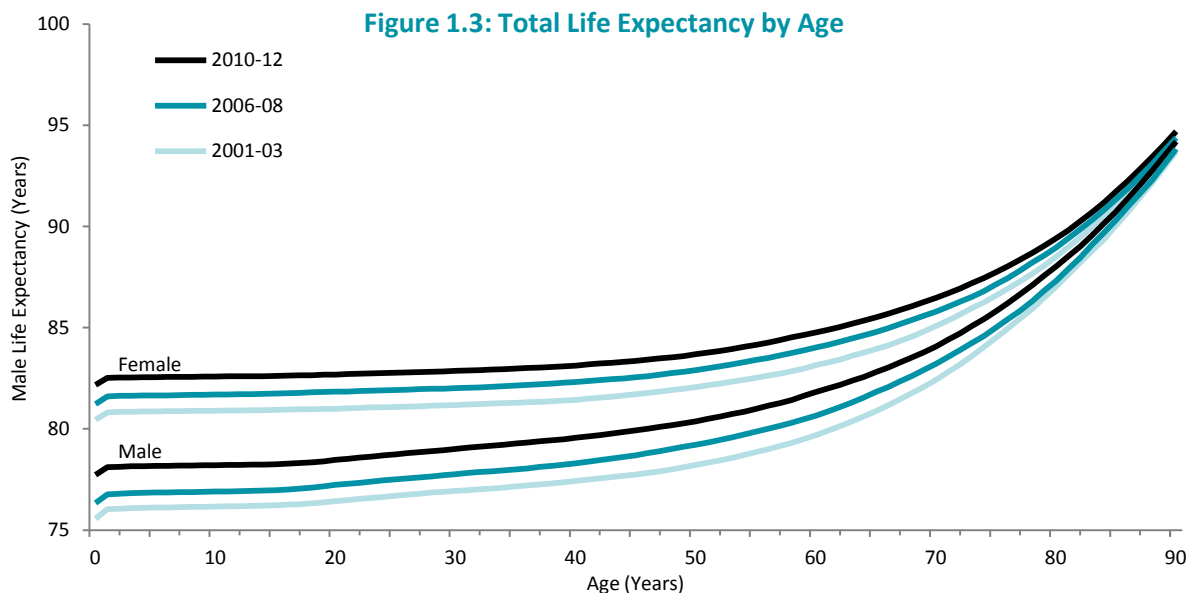
There are also additional analyses presented that look at the decomposition of life expectancy at age 65, as well as the effect on life expectancy in Northern Ireland of reducing mortality from external causes.

² <http://www.dhsspsni.gov.uk/index/statistics/health-inequalities/regional-health-inequalities.htm>

³ Arriaga, Eduardo. 1984 "Measuring and Explaining the Changes in Life Expectancies" Further explained in Preston, Samuel H et al. 2001 "Demography, Measuring and Modelling Population Processes"

Life Expectancy at Different Ages

Life expectancy at any given age is the average number of further years an individual can expect to live under current age-specific mortality rates⁴. For example, if life expectancy at age 65 is 20 years, an individual at 65 years of age could expect to live until the age of 85. In general, total life expectancy is higher for older age groups. This is because the group has survived a number of years of life already, and therefore reduced the risk of mortality for these years to zero. Figure 1.3 shows the how life expectancy at different ages has changed over the last ten years.



Similarly to life expectancy at birth, life expectancy at each age has increased each year for the last ten years.

As NI continues to experience an ageing population structure, for the first time this report will examine life expectancy at age 65 in addition to life expectancy at birth.

⁴ Life expectancy estimates the average number of years those born in 2010-12 can expect to live, i.e. the age at which mortality reaches 50%. For further analysis on how mortality increases with age, see the Survivors Analysis, found on page 51 of the Further Analysis section of this report.

Deprivation Classification

In line with the HSCIMS, this report identifies deprived areas according to the Northern Ireland Multiple Deprivation Measure (NIMDM)⁵ based on the small area geography of Super Output Areas (SOA). The NIMDM provides a relative ranking of the SOAs across Northern Ireland, bringing together 43 different indicators covering aspects of income, employment, health, education, proximity to services, living environment and crime and disorder, allowing the most and least deprived areas to be identified. It is worth noting that the health domain includes indicators such as suicide rates and potential years of life lost which means that, by definition, there will be some correlation between deprivation rank and certain health outcomes, such as life expectancy.

Rural classification

As with the HSCIMS, the definition of rural areas applied to 2006-08 and 2010-12 data in this report is consistent with that outlined in the "Report of the Inter-Departmental Urban-Rural Definition Group" (NISRA 2005)⁶. The definition divided NI into 8 broad settlement bands with the following bands being considered as rural areas; "intermediate settlement", "village" and "small village, hamlet and open countryside". These classifications were applied to the 2001 Census population and hence, if the exercise was to be repeated today, the boundaries of settlements may be drawn differently due to internal migration since 2001.

Sources of Information

All NI analyses and calculations are based on official deaths data sourced from the General Register Office and population data published by NISRA. The methodology used to calculate life expectancy is consistent with that used in the HSCIMS update bulletins. Analyses of other countries in the UK and the ROI are based on official deaths and population data sourced from the Office for National Statistics (ONS), Central Statistics Office (CSO) and National Records of Scotland (NRS).

⁵ Further details on the NIMDM can be found at www.nisra.gov.uk/aboutus/default.asp2.htm

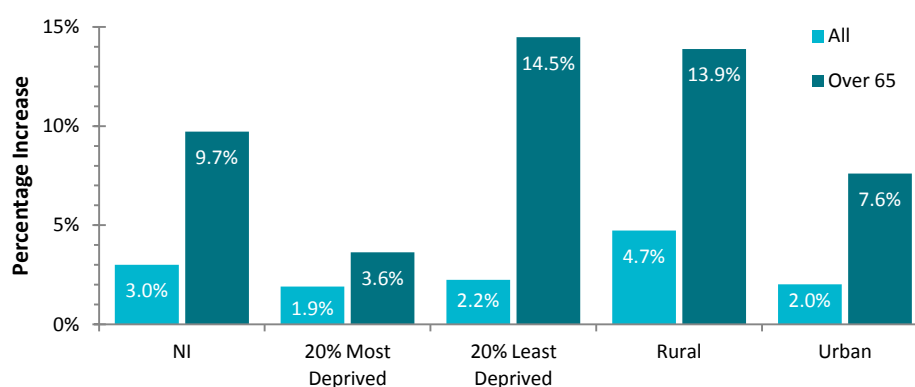
⁶ Further details on the Urban-Rural definition can be found at www.ninis.nisra.gov.uk/mapxtreme_towns/Reports/ur_report.pdf

Population

Population is a vital part of the life expectancy calculation. Together with mortality patterns, changes in the size or age distribution of a population over time will have an impact on its life expectancy.

The population in Northern Ireland is both growing and ageing. Between 2006-08 and 2010-12, the average annual population grew by 3.0%, to over 1.8 million. Population projections suggest that the Northern Ireland population will have grown to 1.9 million by 2020⁷. Figure 1.4 sets out the percentage change in the Northern Ireland population overall, its 20% most and least deprived areas and rural areas between 2001-03 and 2008-10. As can be seen, the growth rate in the population in rural areas (4.7%) was over one and a half times the rate of growth in the overall Northern Ireland population (3.0%). Also notable is the increase in the number of people aged over 65 years living in Northern Ireland (9.7%). The growth rate for those aged over 65 years was particularly high in the least deprived areas (14.5%) and in rural areas (13.9%).

Figure 1.4 - Percentage change in Population between 2006-08 and 2010-12



Classification of Cause of Death

Even though the overall number of deaths in Northern Ireland over the last decade has been relatively consistent year on year (remaining generally between 14,000 and 15,000), the distribution of specific causes of death will vary over time. Improvements in treatments, detection, immunisations and preventative measures for specific causes of death can reduce mortality rates and thereby lead to an increase in life expectancy.

The various analyses contained in this report are based on the single main underlying cause of death classification which simplifies the fact that a death can be due to a variety of different causes. This can lead to an underestimation of the impact of common conditions associated with multiple causes of death e.g. diabetes, influenza and pneumonia.

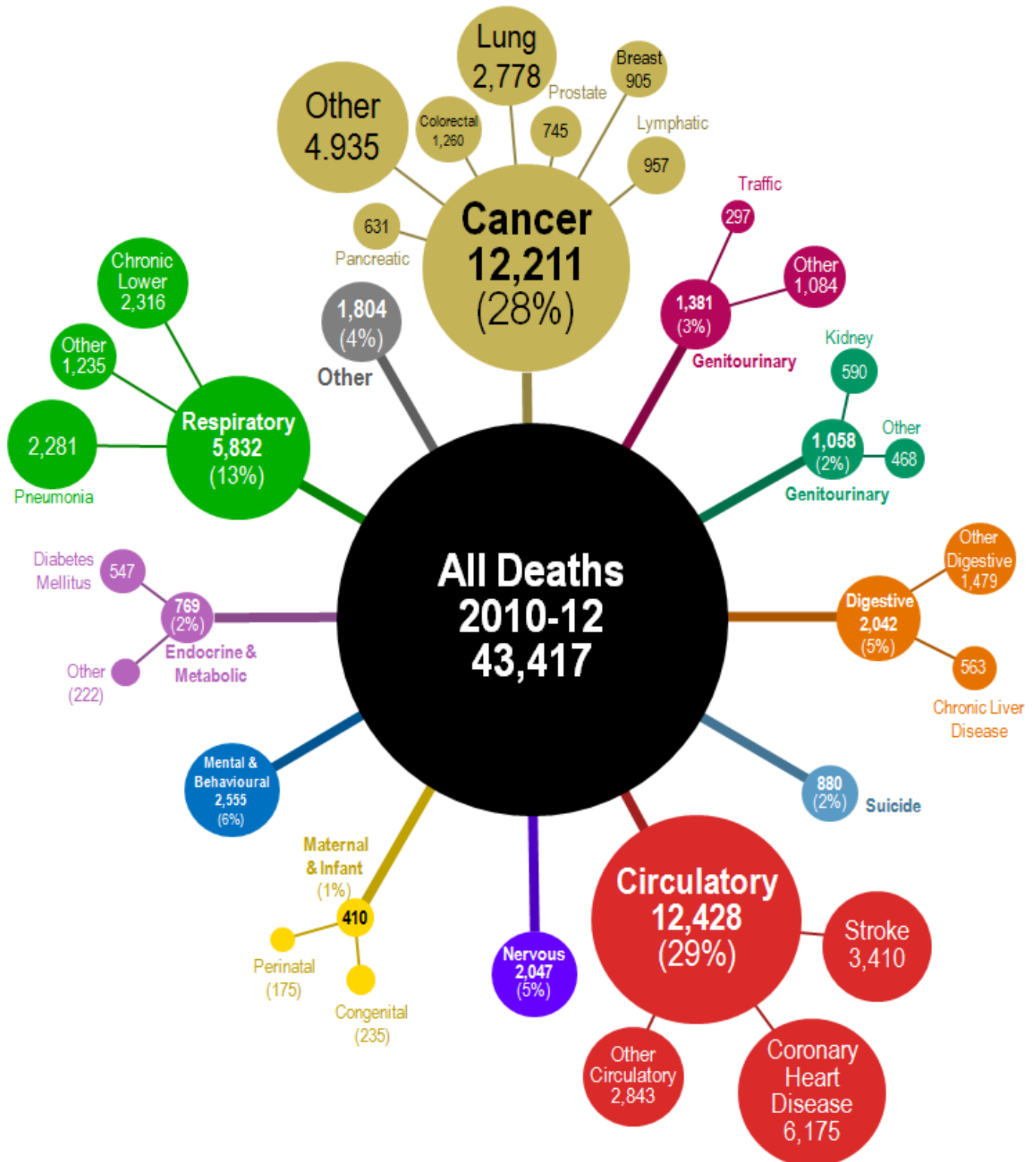
Causes of death have been disaggregated into 11 broad causes, which are further broken down into 26 specific causes, as seen in figure 1.5 below. Deaths categorised “Mental and Behavioural disorders” are mainly attributable to dementia and alcohol related disorders, and excludes suicide, which has been presented separately. The remaining causes of death have been grouped into an ‘Other’ category, the largest contributions to which include senility, sepsis, bacterial infections, arthritis and mortality from an unknown cause.

Additionally, causes of death have been disaggregated into causes considered avoidable, including those considered amenable to good quality healthcare, preventable through public health interventions or both, as seen in figure 1.6 below.

⁷ <http://www.nisra.gov.uk/demography/default.asp20.htm>

Figure 1.5: Number of Deaths by Underlying Cause – 2010-12

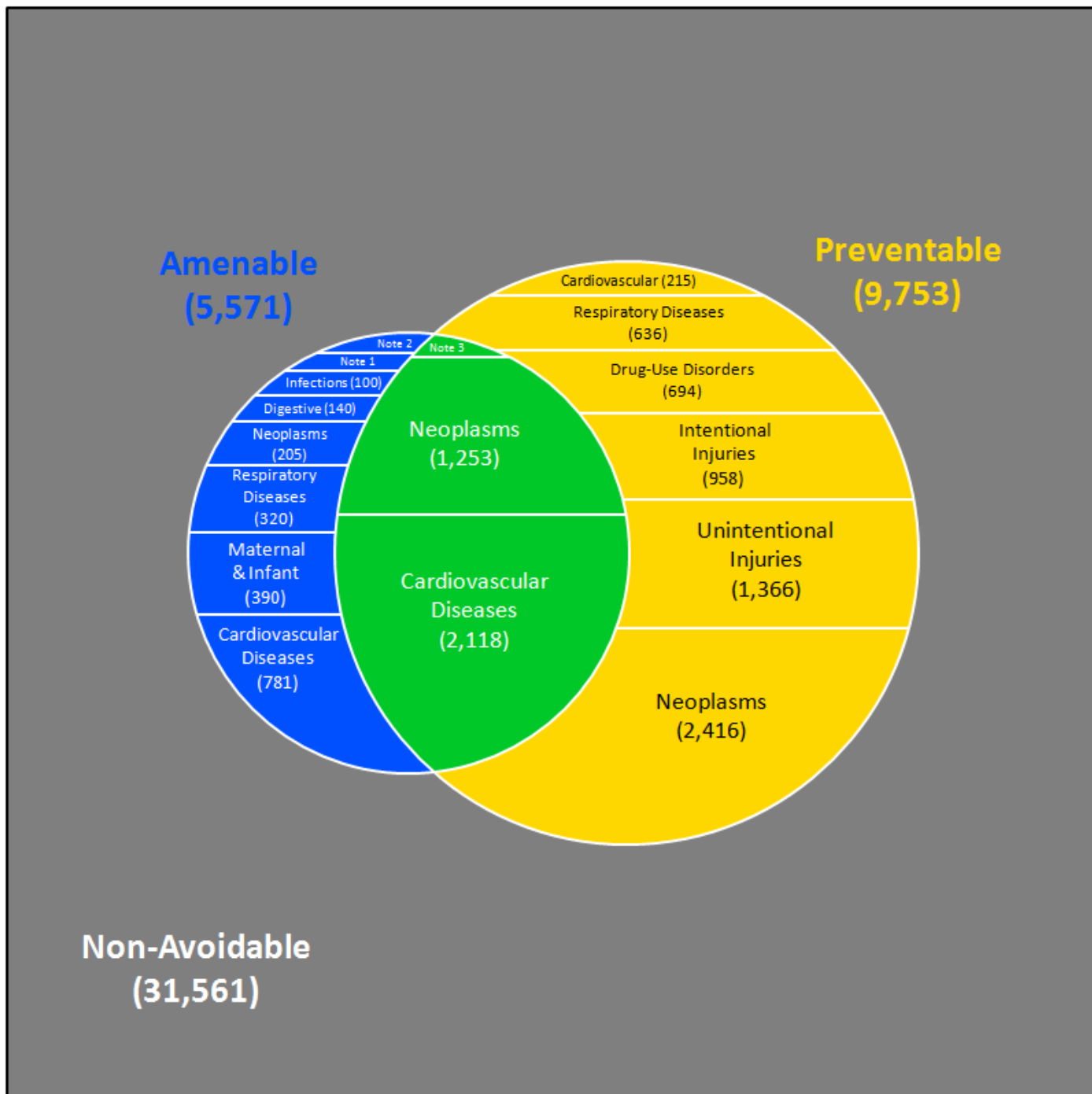
Figure 1.5 sets out the distribution of the 43,417 deaths that were registered between 2010 and 2012 by first, broad cause and then more specific causes of death. The largest causes of death were due to circulatory disease (29%), cancer (28%) and respiratory disease (13%).



The size of each sphere is proportionate to the number of deaths that were registered throughout the period for that cause of death. The total number of deaths registered to each cause of death equals the sum of the sub-categories within each cause.

Figure 1.6: Number of Deaths by Avoidable Cause – 2010-12

Figure 1.6 details the breakdown of causes of death considered avoidable⁸. Over a quarter of all deaths in 2010-12 were considered avoidable. Over a tenth of deaths were due to causes considered amenable to good quality healthcare (5,571), and a fifth considered preventable through public health interventions in the broadest sense (9,753). This includes 8.0% (3,468) of all deaths which were considered both amenable and preventable.



Note 1: Neurological Disorders (90) Note 2: Genitourinary Disorders (77)
 Note 3: Nutritional (34), Respiratory (27), Infections (22) & Intentional Injuries (14)

The size of each sphere is proportionate to the number of deaths that were registered throughout the period for that cause of death. The size of the blue & green circle is proportionate to the total number of deaths considered amenable, while the yellow & green circle represents those deaths considered preventable. The overlapping green section represents those deaths considered both amenable and preventable. Combining the yellow, green and blue areas represents deaths considered avoidable, while the grey area represents non-avoidable deaths. The size of the outer square represents the total number of deaths across the period.

⁸ For definitions of avoidable, preventable and amenable mortality, see Appendix 2: Amenable, Preventable and Avoidable Mortality on page 60 of this report.

The effect of using registered date against actual date of death

All death figures used in this report are based on the year that the death was registered and therefore not necessarily the year in which the death occurred. While the vast majority of deaths are registered shortly after death, there may be a delay registering some deaths. Events such as infant death or suicide are usually referred to the coroner and this legal process can take some time.

When a death suspected to be due to suicide has been referred to a coroner, the delay created between occurred and registered time of death can be several years. This means that it can be some time before a complete picture emerges of the true number of suicides occurring in any given year. For example, figures from NISRA show that of the 313 suicides registered in 2010, only 141 actually occurred in 2010 with the remainder occurring in earlier years⁹.

Reporting suicides by year of registration is consistent with the approach taken by NISRA, the Office for National Statistics and also in DHSSPS monitoring exercises. The obvious problem with this approach is that it can give a less accurate reflection of current suicide trends.

A change in the configuration of coroners services in 2004 meant that a backlog of suicide inquests was cleared over the years following 2004. Therefore, 2006-08 has been chosen as a baseline period for this report to reduce the effect of this artificial inflation while providing a substantial time period for comparison. However, care should still be taken when interpreting some of the results in this report, particularly in relation to the contribution of suicide to the change in life expectancy over time.

⁹ http://www.nisra.gov.uk/archive/demography/publications/births_deaths/deaths_2010.pdf

Mortality by Gender and Age Band

Females generally live longer than males and subsequently death rates, particularly in the middle and older age groups are higher for males than females.

Figure 1.1 above showed that the gap between male and female life expectancy has narrowed in Northern Ireland since the early 1980s, however, it remains quite substantial at 4.4 years (see also chapter 3).

A death before the age of 75 is currently classified within the HSCIMS as a premature death. In both 2006-08 and 2010-12, slightly more than three-fifths of all deaths occurred either in the 75th year of life or later which means that almost two-fifths of deaths occurred prematurely. Less than one-third of female deaths occurred prematurely compared with almost half of all male deaths.

Figure 1.7 - Deaths by Gender and Age Band, 2010-12

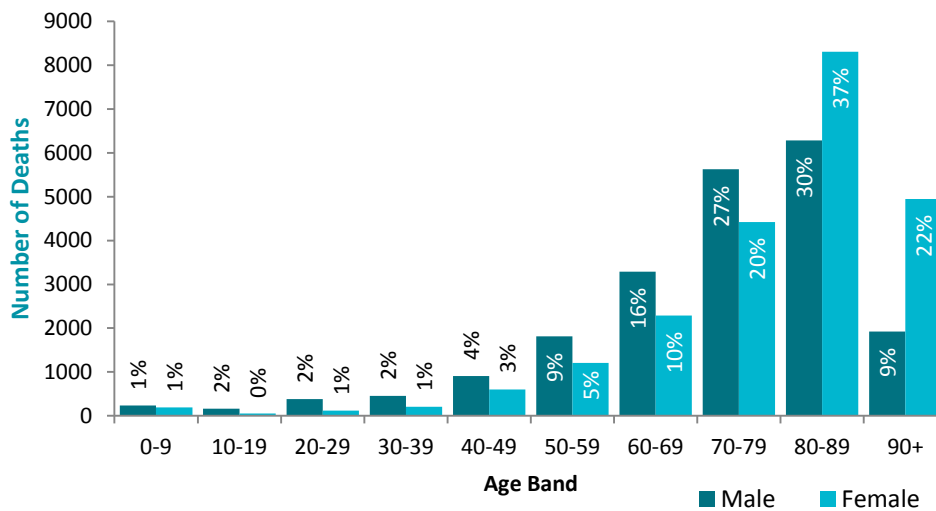
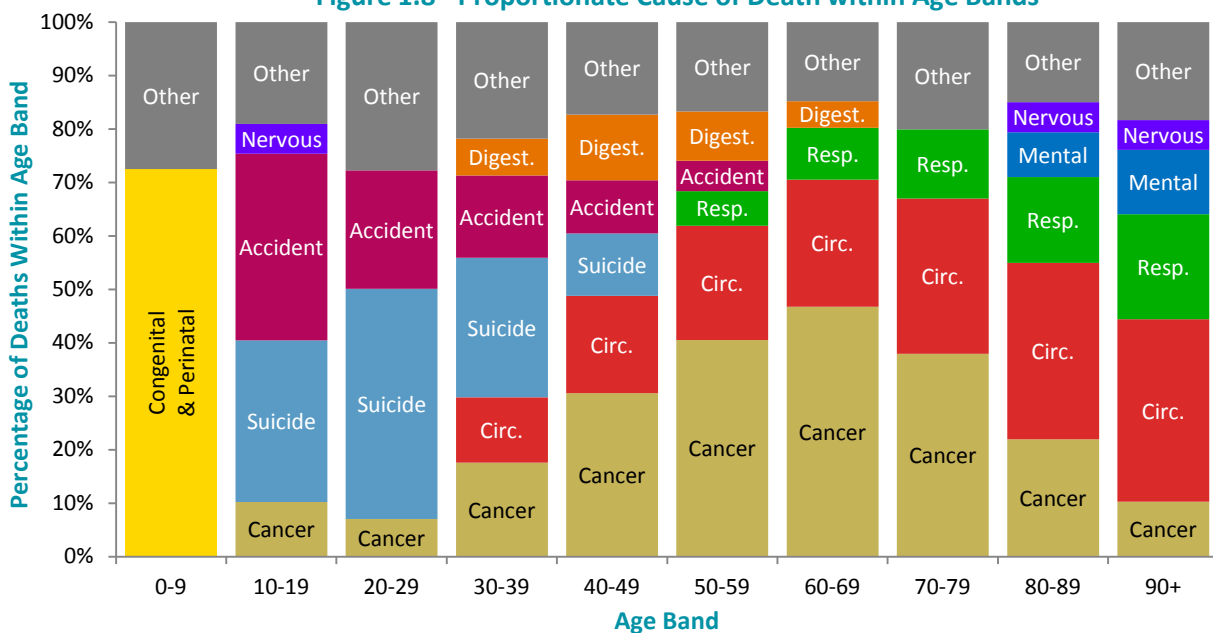


Figure 1.8 sets out the major causes of death at different stages in life¹⁰. Conditions originating in the perinatal period and congenital and chromosomal abnormalities dominate the early years of life. From teenage years until middle age, most deaths were caused by external causes of death like accidents and suicide, before cancer, circulatory and respiratory diseases start making a larger impact from middle age onwards.

Figure 1.8 - Proportionate Cause of Death within Age Bands



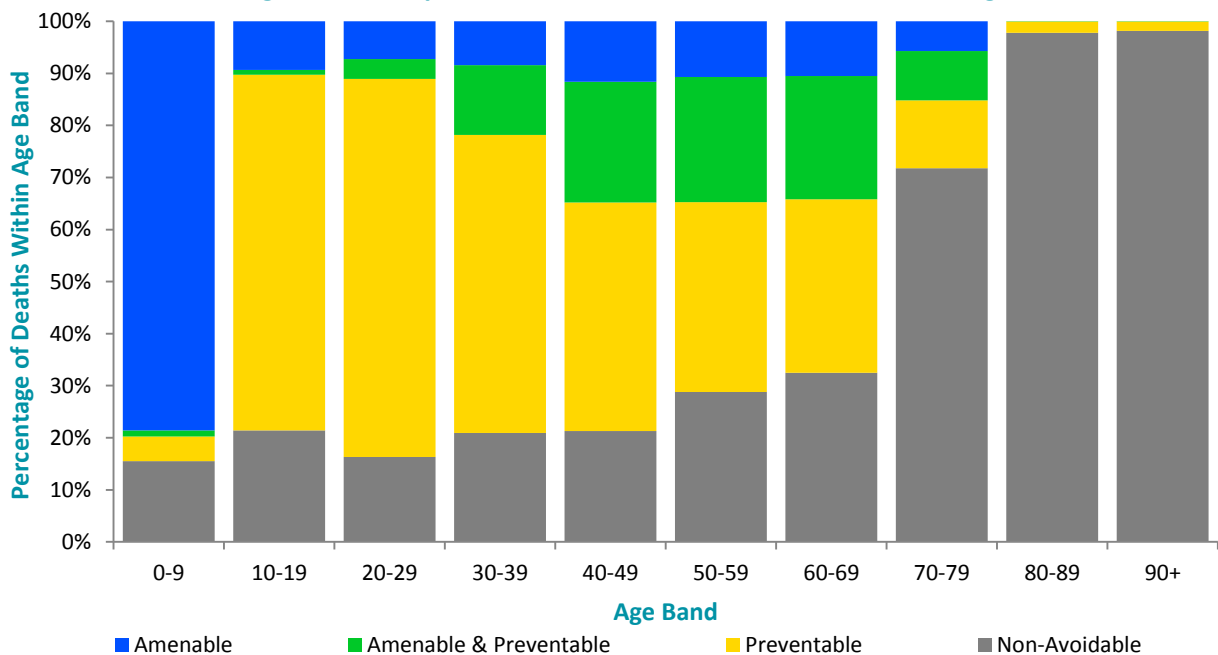
¹⁰ Causes of death contributing less than 5% of deaths within each age band have been grouped alongside the 'Other' category in Figure 1.8.

Avoidable Mortality by Age Band

Figure 1.9 shows the proportion of deaths within each age band considered avoidable, split into those considered amenable to good quality healthcare, preventable through public health interventions or both. Amenable deaths are the main cause of mortality among those under 10 years of age, mostly due to perinatal and congenital conditions. Between the ages of 10 and 49 years, the majority of deaths were from external causes, whether intentional or unintentional, which are considered preventable. Those aged between 50 and 69 years had high mortality rates from those neoplasms from which mortality is considered preventable as well as from those cardiovascular diseases which could be considered both preventable and amenable.

It is worth noting that many causes of death are only considered avoidable for those aged below 75 years. Therefore, there were few deaths considered avoidable among those aged 70 years or over, though there were some deaths from unintentional injuries, which are considered preventable at any age.

Figure 1.9 - Proportionate Cause of Avoidable Death within Age Bands



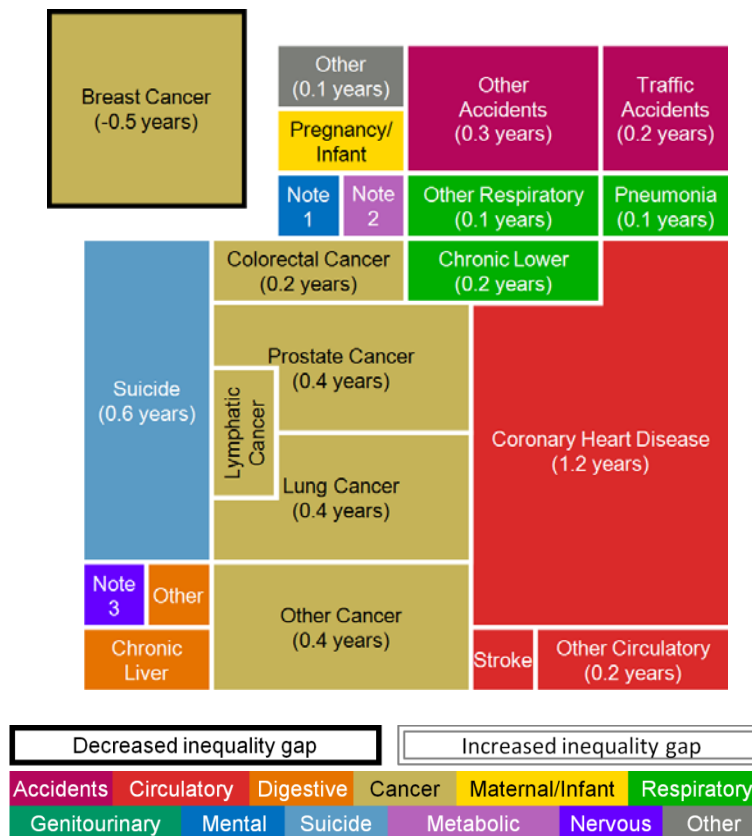
Key to Interpreting Grid Charts

An example of the grid charts used throughout this report is provided below, which sets out the contribution of different causes of death, in this case, to the difference in life expectancy between males and females in Northern Ireland (Chapter 3, Figure 3.6). Those causes depicted in the bottom right of the grid with white borders represent those that contributed to the gender gap (i.e. death rates were worse among males for these causes). Conversely, those causes depicted in the top left corner of the chart and outlined in black had higher mortality rates among the population with the greater life expectancy (i.e. death rates were worse among females for these causes), and therefore reduced the inequality gap.

The greater the area allocated to a cause on the grid, the greater its contribution to the change in life expectancy. Each cause of death is colour coded according to the key beneath the chart and divided into labelled sub-causes.

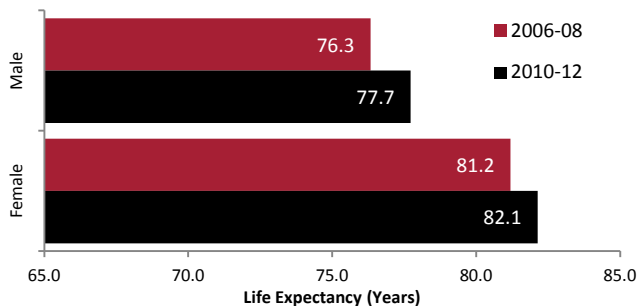
In total, the causes which had higher mortality among males (white border) added 4.9 years to the gender gap. However these were offset partially by breast cancer, which had a greater mortality rate among women and therefore narrowed the gender gap by 0.5 years. Overall, females born in the 2010-12 period can expect to live for 4.4 years longer than males.

Figure 1.10: Contribution to the Life Expectancy at Birth Gender Gap, 2010-12 (4.4 years)



2. Change in Life Expectancy Over Time

Figure 2.1: Comparison of Life Expectancy in 2006-08 and 2010-12



In 2010-12, male life expectancy at birth stood at 77.7 years, 1.4 years longer than that in 2006-08 (76.3 years). Over the same period, female life expectancy increased by 0.9 years, from 81.2 years to 82.1 years in 2010-12.

Life Expectancy Time Series

Between 2006-08 and 2010-12, male life expectancy in Northern Ireland rose steadily each year by around a third of a year.

Between 2006-08 and 2008-10, female life expectancy grew at around a third of the rate seen for males. However, since 2008-10, this growth has been similar to that seen for males.

Figure 2.2 - Life Expectancy at Birth Time Series

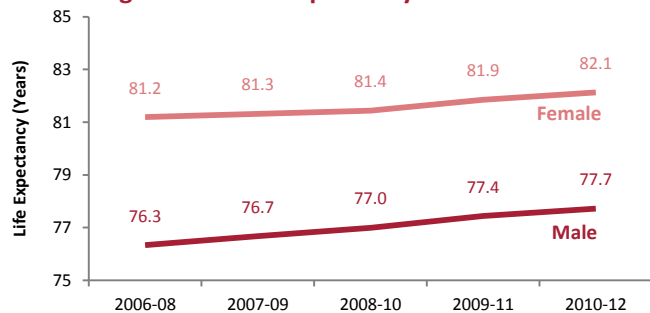


Figure 2.3 - Life Expectancy at Age 65 Time Series



Life Expectancy at Age 65: Time Series

In 2010-12, male life expectancy at age 65 stood at 17.8 years, 1.0 years longer than that in 2006-08 (16.8 years). Over the same period, female life expectancy at age 65 increased by 0.7 years, from 19.8 years to 20.5 years in 2010-12.

Decomposition of Change in Life Expectancy at Birth by Age Bands, 2006-08 to 2010-12

The rise in male life expectancy at birth between 2006-08 and 2010-12 was mainly due to reduced mortality for males aged between 60 and 90 years of age, which accounted for 70% (1.0 years) of the increase.

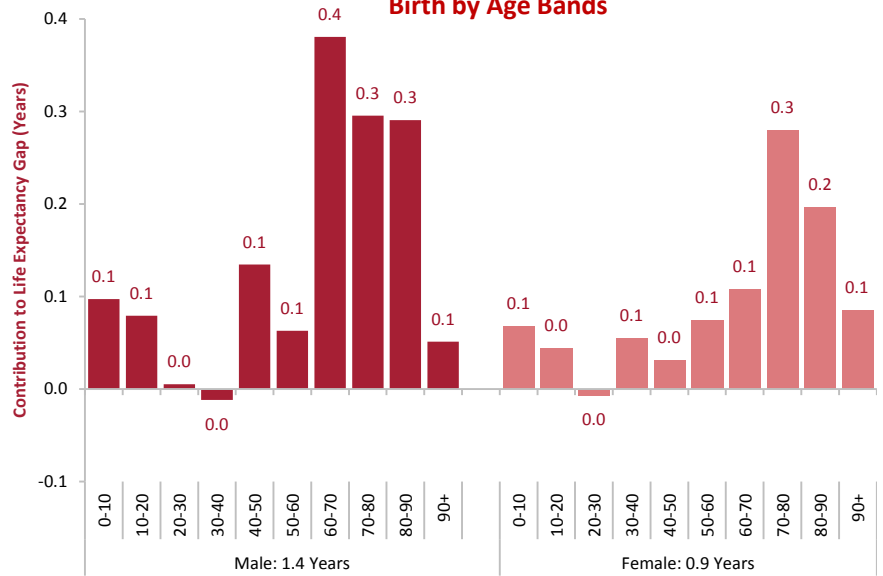
Over half of the increase (0.5 years) in female life expectancy was attributable to lower mortality among those aged between 70 and 90 years.

Increased mortality from suicide for both males aged between 30 and 40 years and females aged between 20 and 30 years had a negative effect on life expectancy over the period.

Table 2.1: Contribution of Age Groups to Increase in Life Expectancy at Birth (years)

Age Group	Male	Female
0-10	0.1	0.1
10-20	0.1	0.0
20-30	0.0	0.0
30-40	0.0	0.1
40-50	0.1	0.0
50-60	0.1	0.1
60-70	0.4	0.1
70-80	0.3	0.3
80-90	0.3	0.2
90+	0.1	0.1
Total	1.4	0.9

Figure 2.4 - Decomposition of Change in Life Expectancy at Birth by Age Bands



Decomposition of Change in Life Expectancy at Age 65 by Age Bands, 2006-08 to 2010-12

Mortality among both males and females decreased across the period for all age groups over age 65, causing all age bands to contribute a positive increase to life expectancy at age 65, as seen in figure 2.5 below.

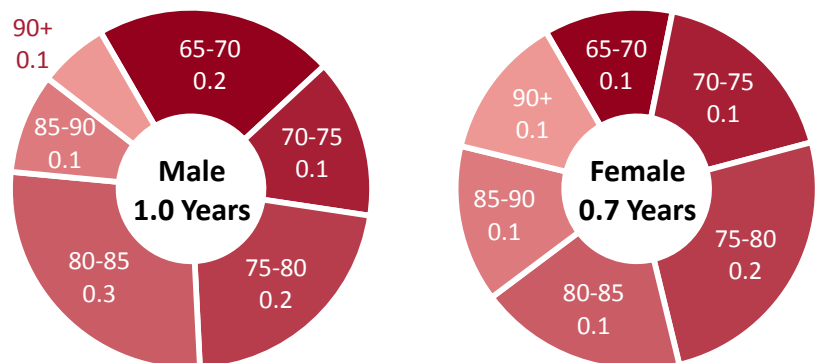
Male life expectancy at age 65 increased by 1.0 years between 2006-08 and 2010-12, over a quarter of which was attributable to reduced mortality among those aged 80 to 85 years of age.

The largest contribution to the increase of 0.7 years in female life expectancy at age 65 was attributable to reduced mortality among females aged between 75 and 80 years.

Table 2.2: Contribution of Age Groups to Increase in Life Expectancy at Age 65 (years)

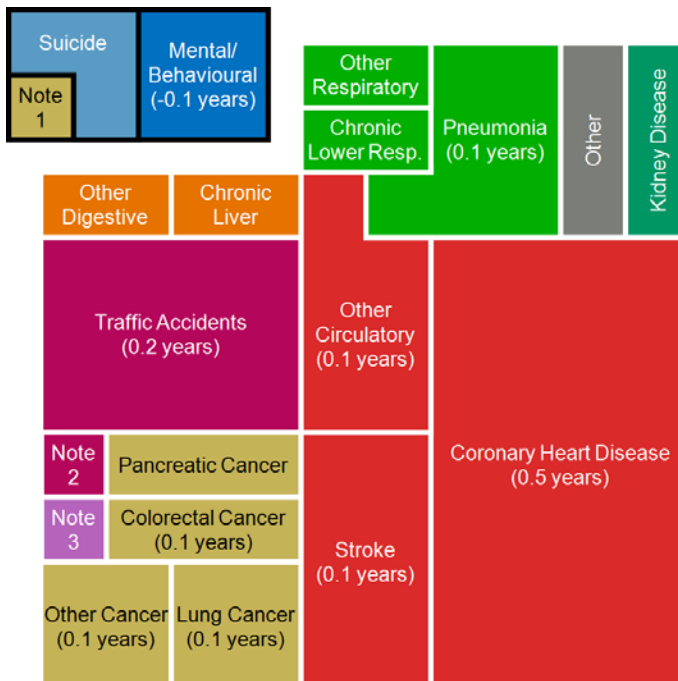
Age Group	Male	Female
65-70	0.2	0.1
70-75	0.1	0.1
75-80	0.2	0.2
80-85	0.3	0.1
85-90	0.1	0.1
90+	0.1	0.1
Total	1.0	0.7

Figure 2.5: Decomposition of Change in Life Expectancy at Age 65 by Age Bands



Decomposition of Change in Life Expectancy at Birth by Underlying Cause of Death, 2006-08 to 2010-12

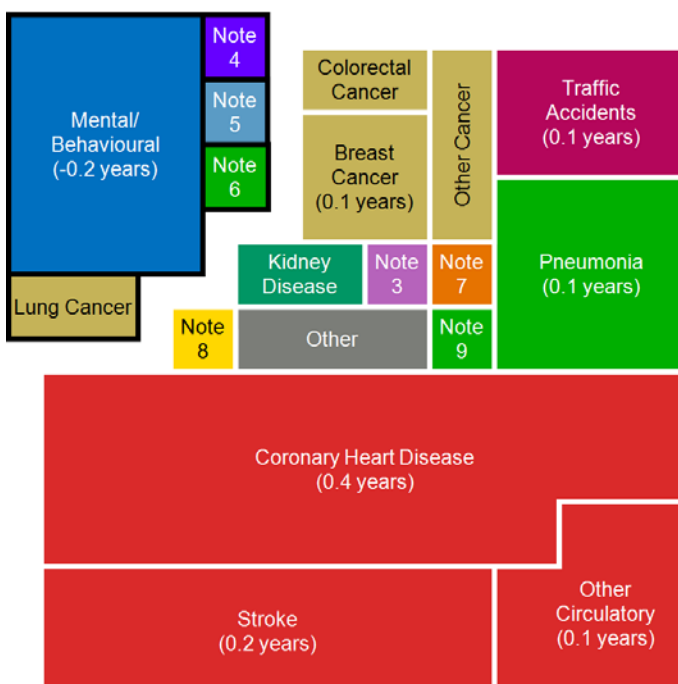
Figure 2.6: Contribution to Change in Male Life Expectancy at Birth, 2006-08 to 2010-12 (1.4 years)



Between 2006-08 and 2010-12, deaths due to circulatory disease accounted for over half of the male life expectancy increase (0.7 years), of which 0.5 years were attributable to coronary heart disease.

An increase in mortality from mental and behavioural disorders, suicide, and lymphatic cancer over the period reduced the increase in male life expectancy by 0.1 years.

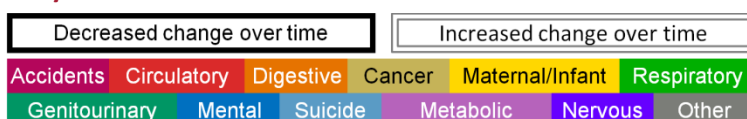
Figure 2.7: Contribution to Change in Female Life Expectancy at Birth, 2006-08 to 2010-12 (0.9 years)



As seen for males, the primary cause of the increase in female life expectancy over the period was reduced mortality from circulatory disease, accounting for over three-quarters of the total gap (0.7 years), over half of which was due to coronary heart disease.

It should be noted that some causes of mortality worsened across the period, reducing female life expectancy by 0.3 years. The largest cause was mental and behavioural disorders, which reduced female life expectancy by 0.2 years.

Key:

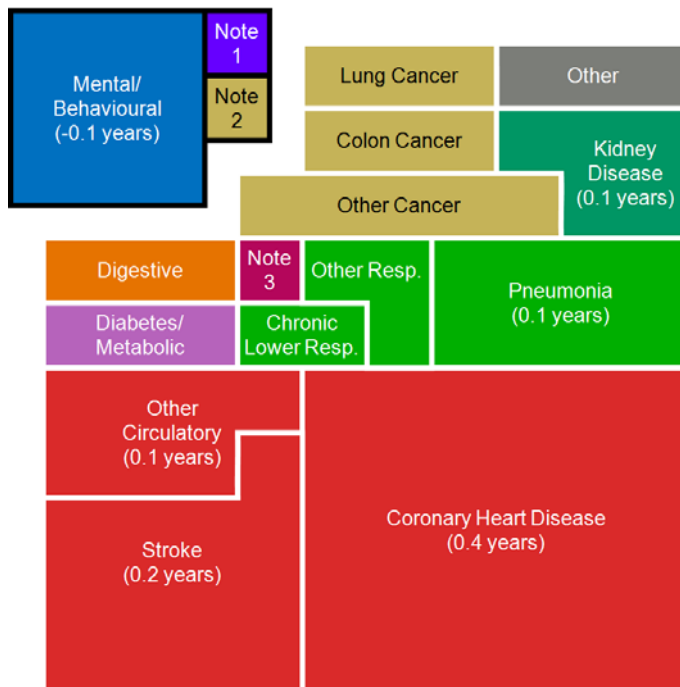


Notes:

- Note 1: Lymphatic Cancer
- Note 2: Other Accidents
- Note 3: Diabetes Mellitus
- Note 4: Nervous System
- Note 5: Suicide
- Note 6: Chronic Lower Respiratory Disease
- Note 7: Other Digestive Diseases
- Note 8: Perinatal
- Note 9: Other Respiratory

Decomposition of Change in Life Expectancy at Age 65 by Underlying Cause of Death, 2006-08 to 2010-12

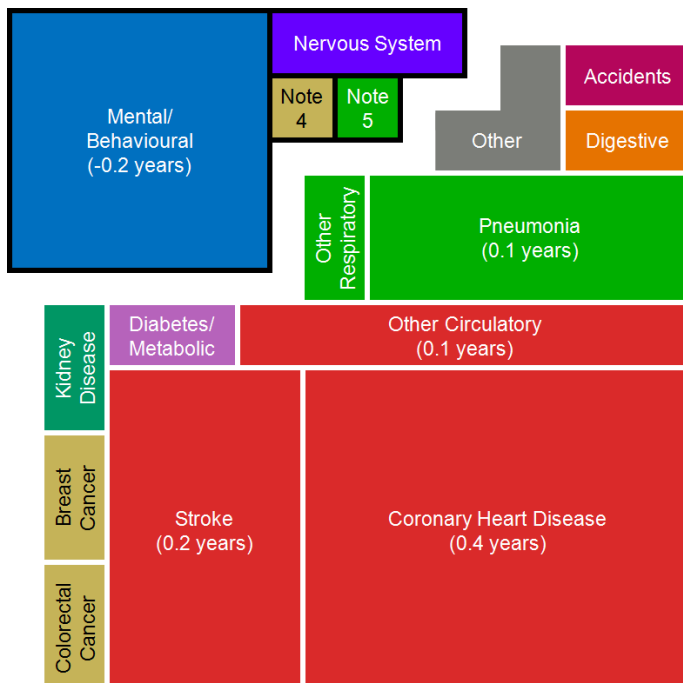
Figure 2.8: Contribution to Change in Male Life Expectancy at Age 65, 2006-08 to 2010-12 (1.0 years)



Between 2006-08 and 2010-12, male life expectancy at age 65 increased by 1.0 years, from 16.8 to 17.8 years. As with life expectancy at birth, over half of this increase (0.6 years) was due to reductions in mortality from circulatory diseases (particularly coronary heart disease, attributable for 0.4 years).

A rise in mortality from mental and behavioural disorders, diseases of the nervous system and lymphatic cancer had a negative impact (-0.1 years) on life expectancy.

Figure 2.9: Contribution to Change in Female Life Expectancy at Age 65, 2006-08 to 2010-12 (0.7 years)



In 2010-12, female life expectancy at age 65 was 20.5 years, 0.7 years higher than that in 2006-08 (19.8 years).

Reduced mortality due to circulatory and respiratory diseases caused life expectancy to increase by 0.8 years. However, increased mortality from other causes of death, such as mental and behavioural disorders, negatively impacted on life expectancy by 0.3 years.

Key:

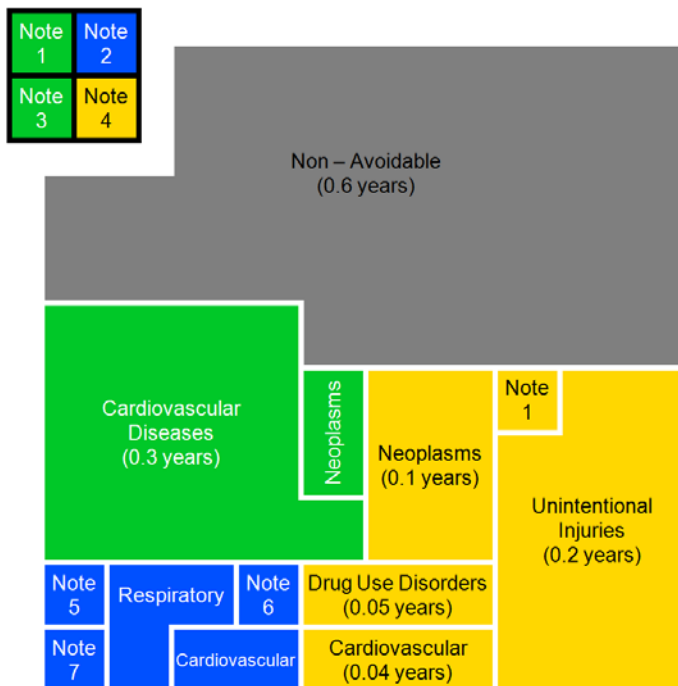
Decreased change over time		Increased change over time	
Accidents	Circulatory	Digestive	Cancer
Genitourinary	Mental	Suicide	Metabolic
			Nervous
			Other

Notes

- Note 1: Nervous System
- Note 2: Lymphatic Cancer
- Note 3: Traffic Accidents
- Note 4: Other Cancer
- Note 5: Chronic Lower Respiratory Disease

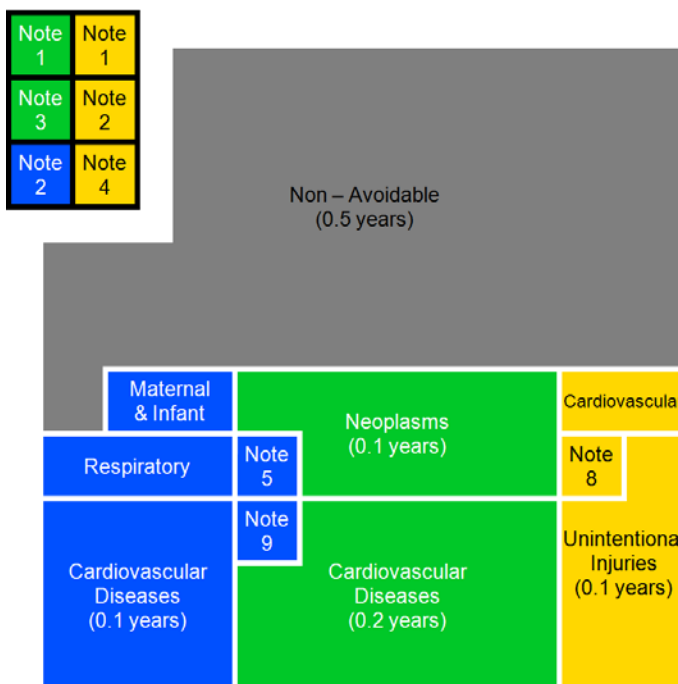
Decomposition of Change in Life Expectancy at Birth by Avoidable Causes of Death, 2006-08 to 2010-12¹¹

Figure 2.10: Contribution to Change in Male Life Expectancy at Birth, 2006-08 to 2010-12 (1.4 years)



Almost half of the 1.4 year increase in male life expectancy was due to reductions in mortality from causes considered preventable by public health interventions (0.6 years), and more than a quarter (0.4 years) from reduced mortality deemed amenable to good quality healthcare¹². Accounting for the overlap between amenable and preventable mortality, overall over half (0.8 years) of the increase in male life expectancy was due to reduced mortality causes considered avoidable.

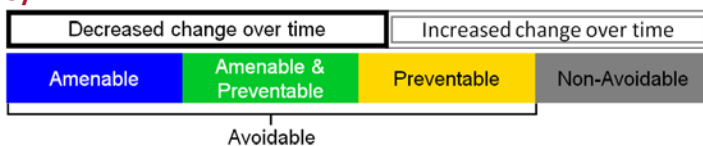
Figure 2.11: Contribution to Change in Female Life Expectancy at Birth, 2006-08 to 2010-12 (0.9 years)



Preventable mortality accounted for a third (0.3 years) of the increase in female life expectancy across the period, while those causes considered amenable contributed two-fifths (0.4 years) of the change.

Accounting for the overlap between preventable and amenable causes, half of change in female life expectancy was attributable to avoidable mortality.

Key:



Notes

- Note 1: Respiratory Diseases
- Note 2: Neoplasms
- Note 3: Nutritional disorders
- Note 4: Intentional Injuries
- Note 5: Digestive Disorders
- Note 6: Infections
- Note 7: Genitourinary
- Note 8: Drug Use Disorders
- Note 9: Neurological Disorders

¹¹ For definitions of avoidable, preventable and amenable mortality, see Appendix 2: Amenable, Preventable and Avoidable Mortality on page 60 of this report.

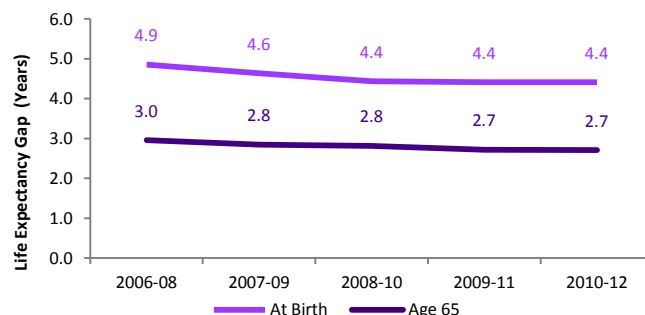
¹² The gap attributed to amenable and preventable causes will not sum to that attributed to avoidable mortality, as some causes of death are considered both amenable and preventable.

3. Life Expectancy Gender Gap

Life Expectancy at Birth Gender Gap: Time Series

In 2010-12, the difference between male and female life expectancy at birth was 4.4 years, 0.5 years narrower than that in 2006-08. At age 65, the difference was 2.7 years, 0.3 years narrower than that in 2006-08. The narrowing of both gaps is due to greater increases in male life expectancy compared with that for females.

Figure 3.3 - Life Expectancy at Birth Gender Gap Time Series



Decomposition of Life Expectancy at Birth Gender Gap by Age Bands, 2010-12

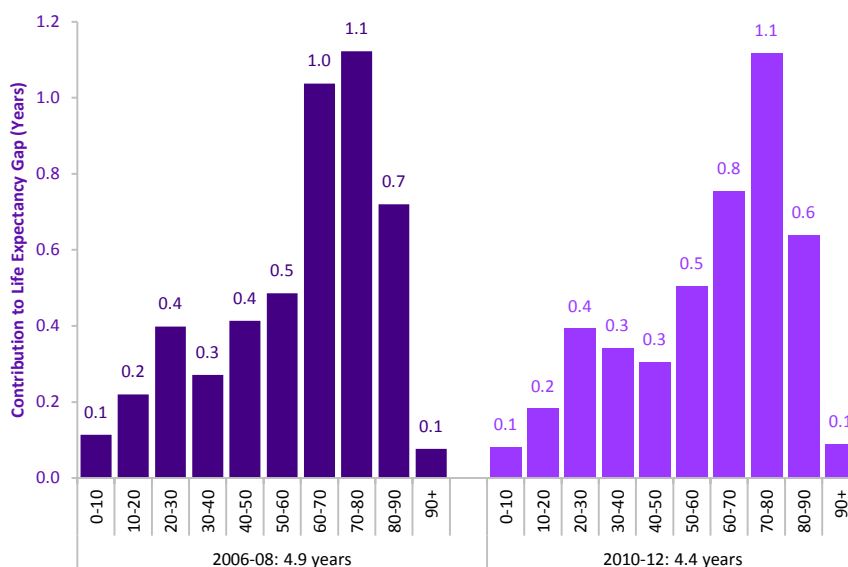
In 2010-12, males experienced higher mortality than females in all age groups. Comparatively high mortality among males aged between 70 and 80 was attributable for a quarter (1.1 years) of the gap in life expectancy. Mortality among those aged between 50 and 90 years accounted for two thirds of the gender gap (3.0 years). Also noteworthy is that relatively high suicide rates in the 20-30 age group had a large contribution (0.4 years) to the gender gap.

Between 2006-08 and 2010-12, the gender gap narrowed by 0.4 years, largely due to changes in mortality among those in the 40-50 and 60-70 age bands.

Table 3.1: Contribution of Age Groups to Life Expectancy at Birth Gender Gap (years)

Age Group	2006-08	2010-12
0-10	0.1	0.1
10-20	0.2	0.2
20-30	0.4	0.4
30-40	0.3	0.3
40-50	0.4	0.3
50-60	0.5	0.5
60-70	1.0	0.8
70-80	1.1	1.1
80-90	0.7	0.6
90+	0.1	0.1
Total	4.9	4.4

Figure 3.4 - Decomposition of Difference in Life Expectancy at Birth by Age Bands



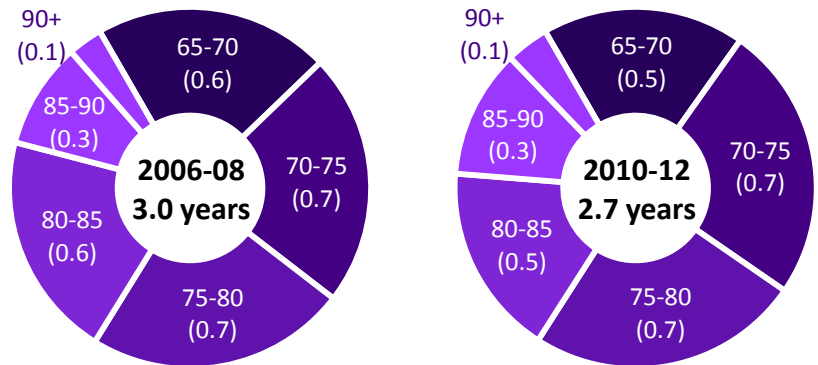
Decomposition of Gender Gap for Life Expectancy at Age 65 by Age Bands, 2010-12

As with life expectancy at birth, the gender gap for life expectancy at age 65 was mainly contributed to by those between 70 and 80 years of age. The proportion of the life expectancy gender gap attributable to mortality within these age breakdowns in 2010-12 remains similar to that in 2006-08. Almost half of the narrowing of the gender gap was attributable to the 65-70 age band, with a further half attributable to the 80-85 age band.

Table 3.2: Contribution of Age Groups to Life Expectancy at Age 65 Gender Gap (years)

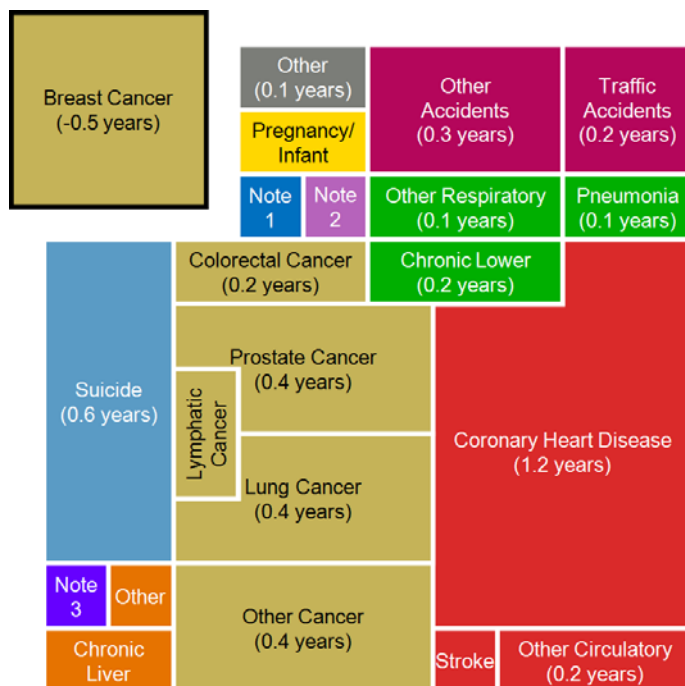
Age Group	2006-08	2010-12
65-70	0.6	0.5
70-75	0.7	0.7
75-80	0.7	0.7
80-85	0.6	0.5
85-90	0.3	0.3
90+	0.1	0.1
Total	3.0	2.7

Figure 3.5 - Decomposition of Difference in Life Expectancy at Age 65 by Age Bands



Decomposition of Life Expectancy at Birth Gender Gap by Underlying Cause of Death

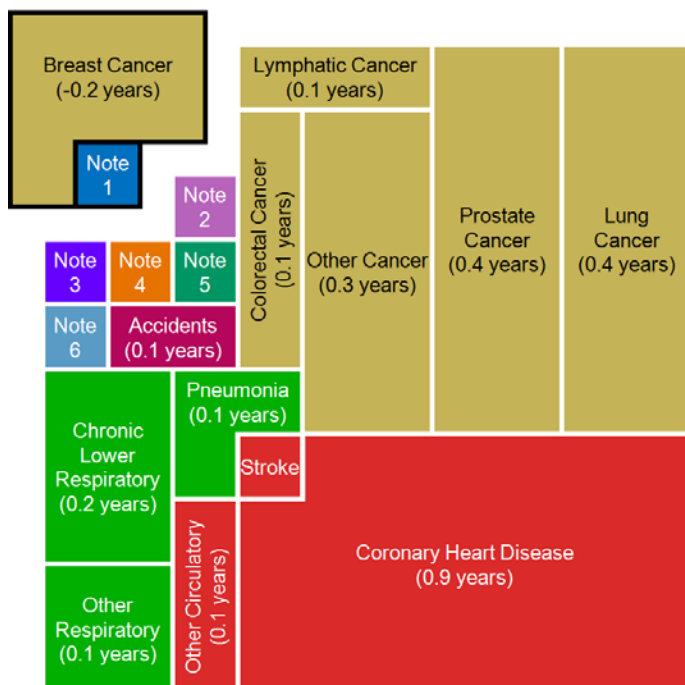
Figure 3.6: Contribution to the Life Expectancy at Birth Gender Gap, 2010-12 (4.4 years)



In 2010-12, deaths due to circulatory disease accounted for almost a third (1.4 years) of the life expectancy gender gap, of which 1.2 years were attributable to coronary heart disease. Excluding breast cancer (which reduced the gender gap by 0.5 years), cancer accounted for a further third of the gap (1.5 years).

Decomposition of Life Expectancy at Age 65 Gender Gap by Underlying Cause of Death

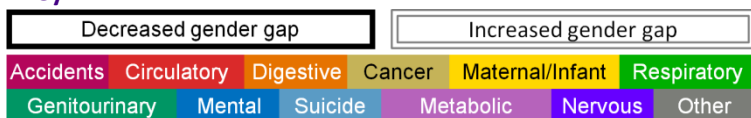
Figure 3.7: Contribution to the Life Expectancy at Age 65 Gender Gap, 2010-12 (2.7 years)



Cancer and circulatory disease were the main contributors to the gender gap in life expectancy at age 65, with half of the gap attributable to cancer (1.3 years), albeit mortality from breast cancer reduced the gap by 0.2 years.

Mortality from circulatory diseases contributed a further third (1.0 years) of the total gap, of which 0.9 years were attributable to coronary heart disease.

Key:

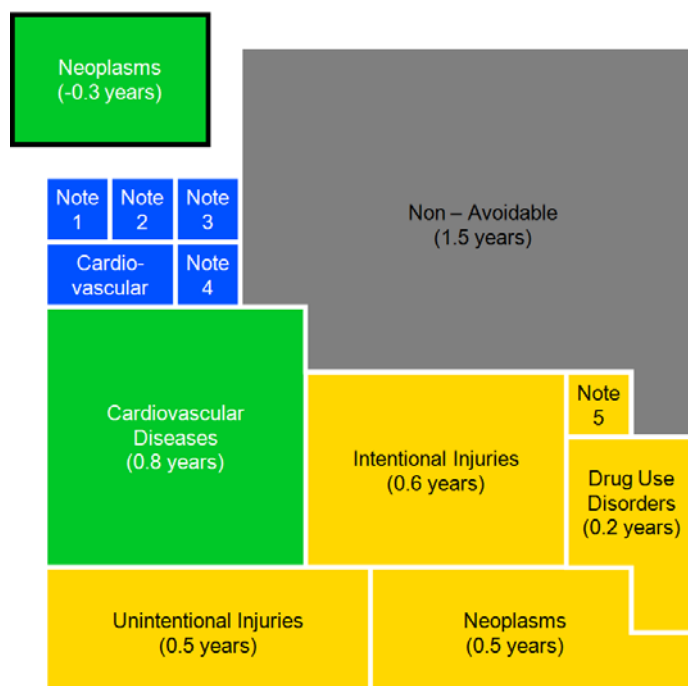


Notes:

- Note 1: Mental/Behavioural
- Note 2: Diabetes Mellitus
- Note 3: Nervous system
- Note 4: Chronic Liver Disease
- Note 5: Kidney Disease
- Note 6: Suicide

Decomposition of Life Expectancy at Birth Gender Gap by Avoidable Causes of Death¹³

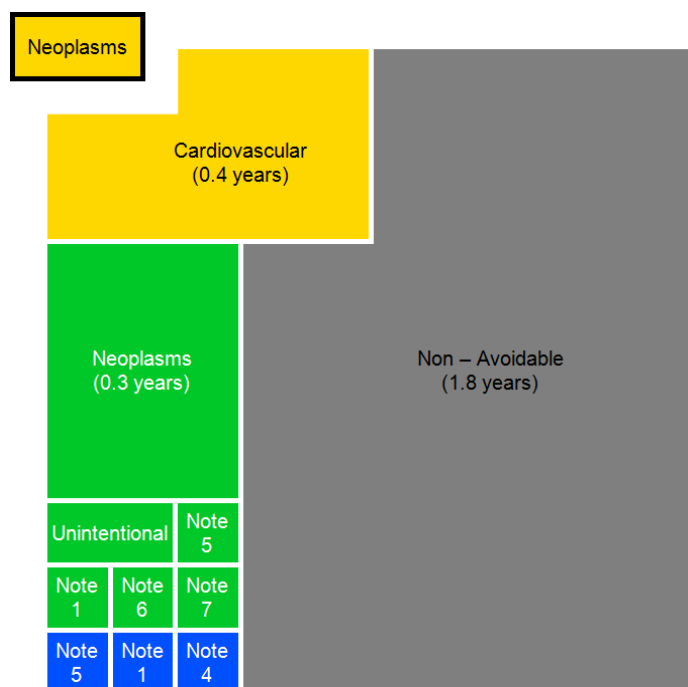
Figure 3.8: Contribution to the Life Expectancy at Birth Gender Gap, 2010-12 (4.4 years)



In 2010-12, three-fifths (2.7 years) of the gender gap was attributable to avoidable causes of death, of which 2.4 years resulted from causes of death that are considered preventable by public health interventions and 0.8 years from causes of death considered amenable to good healthcare.¹⁴

Mortality from neoplasms considered both avoidable and amenable reduced the gender gap by 0.3 years.

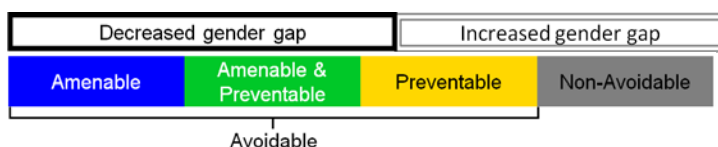
Figure 3.9: Contribution to the Life Expectancy at Age 65¹⁵ Gender Gap, 2010-12 (2.7 years)



In 2010-12, one-third of the gender gap for life expectancy at age 75 was attributable to avoidable causes (0.9 years). Of this, 0.4 years of the gender gap are due to preventable cardiovascular diseases and 0.3 years attributable to neoplasms considered both preventable and avoidable.

Two thirds of the gender gap (1.8 years) were considered due to non-avoidable causes of death.

Key:



Notes

- Note 1: Respiratory Diseases
- Note 2: Digestive Disorders
- Note 3: Maternal & Infant
- Note 4: Neoplasms
- Note 5: Cardiovascular Diseases
- Note 6: Drug Use Disorders
- Note 7: Intentional Injuries

¹³ For definitions of avoidable, preventable and amenable mortality, see Appendix 2: Amenable, Preventable and Avoidable Mortality on page 60 of this report.
¹⁴ The gap attributed to amenable and preventable causes will not sum to that attributed to avoidable mortality, as some causes of death are considered both amenable and preventable.
¹⁵ The majority of causes under the avoidable mortality definition apply to persons below 75 years of age.

Table 3.3: Amenable and Preventable Contributions to Gender Gap (years) – 2006-08 to 2010-12

		At Birth		Age 65	
		2006-08	2010-12	2006-08	2010-12
Amenable	Cardiovascular diseases	0.0	0.1	0.0	0.0
	Genitourinary disorders	0.0	0.0	0.0	0.0
	Digestive disorders	0.0	0.0	0.0	0.0
	Infections	0.0	0.0	0.0	0.0
	Maternal and Infant	0.0	0.1	0.0	0.0
	Neoplasms	0.0	0.0	0.0	0.0
	Neurological disorders	0.0	0.0	0.0	0.0
	Respiratory diseases	0.0	0.0	0.0	0.0
	Total	0.2	0.3	0.1	0.1
Amenable & Preventable	Cardiovascular diseases	0.9	0.8	0.0	0.0
	Infections	0.0	0.0	0.0	0.0
	Neoplasms	-0.3	-0.3	0.4	0.3
	Respiratory diseases	0.0	0.0	0.1	0.0
	Intentional injuries	0.0	0.0	0.0	0.0
	Nutritional	0.0	0.0	0.0	0.0
	Total	0.6	0.5	0.5	0.4
Preventable	Cardiovascular diseases	0.1	0.0	0.4	0.4
	Neoplasms	0.6	0.5	-0.1	0.0
	Respiratory diseases	0.1	0.0	0.0	0.0
	Drug use disorders	0.3	0.2	0.0	0.0
	Intentional injuries	0.6	0.6	0.0	0.0
	Unintentional injuries	0.6	0.5	0.0	0.0
	Total	2.1	1.9	0.4	0.4
Non-avoidable		1.9	1.8	1.9	1.8
Total		4.9	4.4	3.0	2.7

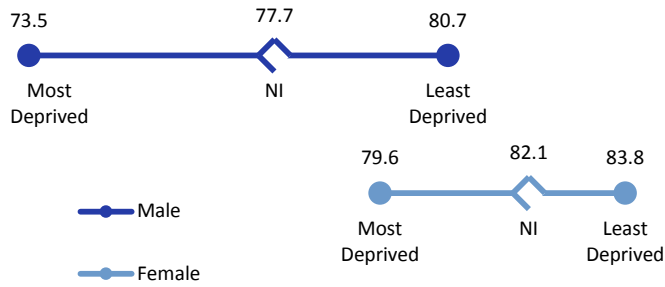
Two thirds (0.3 years) of the narrowing of the life expectancy at birth gender gap between 2006-08 (4.9 years) and 2010-12 (4.4 years) was due to greater reductions in male preventable mortality compared with that for females (of which half was attributable to reduced male mortality from unintentional injuries)¹⁶.

The majority of the narrowing of the gender gap for life expectancy at age 65 was attributable to a reduction in non-avoidable male mortality across the period.

¹⁶ As figures are rounded to one decimal place, the sum of component items may not always add to the totals shown.

4. Life Expectancy by Deprivation

Figure 4.1 - Life Expectancy by Deprivation: 2010-12



In 2010-12, males in the 20% least deprived areas in Northern Ireland could expect to live for 80.7 years, 7.3 years longer than those in the 20% most deprived areas. Females in the 20% least deprived areas could expect to live for 83.8 years, 4.3 years longer than those in the 20% most deprived areas.

Life Expectancy at Birth: Deprivation Time Series

For both genders, life expectancy at birth increased more rapidly in the most deprived areas than in the least deprived areas.

Male life expectancy in the most deprived areas increased by 1.6 years, compared to an increase of 1.2 years for their counterparts in the least deprived areas. Similarly, female life expectancy increased by 1.0 years in the most deprived areas, compared to a 0.7 year increase in the least deprived areas.

Figure 4.2 - Deprivation Time Series

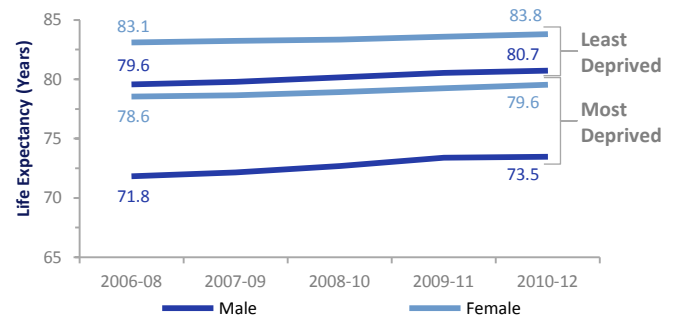
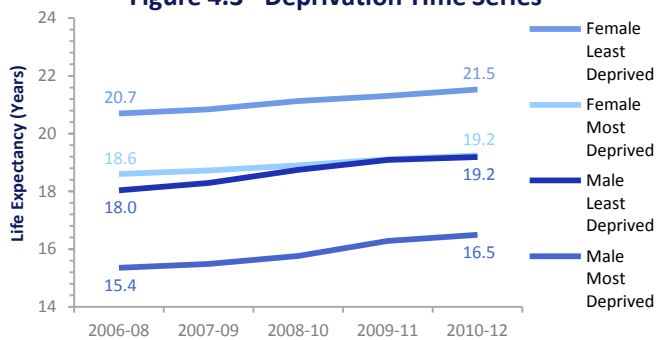


Figure 4.3 - Deprivation Time Series



Life Expectancy at Age 65: Deprivation Time Series

In contrast to life expectancy at birth, life expectancy at age 65 increased more rapidly in the least deprived areas for both genders.

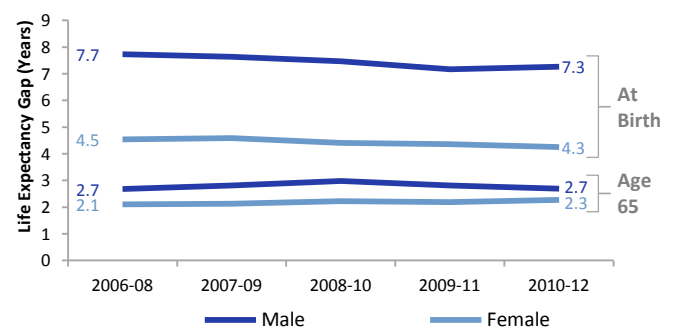
Since 2006-08, male life expectancy in the least deprived areas increased by 1.2 years, and by 2010-12 was similar to female life expectancy in the most deprived areas at 19.2 years.

Female life expectancy at age 65 increased by 0.8 years in the least deprived areas, compared with an increase of 0.6 years in the most deprived areas across the same period.

Life Expectancy Deprivation Gap Time Series

The deprivation gaps in both life expectancy at birth and at age 65 remained broadly similar over the period for both genders¹⁷, and were consistently wider for males than for females.

Figure 4.4 - Deprivation Gap Time Series



¹⁷ Despite the gap being slightly lower in 2010-12 than in 2006-08, it has been concluded that it remained broadly similar across the period due to a lack of consistent trend.

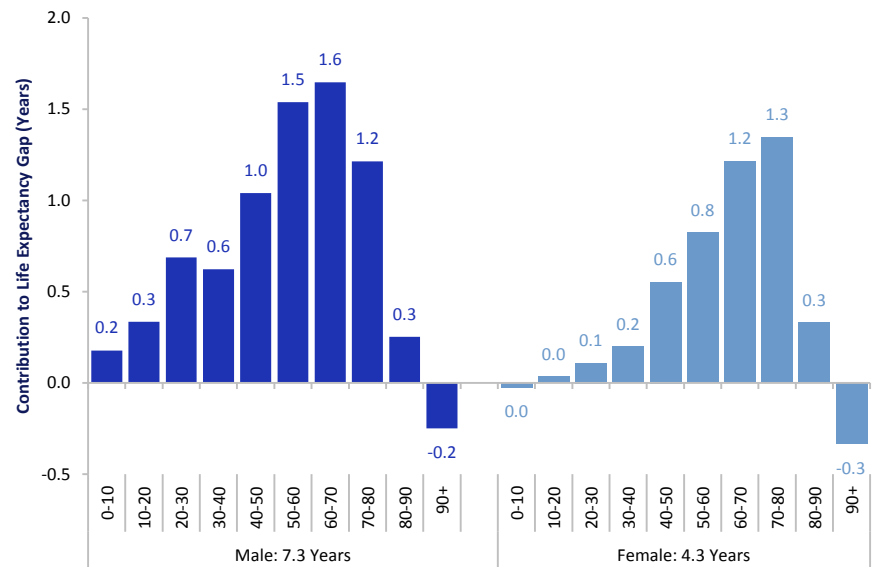
Decomposition of Life Expectancy at Birth Deprivation Gap by Age Bands, 2010-12

In 2010-12, those living in the most deprived areas experienced higher mortality than those in the least deprived areas for the majority of age groups examined. Mortality among males aged between 50 and 80 was attributable for three-fifths (4.4 years) of the gap in male life expectancy, while the same age group was attributable for four-fifths (3.4 years) of the female life expectancy gap. For both genders, higher mortality rates among those over 90 years of age in the least deprived areas slightly offset the inequality gap.¹⁸

Table 4.1: Contribution of Age Groups to Life Expectancy at Birth Deprivation Gap (years)

Age Group	Male		Female	
	06-08	10-12	06-08	10-12
0-10	0.1	0.2	0.3	0.0
10-20	0.3	0.3	0.1	0.0
20-30	0.6	0.7	0.1	0.1
30-40	0.8	0.6	0.2	0.2
40-50	1.3	1.0	0.6	0.6
50-60	1.7	1.5	1.0	0.8
60-70	1.9	1.6	1.4	1.2
70-80	1.1	1.2	1.1	1.3
80-90	0.2	0.3	0.2	0.3
90+	-0.2	-0.2	-0.3	-0.3
Total	7.7	7.3	4.5	4.3

Figure 4.5 - Decomposition of Difference in Life Expectancy at Birth by Age Bands, 2010-12



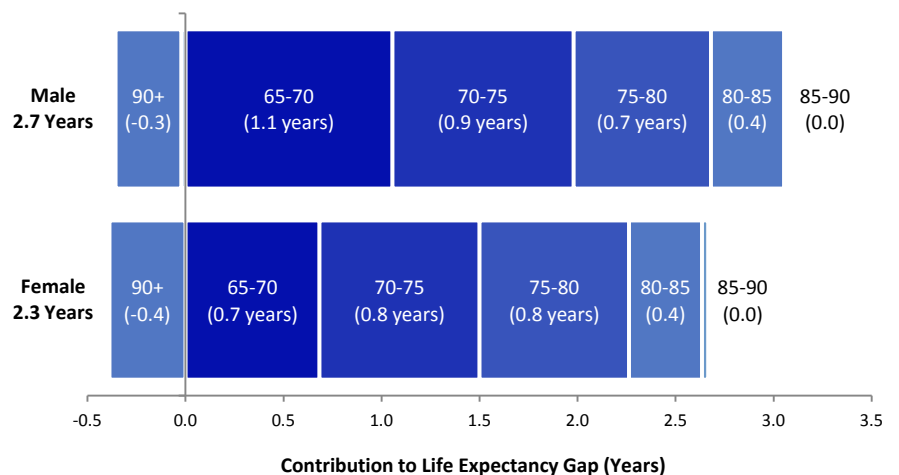
Decomposition of Life Expectancy at Age 65 Deprivation Gap by Age Bands, 2010-12

Comparatively high mortality among those between 65 and 80 years of age in the most deprived areas contributed the majority of the inequality gap for both males and females, while higher mortality in the least deprived areas among those over 90 years of age offset the inequality gap by 0.3 years for males and 0.4 years for females.

Table 4.2: Contribution of Age Groups to Life Expectancy at Age 65 Deprivation Gap (years)

Age Group	Male		Female	
	06-08	10-12	06-08	10-12
65-70	1.2	1.1	0.9	0.7
70-75	0.7	0.9	0.7	0.8
75-80	0.7	0.7	0.6	0.8
80-85	0.3	0.4	0.3	0.4
85-90	0.0	0.0	0.0	0.0
90+	-0.2	-0.3	-0.4	-0.4
Total	2.7	2.7	2.1	2.3

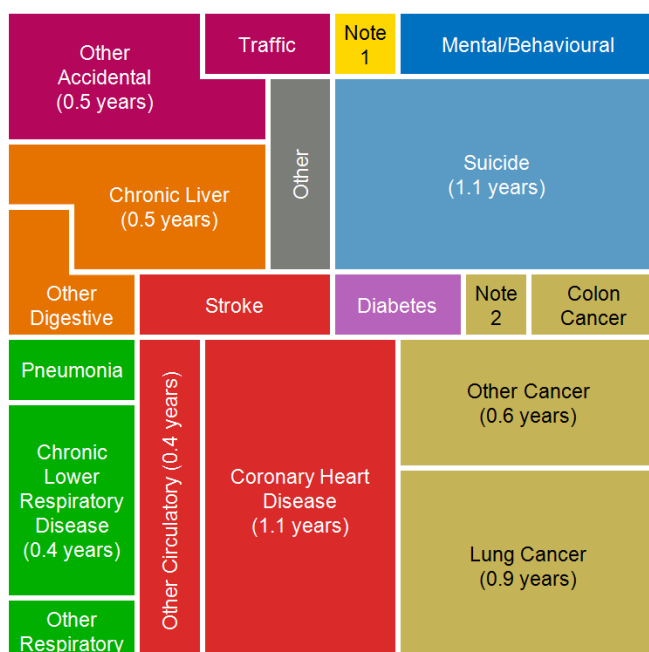
Figure 4.6 - Decomposition of Difference in Life Expectancy at Age 65 by Age Bands, 2010-12



¹⁸ This is likely due to the least deprived areas having a higher rate of survival to 90 years of age, leading to a higher proportion of deaths in the 90+ age group.

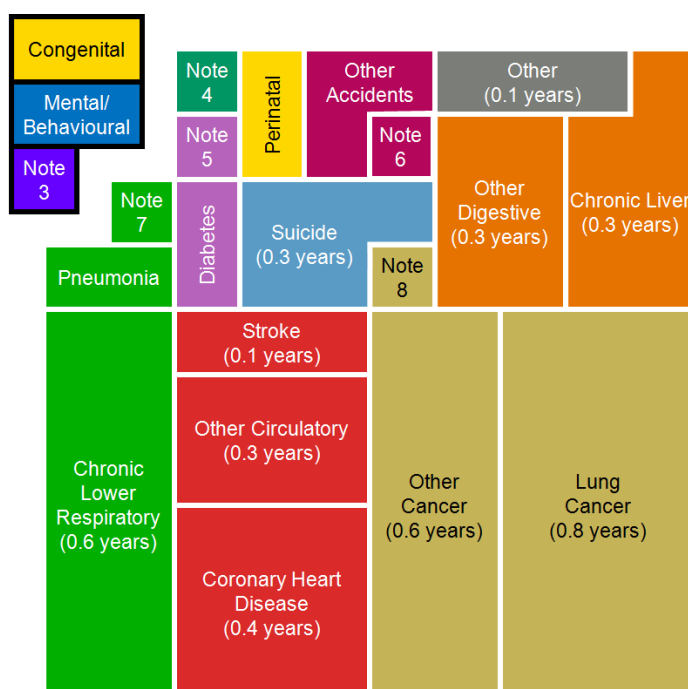
Decomposition of Life Expectancy at Birth Deprivation Gap by Underlying Cause of Death

Figure 4.7: Contribution to the Male Life Expectancy at Birth Deprivation Gap, 2010-12 (7.3 years)



In 2010-12, deaths due to circulatory disease accounted for almost a quarter (1.7 years) of the male life expectancy at birth deprivation gap, of which 1.1 years were attributable to coronary heart disease. Cancer accounted for a further quarter (1.6 years), with 0.9 years of the deprivation gap attributable to lung cancer.

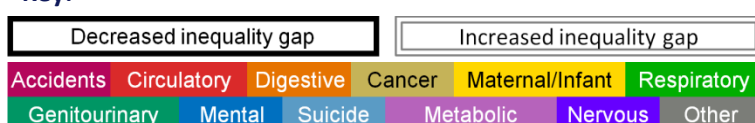
Figure 4.8: Contribution to the Female Life Expectancy at Birth Deprivation Gap, 2010-12 (4.3 years)



For females, the primary cause of inequality in life expectancy between the most and least deprived areas was cancer, accounting for over a third of the total gap (1.5 years), over half of which was due to lung cancer.

It should be noted that for some causes of death mortality was higher in the least deprived areas, namely congenital diseases¹⁹, mental and behavioural disorders and diseases of the nervous system, which had a narrowing effect on the inequality gap of 0.2 years.

Key:



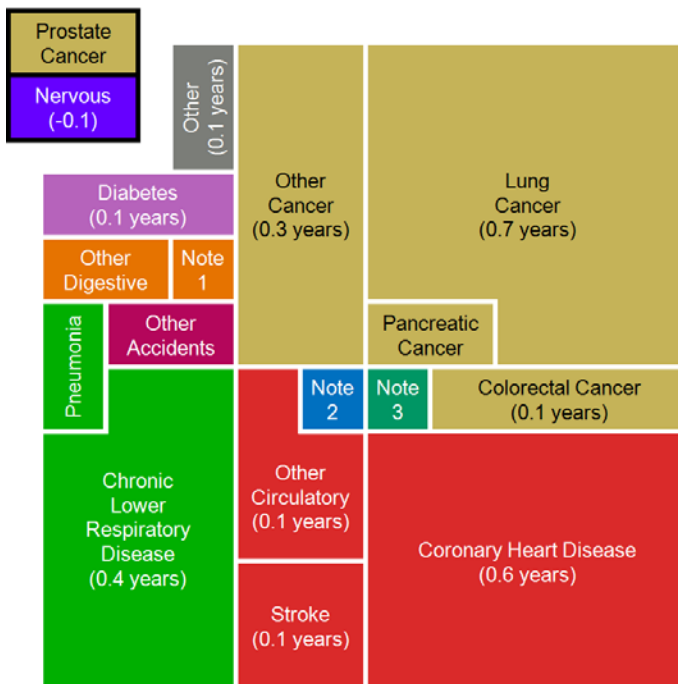
Notes:

- Note 1: Perinatal
- Note 2: Pancreatic Cancer
- Note 3: Nervous system
- Note 4: Genitourinary
- Note 5: Metabolic
- Note 6: Traffic Accidents
- Note 7: Other Respiratory
- Note 8: Pancreatic cancer

¹⁹ Congenital diseases refer to congenital malformations, deformations and chromosomal abnormalities.

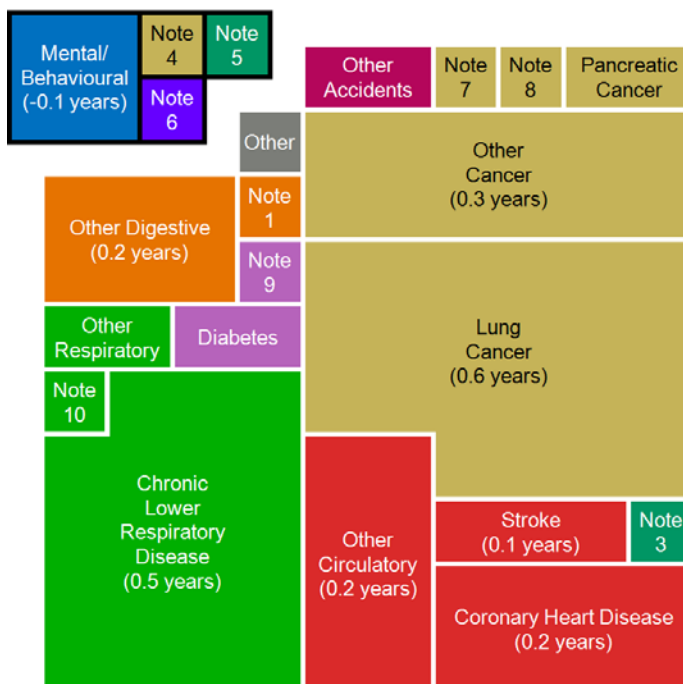
Decomposition of Life Expectancy at Age 65 Deprivation Gap by Underlying Cause of Death

Figure 4.9: Contribution to the Male Life Expectancy at Age 65 Deprivation Gap, 2010-12 (2.7 years)



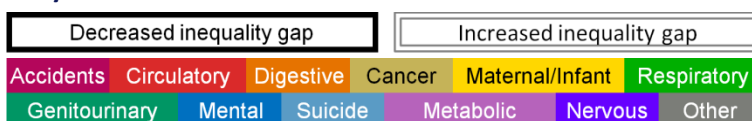
Cancer mortality among males contributed two fifths (1.1 years) of the inequality gap for life expectancy at age 65, almost two-thirds of which was due to lung cancer (0.7 years). A further third (0.9 years) of the total gap was attributable to circulatory disease.

Figure 4.10: Contribution to the Female Life Expectancy at Age 65 Deprivation Gap, 2010-12 (2.3 years)



As seen for life expectancy at birth, the primary cause of inequality in female life expectancy at age 65 between the most and least deprived areas was cancer mortality, accounting for over a two-fifths of the total gap (1.0 years), over half of which was due to mortality from lung cancer (0.6 years). A further fifth (0.5 years) of the deprivation gap resulted from comparatively high mortality rates from chronic lower respiratory disease in the most deprived areas.

Key:

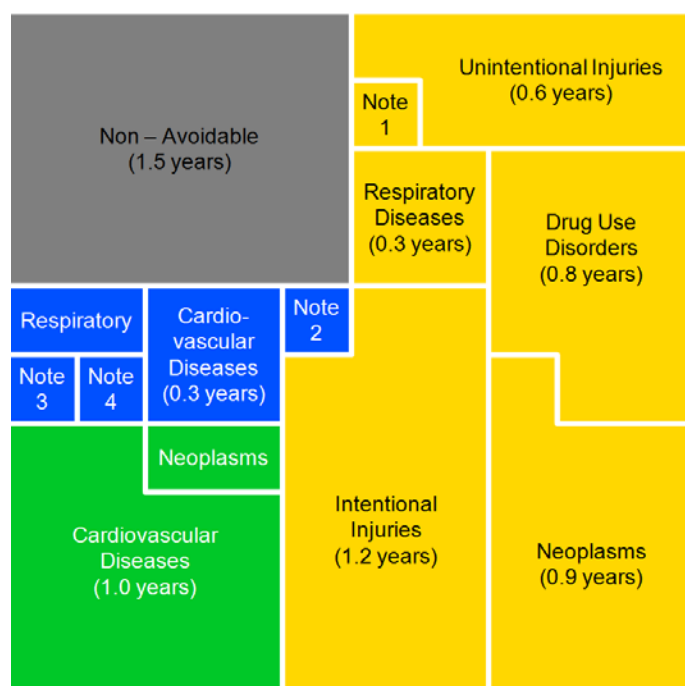


Notes:

- Note 1: Chronic Liver Disease
- Note 2: Mental/Behavioural
- Note 3: Kidney Disease
- Note 4: Breast Cancer
- Note 5: Other Genitourinary
- Note 6: Nervous System
- Note 7: Lymphatic Cancer
- Note 8: Colorectal Cancer
- Note 9: Other Metabolic
- Note 10: Pneumonia

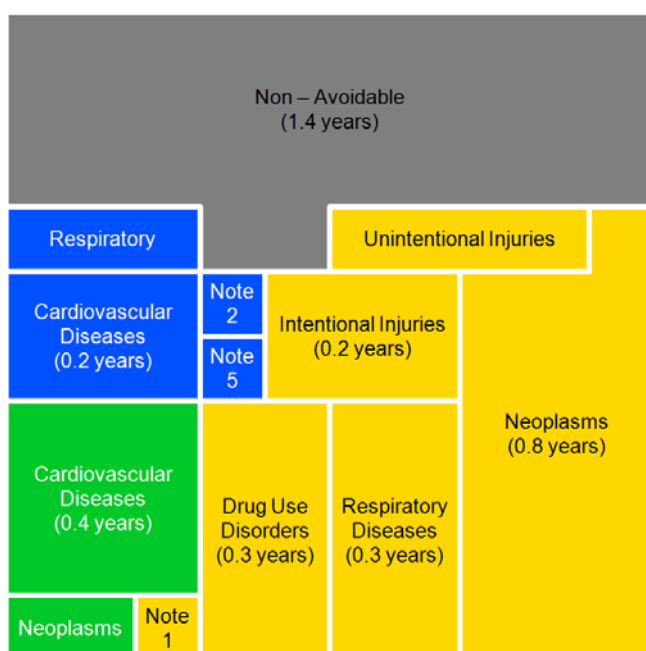
Decomposition of Life Expectancy at Birth Deprivation Gap by Avoidable Causes of Death²⁰

Figure 4.11: Contribution to the Male Life Expectancy at Birth Deprivation Gap, 2010-12 (7.3 years)



In 2010-12, four-fifths (5.8 years) of the inequality gap for male life expectancy was attributable to avoidable causes of death, of which 5.1 years resulted from causes of death that are considered preventable by public health interventions and 1.9 years from causes of death considered amenable to good healthcare.²¹

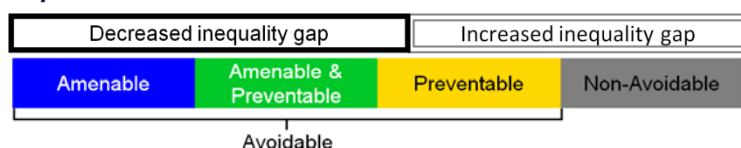
Figure 4.12: Contribution to the Female Life Expectancy at Birth Deprivation Gap, 2010-12 (4.3 years)



Preventable mortality accounted for almost three-fifths (2.4 years) of the female deprivation gap while those causes considered amenable contributed over a fifth (0.9 years) of the life expectancy gap.

Accounting for the overlap between preventable and amenable causes, over two-thirds (2.9 years) of the female life expectancy deprivation gap was attributable to avoidable mortality.

Key:



Notes

- Note 1: Cardiovascular Diseases
- Note 2: Digestive Disorders
- Note 3: Maternal & Infant
- Note 4: Neoplasms
- Note 5: Neurological Disorders

²⁰ For definitions of avoidable, preventable and amenable mortality, see Appendix 2: Amenable, Preventable and Avoidable Mortality on page 60 of this report.

²¹ The gap attributed to amenable and preventable causes will not sum to that attributed to avoidable mortality, as some causes of death are considered both amenable and preventable.

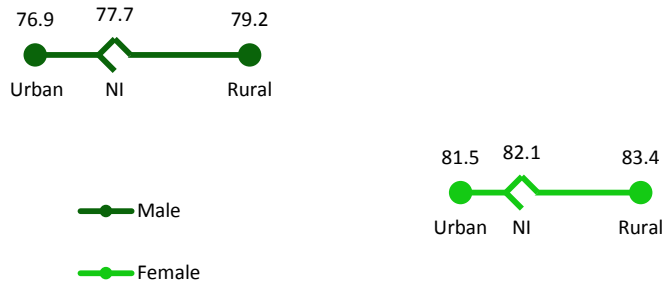
Table 4.3: Amenable and Preventable Contributions to Most-Least Deprived Inequality Gap - 2006-08 to 2010-12

		Male		Female	
		2006-08	2010-12	2006-08	2010-12
Amenable	Cardiovascular diseases	0.4	0.3	0.2	0.2
	Genitourinary disorders	0.0	0.0	0.0	0.0
	Digestive disorders	0.1	0.1	0.0	0.1
	Infections	0.1	0.0	0.0	0.0
	Maternal and Infant	-0.1	0.1	0.1	0.0
	Neoplasms	0.0	0.1	0.0	0.0
	Neurological disorders	0.1	0.0	0.0	0.0
	Respiratory diseases	0.2	0.1	0.1	0.1
Total	0.7	0.7	0.6	0.5	
Amenable & Preventable	Cardiovascular diseases	1.1	1.0	0.6	0.4
	Infections	0.0	0.0	0.0	0.0
	Neoplasms	0.2	0.1	0.1	0.1
	Respiratory diseases	0.0	0.0	0.0	0.0
	Intentional injuries	0.0	0.0	0.0	0.0
	Nutritional	0.1	0.0	0.0	0.0
Total	1.4	1.2	0.7	0.5	
Preventable	Cardiovascular diseases	0.1	0.1	0.0	0.0
	Neoplasms	0.9	0.9	0.7	0.8
	Respiratory diseases	0.3	0.3	0.3	0.3
	Drug use disorders	0.9	0.8	0.4	0.3
	Intentional injuries	1.2	1.2	0.3	0.2
	Unintentional injuries	0.6	0.6	0.2	0.2
Total	4.0	3.9	2.0	1.9	
Non-avoidable	1.7	1.5	1.3	1.4	
Total	7.7	7.3	4.5	4.3	

The decrease in the most-least deprived life expectancy at birth inequality gap for both males and females was due to reduced mortality in both avoidable and non-avoidable mortality.

6. Life Expectancy by Rurality

Figure 5.1 - Life Expectancy at Birth by Rurality: 2010-12



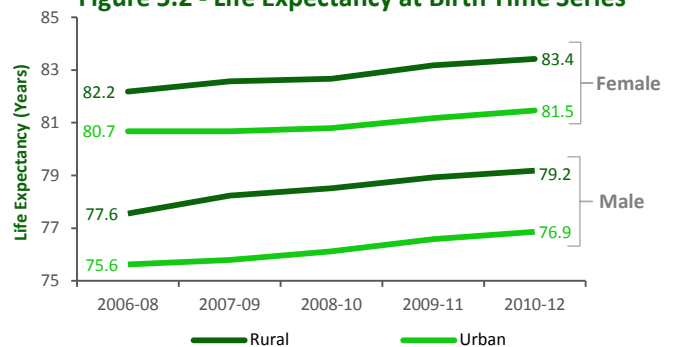
In 2010-12, males living in rural areas of Northern Ireland could expect to live for 79.2 years, 2.3 years longer than those in urban areas.

Females in rural areas could expect to live for 83.4 years, 2.0 years longer than those in urban areas.

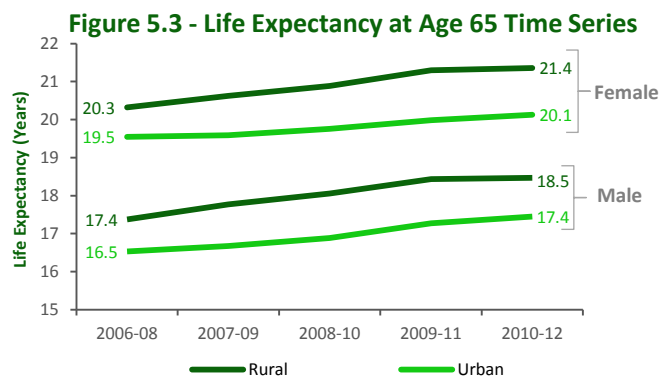
Life Expectancy at Birth: Rurality Time Series

Life expectancy for both males and females in both urban and rural areas increased between 2006-08 and 2010-12. The greatest increase over the period was seen for males in rural areas (1.6 years), while the smallest increase occurred for females in urban areas (0.8 years).

Figure 5.2 - Life Expectancy at Birth Time Series



Life Expectancy at Age 65: Rurality Time Series



Across the period, male life expectancy at age 65 increased by 1.1 years in rural areas, compared with a 0.9 year increase in urban areas.

Similarly, in rural areas female life expectancy at age 65 increased by 1.0 years across the same period, and by 0.6 years in urban areas.

Life Expectancy Rurality Gap: Time Series

There has been little change to the male and female urban-rural gaps since 2007-09.

In 2010-12, the gap in male life expectancy at birth stood at 2.3 years, and at 2.0 years for females.

At age 65, males in rural areas could expect to live 1.0 years longer than their counterparts in urban areas, a smaller gap than for females (1.2 years).

Figure 5.4 - Life Expectancy Rurality Gap Time Series



Decomposition of Life Expectancy at Birth Rurality Gap by Age Bands, 2010-12

In 2010-12, urban areas experienced higher mortality than those in rural areas for the majority of age groups examined, excluding females below 10 years of age. Higher mortality among males in urban areas aged between 40 and 80 years of age was responsible for three-quarters (1.8 years) of the gap in male life expectancy.

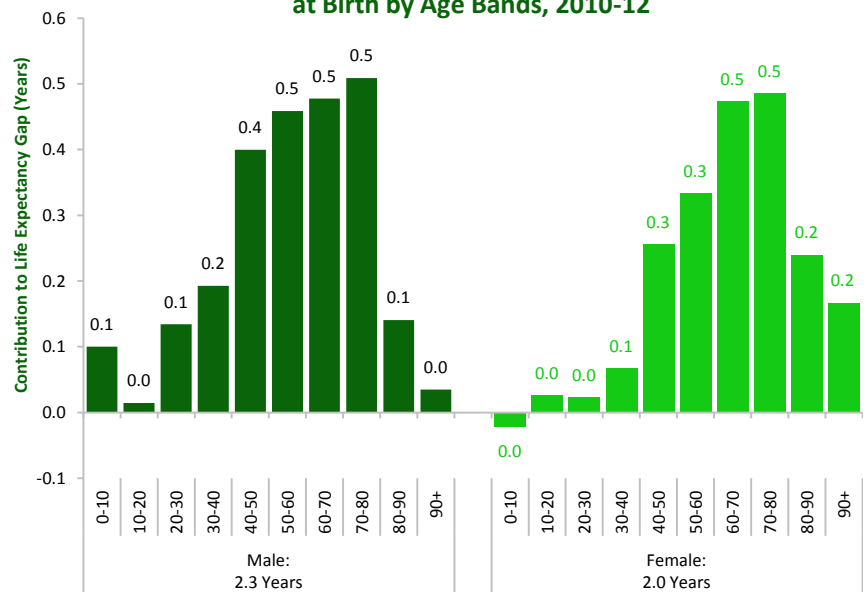
Higher levels of mortality in urban areas among females between 60 and 80 years of age explained almost half (1.0 years) of the female life expectancy gap.

While mortality for males under 40 years of age contributed a fifth of the male rurality gap (0.4 years), this was true for less than 5% of the female rurality gap (0.1 years). Conversely, mortality patterns among males over 80 years of age accounted for 7% of the gap (0.2 years), which compares to a fifth of the female gap (0.4 years) from the same age group.

Table 5.1: Contribution of Age Groups to Life Expectancy at Birth Rurality Gap (years)

Age Group	Male		Female	
	06-08	10-12	06-08	10-12
0-10	0.0	0.1	0.0	0.0
10-20	0.0	0.0	0.0	0.0
20-30	0.0	0.1	0.0	0.0
30-40	0.3	0.2	0.1	0.1
40-50	0.4	0.4	0.2	0.3
50-60	0.3	0.5	0.3	0.3
60-70	0.5	0.5	0.4	0.5
70-80	0.4	0.5	0.3	0.5
80-90	0.0	0.1	0.2	0.2
90+	0.0	0.0	0.0	0.2
Total	1.9	2.3	1.5	2.0

Figure 5.5 - Decomposition of Difference in Life Expectancy at Birth by Age Bands, 2010-12



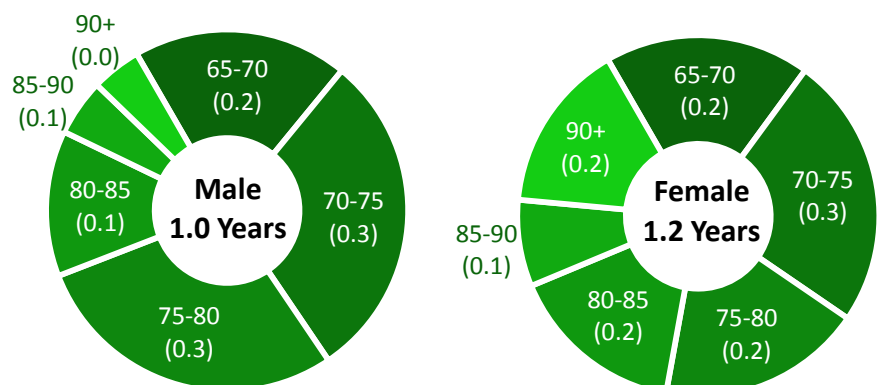
Decomposition of Life Expectancy at Age 65 Rurality Gap by Age Bands, 2010-12

Similar to life expectancy at birth, lower mortality in rural areas among males aged between 70 and 80 years contributed over half (0.6 years) of the rurality gap for life expectancy at age 65. Between 2006-08 and 2010-12, mortality among males aged between 75 and 85 reduced more rapidly in rural areas than in urban areas, contributing heavily to the widening of the rurality gap. Though similar trends were seen among females, mortality among females aged over 80 years contributed 0.5 years to the rurality gap, double that from their male counterparts.

Table 5.2: Contribution of Age Groups to Life Expectancy at Age 65 Rurality Gap (years)

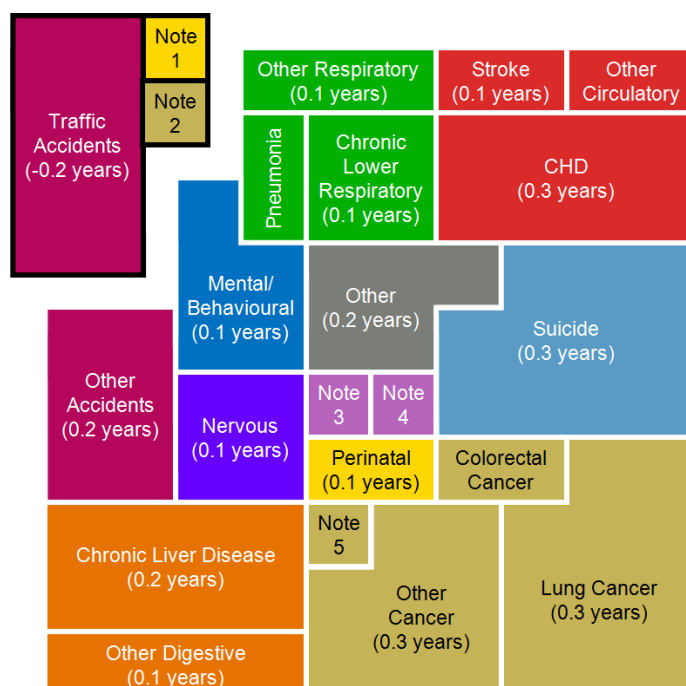
Age Group	Male		Female	
	06-08	10-12	06-08	10-12
65-70	0.3	0.2	0.2	0.2
70-75	0.3	0.3	0.2	0.3
75-80	0.2	0.3	0.1	0.2
80-85	0.0	0.1	0.1	0.2
85-90	0.0	0.1	0.1	0.1
90+	0.0	0.0	0.1	0.2
Total	0.8	1.0	0.8	1.2

Figure 5.6 - Decomposition of Difference in Life Expectancy at Age 65 by Age Bands, 2010-12



Decomposition of Life Expectancy at Birth Rurality Gap by Underlying Cause of Death

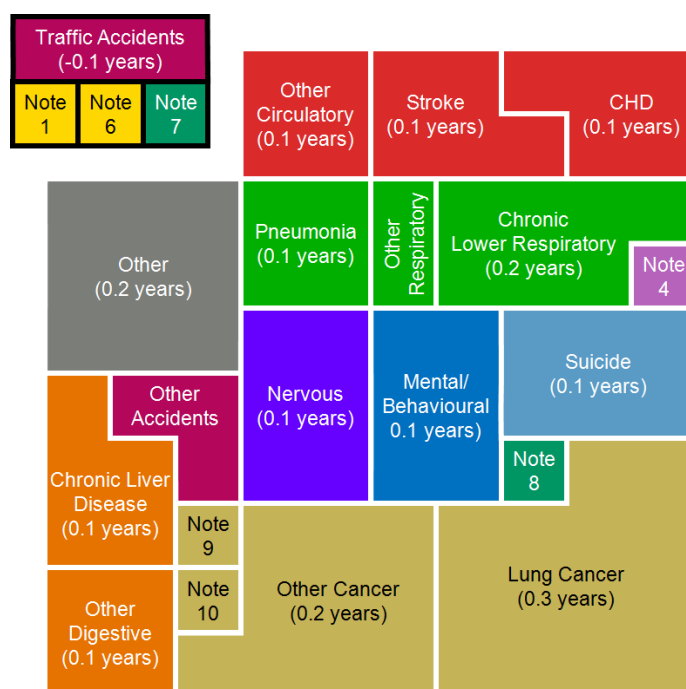
Figure 5.7: Contribution to the Male Life Expectancy at Birth Rurality Gap, 2010-12 (2.3 years)



In 2010-12, deaths due to cancer accounted for over a quarter (0.7 years) of the male life expectancy rurality gap, of which 0.3 years were attributable to lung cancer. Other major contributors included digestive diseases (0.4 years), circulatory diseases (0.4 years) and suicide (0.3 years).

Several causes of death had higher levels of mortality in rural areas than seen in urban areas, which had the effect of reducing the urban-rural gap by 0.3 years. The majority of this was attributable to relatively higher mortality from traffic accidents (0.2 years) for males in rural areas.

Figure 5.8: Contribution to the Female Life Expectancy at Birth Urban-Rural Gap, 2010-12 (2.0 years)

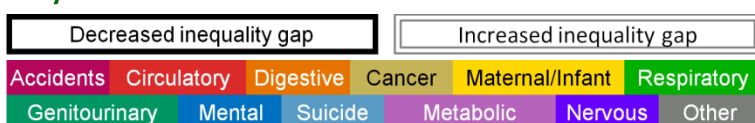


For females, the primary cause of inequality in life expectancy between urban and rural areas was cancer, accounting for almost a third (0.6 years) of the total gap, over half of which was due to lung cancer (0.3 years).

Both circulatory and respiratory diseases each accounted for a further 0.3 years of the rurality gap.

As with male life expectancy, mortality from traffic accidents was higher in rural areas, which reduced the urban-rural gap by 0.1 years.

Key:

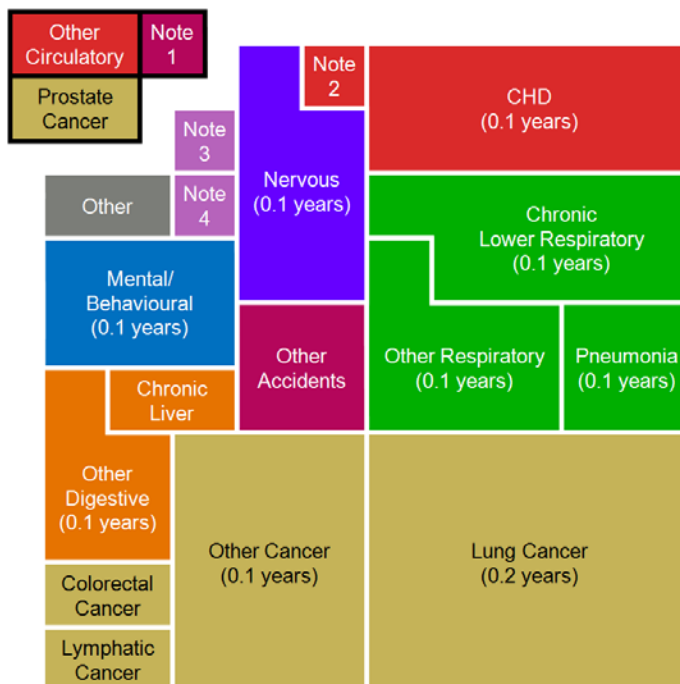


Notes:

- Note 1: Congenital
- Note 2: Prostate Cancer
- Note 3: Diabetes Mellitus
- Note 4: Other Metabolic
- Note 5: Lymphatic Cancer
- Note 6: Perinatal
- Note 7: Kidney Disease
- Note 8: Other Genitourinary
- Note 9: Breast Cancer
- Note 10: Pancreatic cancer

Decomposition of Life Expectancy at Age 65 Rurality Gap by Underlying Cause of Death

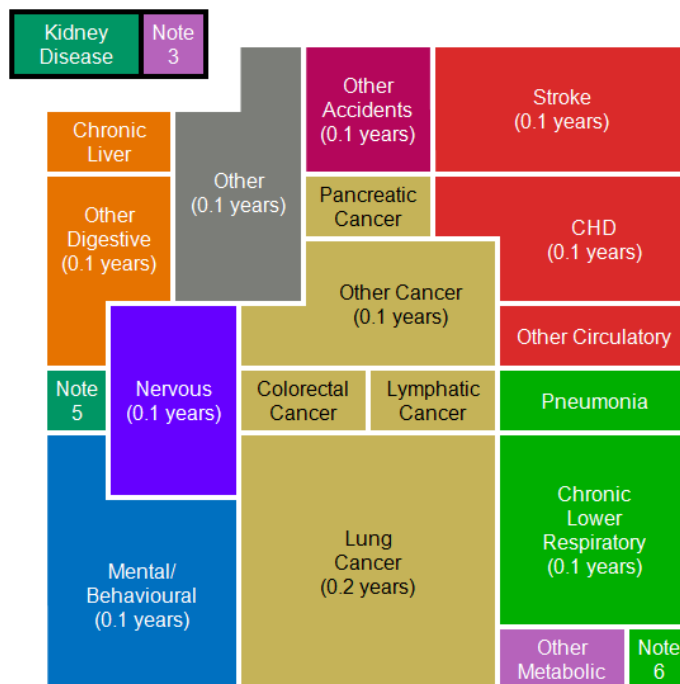
Figure 5.9: Contribution to the Male Life Expectancy at Age 65 Urban-Rural Gap, 2010-12 (1.0 years)



A third (0.4 years) of the male rurality gap in life expectancy for males at age 65 was due to higher levels of cancer related mortality in urban areas. Over half of this was attributable to deaths from lung cancer (0.2 years).

A further fifth of the rurality gap is attributable to respiratory diseases (0.2 years)²².

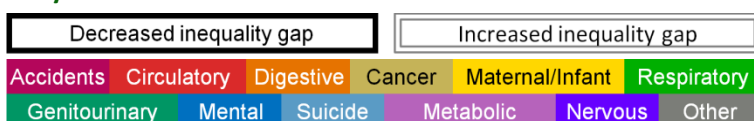
Figure 5.10: Contribution to the Female Life Expectancy at Age 65 Urban-Rural Gap, 2010-12 (1.2 years)



As seen for life expectancy at birth, the primary cause of inequality in female life expectancy at age 65 between urban and rural areas was cancer mortality, accounting for a third of the total gap (0.4 years), over half of which was due to mortality from lung cancer (0.2 years).

Other notable contributors to the rurality gap include circulatory diseases (0.2 years) and respiratory diseases (0.2 years).

Key:



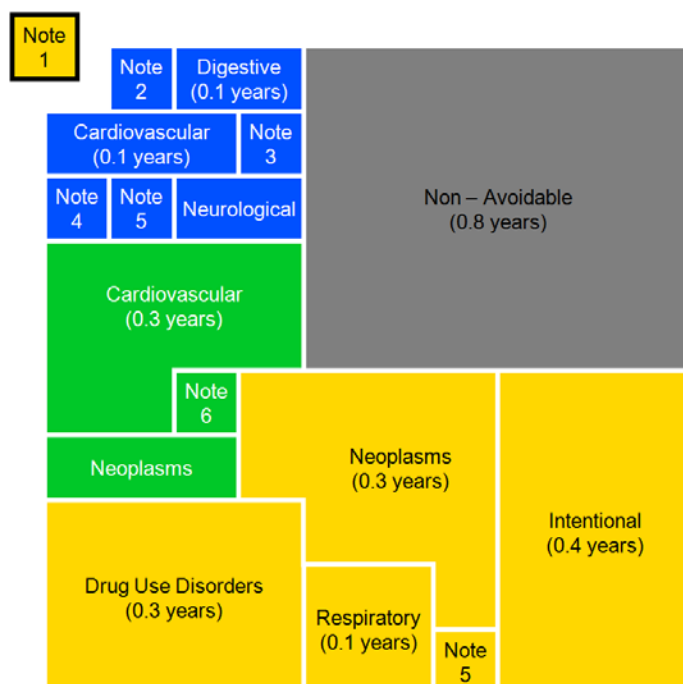
Notes:

- Note 1: Traffic Accidents
- Note 2: Stroke
- Note 3: Diabetes Mellitus
- Note 4: Other Metabolic
- Note 5: Other Genitourinary
- Note 6: Other Respiratory

²² As figures are rounded to one decimal place, the sum of component items may not always add to the totals shown.

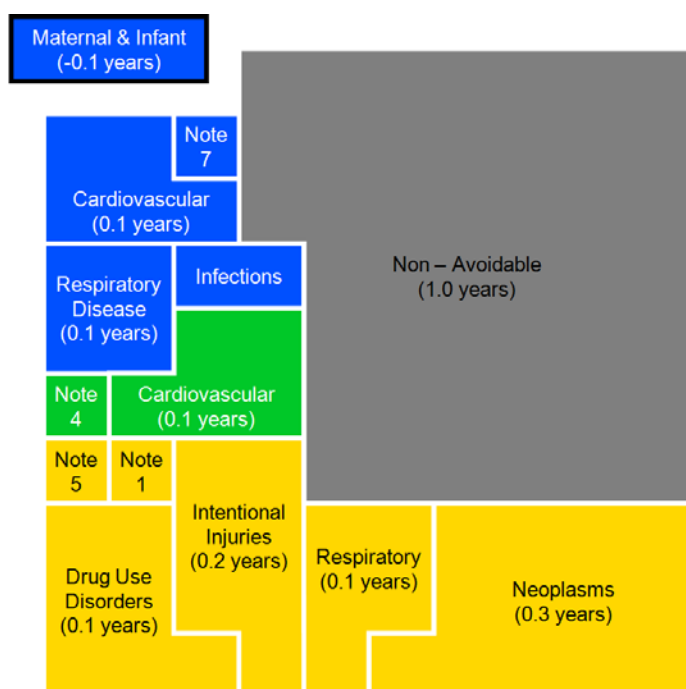
Decomposition of Life Expectancy at Birth Rurality Gap by Avoidable Causes of Death²³

Figure 5.11: Contribution to the Male Life Expectancy at Birth Urban-Rural Gap, 2010-12 (2.3 years)



In 2010-12, over two-thirds (1.7 years) of the rurality gap for male life expectancy was attributable to avoidable causes of death, of which 1.5 years resulted from causes of death that are considered preventable by public health interventions and 0.6 years from causes of death considered amenable to good healthcare.²⁴

Figure 5.12: Contribution to the Female Life Expectancy at Birth Urban-Rural Gap, 2010-12 (2.0 years)



Over half (1.1 years) of the urban-rural gap in female life expectancy was attributable to higher levels of avoidable mortality in urban areas. Mortality from causes considered preventable accounted for over two-fifths (0.9 years) of the total urban-rural gap while causes considered amenable contributed a sixth (0.3 years) to the life expectancy gap.

Key:



Notes

- Note 1: Unintentional Injuries
- Note 2: Genitourinary Disorders
- Note 3: Maternal & Infant
- Note 4: Neoplasms
- Note 5: Cardiovascular
- Note 6: Drug Use
- Note 7: Neurological

²³ For definitions of avoidable, preventable and amenable mortality, see Appendix 2: Amenable, Preventable and Avoidable Mortality on page 60 of this report.

²⁴ The gap attributed to amenable and preventable causes will not sum to that attributed to avoidable mortality, as some causes of death are considered both amenable and preventable.

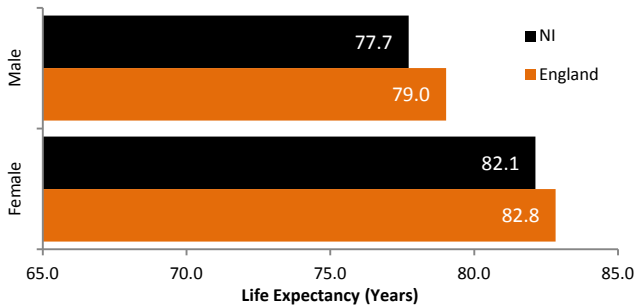
Table 5.3: Amenable and Preventable Contributions to Urban-Rural Inequality Gap – 2006-08 to 2010-12

		Male		Female	
		2006-08	2010-12	2006-08	2010-12
Amenable	Cardiovascular diseases	0.1	0.1	0.1	0.1
	Genitourinary disorders	0.0	0.0	0.0	0.0
	Digestive disorders	0.0	0.1	0.0	0.0
	Infections	0.0	0.0	0.0	0.0
	Maternal and Infant	0.0	0.0	0.0	-0.1
	Neoplasms	0.0	0.0	0.0	0.0
	Neurological disorders	0.0	0.0	0.0	0.0
	Respiratory diseases	0.1	0.0	0.1	0.1
Total	0.3	0.2	0.3	0.2	
Amenable & Preventable	Cardiovascular diseases	0.2	0.3	0.1	0.1
	Infections	0.0	0.0	0.0	0.0
	Neoplasms	0.1	0.1	0.1	0.0
	Respiratory diseases	0.0	0.0	0.0	0.0
	Intentional injuries	0.0	0.0	0.0	0.0
	Nutritional	0.0	0.0	0.0	0.0
Total	0.3	0.4	0.2	0.1	
Preventable	Cardiovascular diseases	0.0	0.0	0.0	0.0
	Neoplasms	0.3	0.3	0.2	0.3
	Respiratory diseases	0.1	0.1	0.1	0.1
	Drug use disorders	0.3	0.3	0.2	0.1
	Intentional injuries	0.3	0.4	0.1	0.2
	Unintentional injuries	-0.2	0.0	0.0	0.0
Total	0.9	1.1	0.6	0.7	
Non-avoidable	0.5	0.8	0.5	1.0	
Total	1.9	2.3	1.5	2.0	

The widening of the urban-rural inequality gap for both males and females was mainly due to increased inequality in mortality from causes not considered avoidable. Both genders also showed a slight widening of the inequality gap for preventable mortality.

6. The Difference in Life Expectancy between England and Northern Ireland

Figure 6.1: Comparison of Life Expectancy in England and Northern Ireland, 2010-12



In 2010-12, males in England could expect to live for 79.0 years, 1.3 years longer than males in Northern Ireland.

Females in England could also expect to live 0.7 years longer (82.8 years), than females in NI (82.1 years).

Life Expectancy: Time Series

Similar to NI, life expectancy in England rose considerably across the period 1980-82 to 2010-12, with males experiencing a greater increase, leading to a narrowing of the gender gap.

Figure 6.2: Life Expectancy Time Series - England & NI

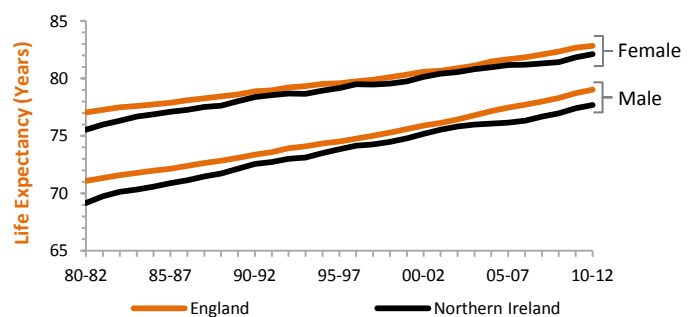
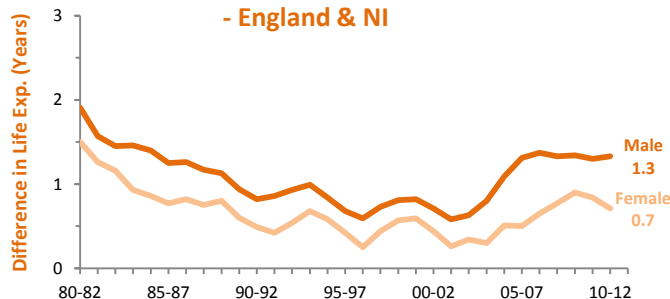


Figure 6.3: Life Expectancy Difference Time Series - England & NI



Difference in Life Expectancy: Time Series

As life expectancy in Northern Ireland rose more rapidly than that in England across the period, the differential between NI and England for both genders narrowed from 1.9 years to 1.3 years, for males and from 1.5 years to 0.7 years for females. However, the difference has been growing since 2002-04, with the difference in male life expectancy remaining level since 2005-07.

Decomposition of Difference in Life Expectancy between England and NI by Age Bands, 2010-12

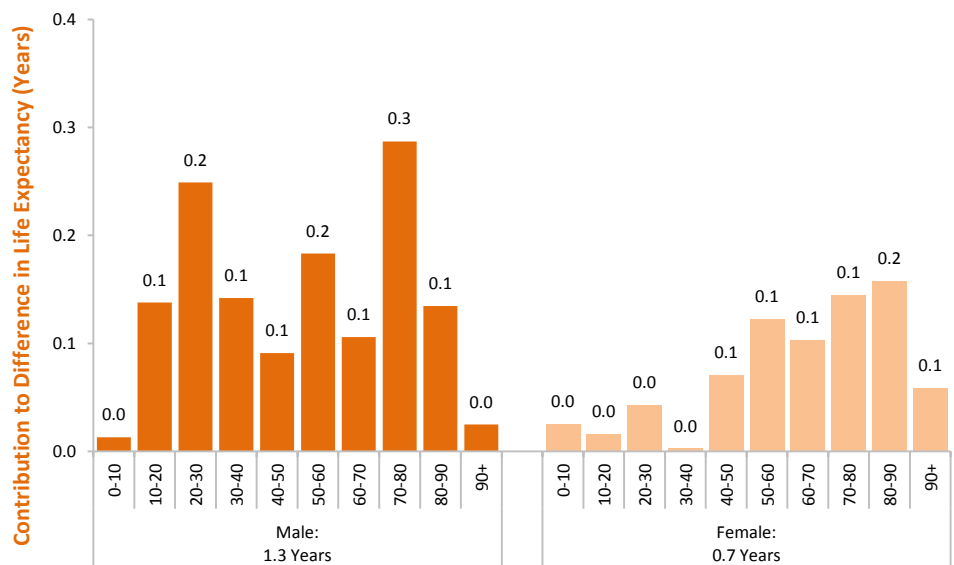
In 2010-12, those living in Northern Ireland experienced higher mortality than those in England for all examined age groups. For males, over a fifth of the difference was due to mortality among those aged between 70 and 80 years, which was largely attributable to Coronary Heart Disease. Mortality within the 20-30 age band also contributed almost a fifth of the total difference (0.2 years), largely due to higher levels of suicide within this age band in Northern Ireland.

Females under the age of 40 had similar mortality patterns in Northern Ireland to those in England. Therefore, the majority of the difference in female life expectancy was attributable to those aged above 40 years of age, notably the 70-80 and 80-90 age bands.

Table 6.1: Contribution of Age Groups to Life Expectancy Gap

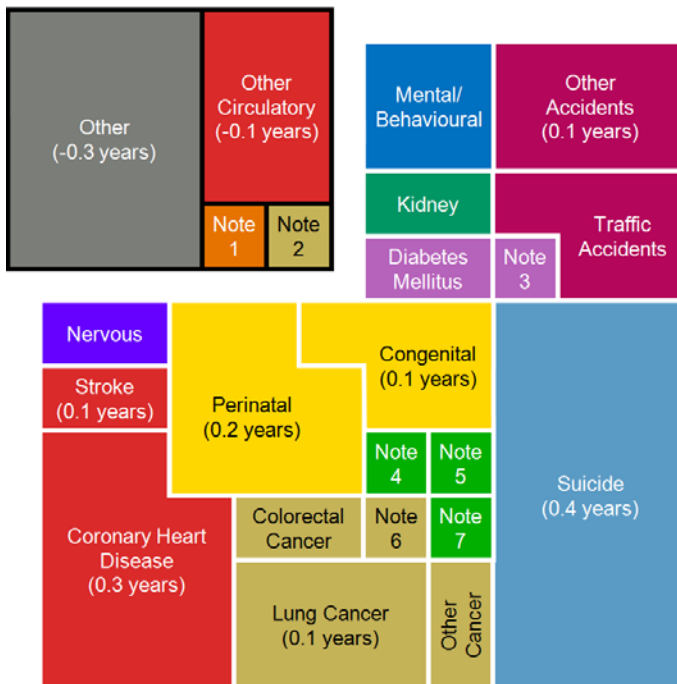
Age Group	Contribution in years	
	Male	Female
0-10	0.0	0.0
10-20	0.1	0.0
20-30	0.2	0.0
30-40	0.1	0.0
40-50	0.1	0.1
50-60	0.2	0.1
60-70	0.1	0.1
70-80	0.3	0.1
80-90	0.1	0.2
90+	0.0	0.1
Total	1.3	0.7

Figure 6.4 - Decomposition of Life Expectancy Difference by Age Bands, 2010-12



Decomposition of Difference in Life Expectancy between England and NI by Underlying Cause of Death²⁵

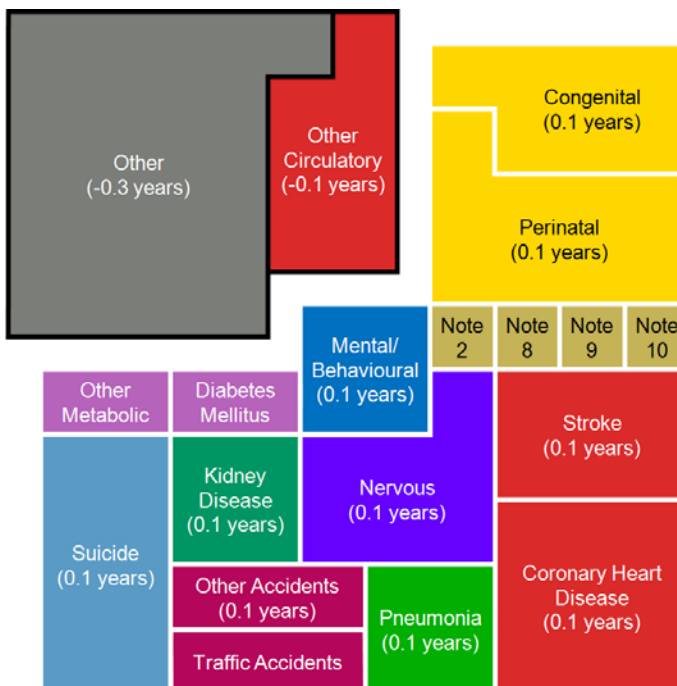
Figure 6.5: Contribution to the Difference in Male Life Expectancy between England and NI, 2010-12 (1.3 years)



In 2010-12, male life expectancy in England was 1.3 years higher than that in Northern Ireland. The largest contributor to this difference was higher mortality in NI from suicide (0.4 years), although accidents (0.3 years) and coronary heart disease (0.3 years) also each explained more than a fifth of the total difference.

Though most causes of mortality are more prevalent in Northern Ireland than in England, some miscellaneous causes of death were less common in NI, such as digestive disorders and pancreatic cancer. These causes, when combined, had the effect of reducing the difference in life expectancy by 0.5 years.

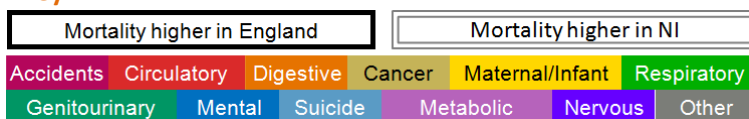
Figure 6.6: Contribution to the Difference in Female Life Expectancy between England and NI, 2010-12 (0.7 years)



For females, higher mortality from a wide range of causes, most notably from perinatal conditions (0.1 years) and coronary heart disease (0.1 years), meant that life expectancy was lower in NI.

It should be noted that some causes of mortality were lower in Northern Ireland, including mortality from those circulatory diseases not individually analysed, which offset the difference in life expectancy by 0.5 years.

Key:



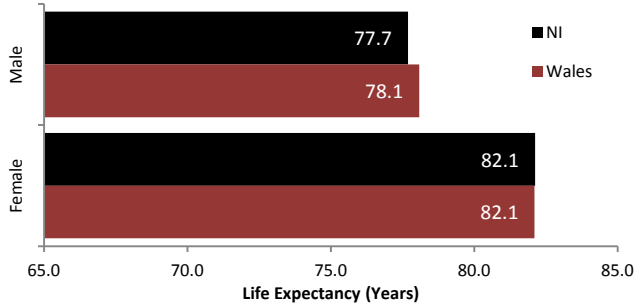
Notes:

- Note 1: Digestive Disorders
- Note 2: Pancreatic Cancer
- Note 3: Other Metabolic
- Note 4: Pneumonia
- Note 5: Chronic Lower Respiratory Disease
- Note 6: Lymphatic Cancer
- Note 7: Other Respiratory
- Note 8: Lung Cancer
- Note 9: Colorectal Cancer
- Note 10: Other Cancer

²⁵ Causes defined separately to those in other chapters due to difference in data source, as outlined in Appendix 1 – Causes of Death ICD-10 Definitions on page 59 of this report. This change in data source was also unsuitable for calculation of avoidable mortality.

7. The Difference in Life Expectancy between Wales and Northern Ireland

Figure 7.1: Comparison of Life Expectancy in Wales and Northern Ireland, 2010-12



In 2010-12, males in Wales could expect to live for 78.1 years, 0.4 years longer than male life expectancy in Northern Ireland. Females in Wales and NI could both expect to live for 82.1 years.

Life Expectancy: Time Series

Similar to NI, life expectancy in Wales rose considerably across the period 1980-82 to 2010-12, with males experiencing a greater increase, leading to a narrowing of the gender gap.

Figure 7.2: Life Expectancy Time Series - Wales & NI

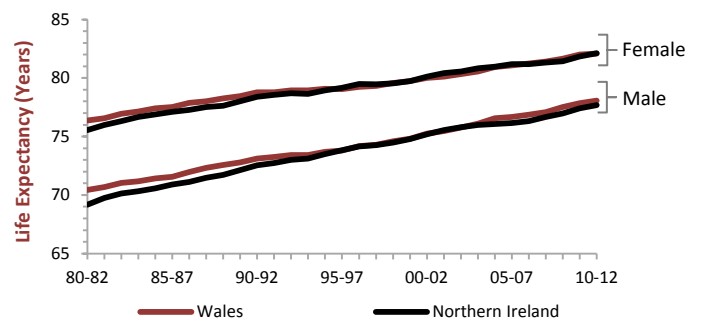
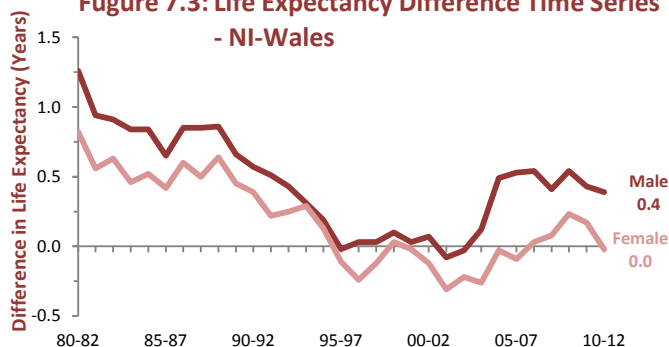


Figure 7.3: Life Expectancy Difference Time Series - NI-Wales



Difference in Life Expectancy: Time Series

In 1980-82, life expectancy in Wales was higher than that in Northern Ireland for both males (1.3 years) and females (0.8 years).

As life expectancy improved more rapidly across the following 15 years in NI than in Wales, there was little difference in male life expectancy by 1995-97, while female life expectancy in NI had surpassed that in Wales.

In recent years, despite some fluctuation, female life expectancy in NI and Wales have remained broadly similar, while male life expectancy has remained generally around half a year lower in NI.

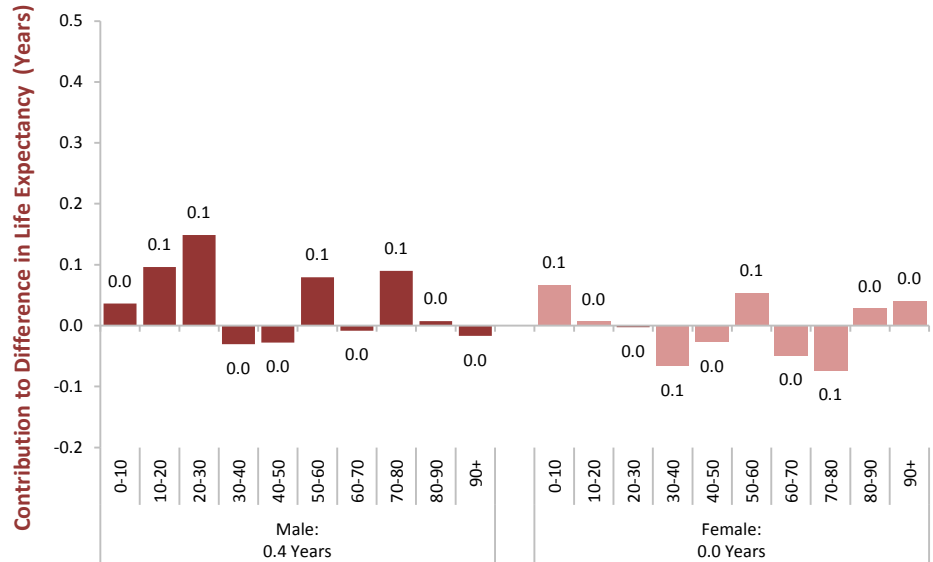
Decomposition of Difference in Life Expectancy between Wales and NI by Age Bands, 2010-12

In 2010-12, the overall difference between life expectancy in Wales compared with Northern Ireland was small for both genders. Higher mortality among males at younger ages (i.e. under 30 years of age) in NI accounted for two thirds of the male gap with Wales. This was due largely to relatively high suicide rates within these age bands in NI.

Table 6.1: Contribution of Age Groups to Life Expectancy Gap

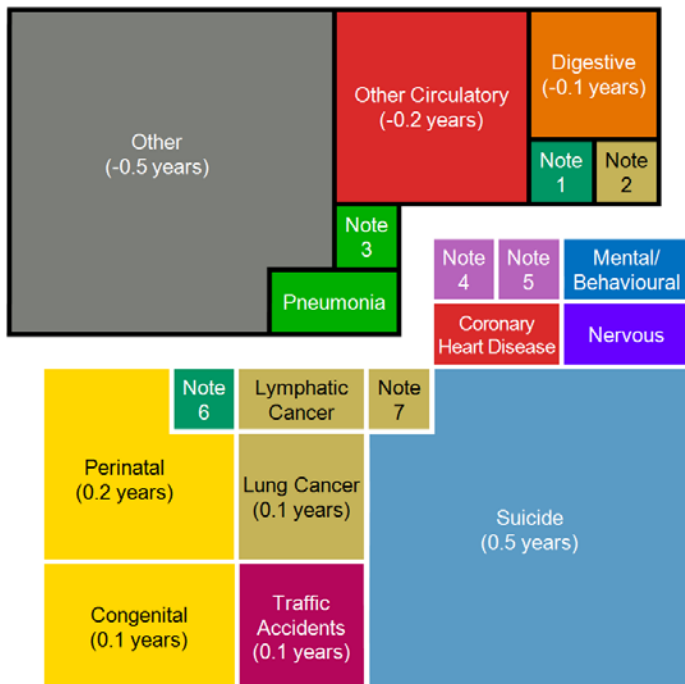
Age Group	Contribution in years	
	Male	Female
0-10	0.0	0.1
10-20	0.1	0.0
20-30	0.1	0.0
30-40	0.0	-0.1
40-50	0.0	0.0
50-60	0.1	0.1
60-70	0.0	0.0
70-80	0.1	-0.1
80-90	0.0	0.0
90+	0.0	0.0
Total	0.4	0.0

Figure 7.4 - Decomposition of Life Expectancy Difference by Age Bands, 2010-12



Decomposition of Difference in Life Expectancy between Wales and NI by Underlying Cause of Death²⁶

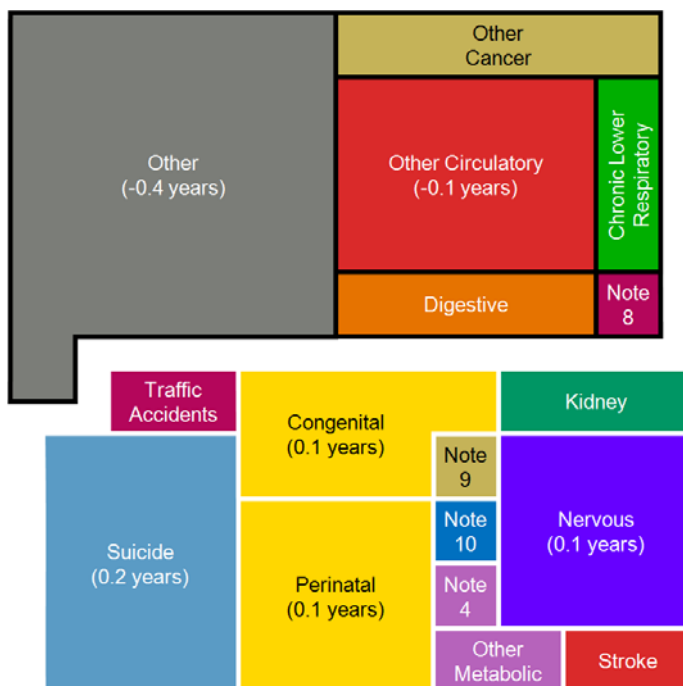
Figure 7.5: Contribution to the Difference in Male Life Expectancy between Wales and NI, 2010-12 (0.4 years)



Higher mortality due to suicide, maternal & infant conditions and selected forms of cancer (lymphatic, lung and prostate) in NI contributed 1.2 years to the life expectancy gap.

However, lower mortality in NI due to digestive disorders and other circulatory diseases (excluding stroke and coronary heart disease) offset the gap by 0.9 years.

Figure 7.6: Contribution to the Difference in Female Life Expectancy between Wales and NI, 2010-12 (0.0 years)

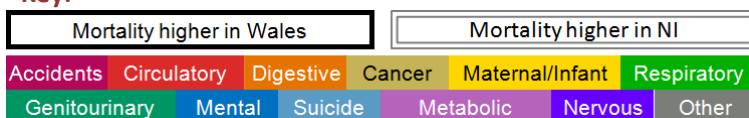


Although female life expectancy in Northern Ireland was the same as that in Wales in 2010-12, there were variations in the mortality patterns.

NI experienced higher death rates from congenital and perinatal conditions, suicide and diseases of the nervous system, while experiencing lower mortality from circulatory diseases (excluding stroke and CHD), digestive disorders and a combination of other, unspecified causes.

If mortality from causes more prominent in NI could be reduced to the level in Wales, female life expectancy in NI could be raised by 0.8 years.

Key:



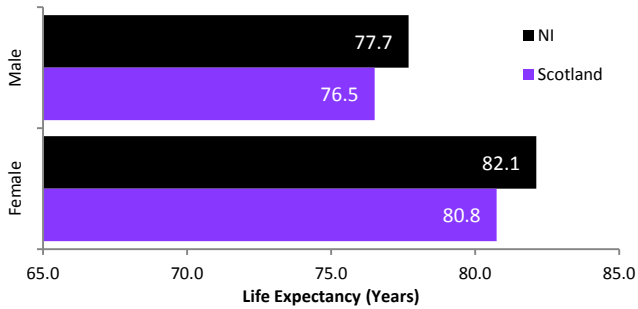
Notes:

- Note 1: Other Genitourinary
- Note 2: Pancreatic Cancer
- Note 3: Other Respiratory
- Note 4: Diabetes Mellitus
- Note 5: Other Metabolic
- Note 6: Kidney Disease
- Note 7: Prostate Cancer
- Note 8: Other Accidents
- Note 9: Lymphatic Cancer
- Note 10: Mental/ Behavioural

²⁶ Causes defined separately to those in other chapters due to difference in data source, as outlined in Appendix 1 – Causes of Death ICD-10 Definitions on page 59 of this report. This change in data source was also unsuitable for calculation of avoidable mortality.

8. The Difference in Life Expectancy between Scotland and Northern Ireland

Figure 8.1: Comparison of Life Expectancy in Scotland and Northern Ireland, 2010-12



In 2010-12, males in Scotland could expect to live for 76.5 years, 1.2 years shorter than male life expectancy in Northern Ireland.

Females in Scotland could expect to live for 80.8 years, 1.4 years below female life expectancy in NI (82.1 years).

Life Expectancy: Time Series

Similar to NI, life expectancy in Scotland rose considerably across the period 1980-82 to 2010-12, with males experiencing a greater increase, leading to a narrowing of the gender gap.

Figure 8.2: Life Expectancy Time Series - Scotland & NI

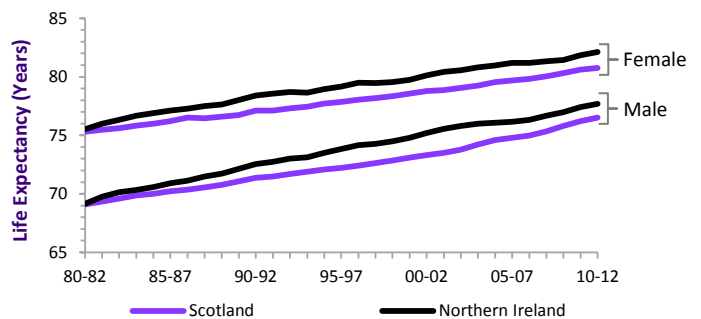
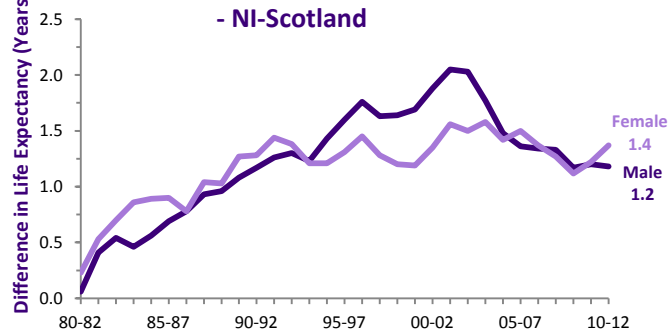


Figure 7.3: Life Expectancy Difference Time Series - NI-Scotland



Difference in Life Expectancy: Time Series

Though similar at the beginning of the period, life expectancy for both genders rose faster in Northern Ireland than that in Scotland, with the difference increasing from 0.1 years to 1.2 years for males, and from 0.2 years to 1.4 years for females.

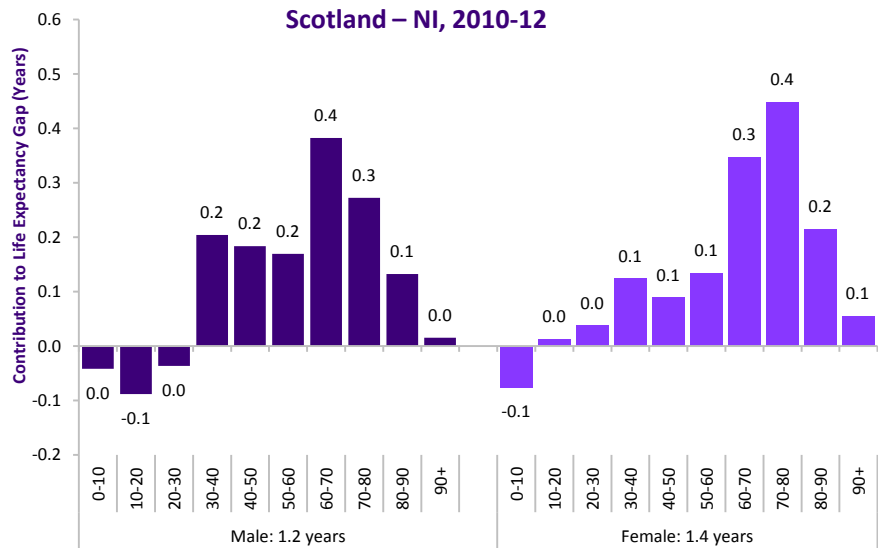
Decomposition of Difference in Life Expectancy between Scotland and NI by Age Bands, 2010-12

In 2010-12, those living in Scotland experienced higher mortality than those in Northern Ireland for the majority of age groups examined. Mortality among both males and females aged between 60 and 80 years was attributable for over half of the gap in corresponding life expectancy (0.7 years for males, 0.8 years for females). For both genders, higher mortality rates among those under 10 years of age in Northern Ireland led to a slight narrowing of the gap, largely due to slightly higher levels of maternal & infant mortality in NI. Males aged between 10 and 30 years also experienced higher mortality in NI than in Scotland, largely due to higher rates of death from suicide and traffic accidents in Northern Ireland.

Table 8.1: Contribution of Age Groups to Life Expectancy Gap

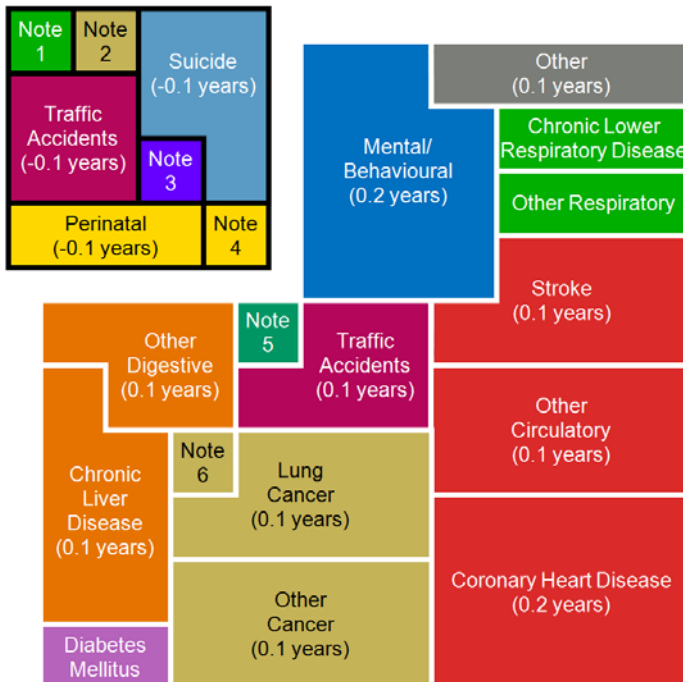
Age Group	Contribution in years	
	Male	Female
0-10	0.0	-0.1
10-20	-0.1	0.0
20-30	0.0	0.0
30-40	0.2	0.1
40-50	0.2	0.1
50-60	0.2	0.1
60-70	0.4	0.3
70-80	0.3	0.4
80-90	0.1	0.2
90+	0.0	0.1
Total	1.2	1.4

Figure 8.3: Life Expectancy Difference by Age Bands: Scotland – NI, 2010-12



Decomposition of Difference in Life Expectancy between Scotland and NI by Underlying Cause of Death

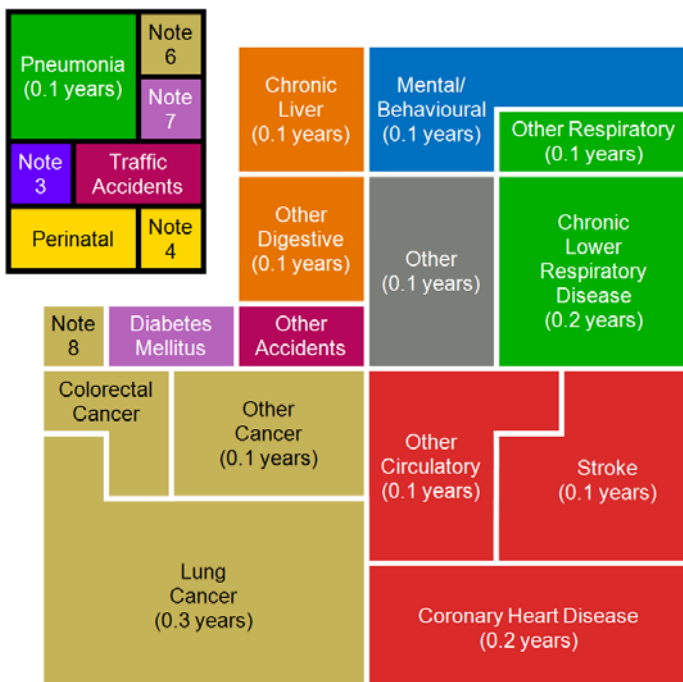
Figure 8.4: Contribution to the Difference in Male Life Expectancy between Scotland and NI, 2010-12 (1.2 years)



In 2010-12, lower levels of mortality from circulatory disease in Northern Ireland than in Scotland accounted for two fifths (0.5 years) of the difference in male life expectancy. Cancer accounted for a further quarter (0.3 years), while diseases of the digestive system and mental and behavioural disorders each accounted for 0.2 years of the gap.

Several causes of death, such as traffic accidents and suicide, were more prevalent in Northern Ireland than in Scotland, which reduced the life expectancy gap by 0.3 years.

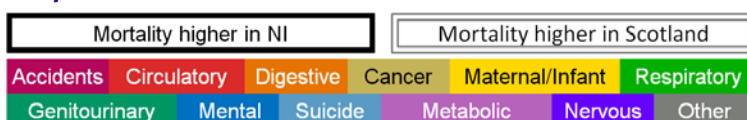
Figure 8.5: Contribution to the Difference in Female Life Expectancy between Scotland and NI, 2010-12 (1.4 years)



For females, both cancer (0.5 years) and circulatory disease (0.4 years) were each responsible for a third of the difference in female life expectancy.

It should be noted that some causes of mortality were higher in Northern Ireland, including pneumonia, traffic accidents and perinatal conditions, which reduced the difference in life expectancy by 0.2 years.

Key:

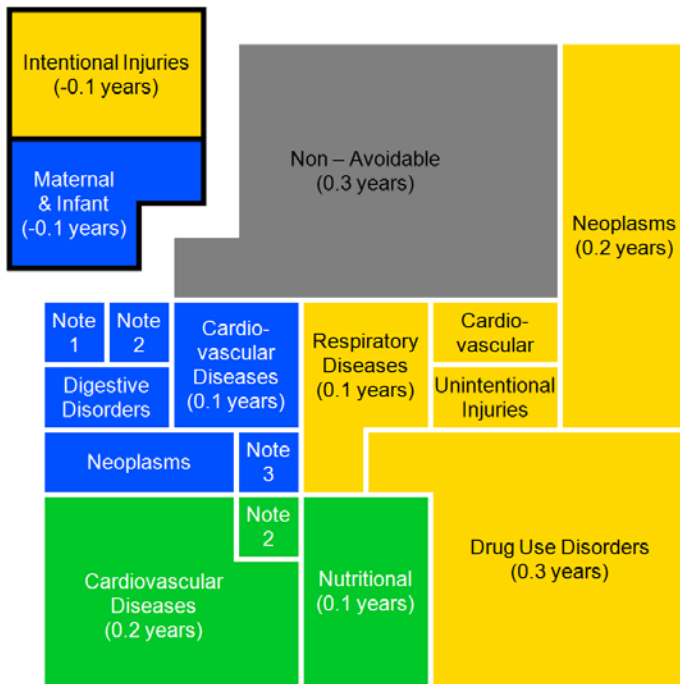


Notes:

- Note 1: Pneumonia
- Note 2: Lymphatic Cancer
- Note 3: Nervous System
- Note 4: Congenital
- Note 5: Genitourinary
- Note 6: Pancreatic Cancer
- Note 7: Other Metabolic
- Note 8: Breast Cancer

Decomposition of Difference in Life Expectancy between Scotland and NI by Avoidable Causes of Death²⁷

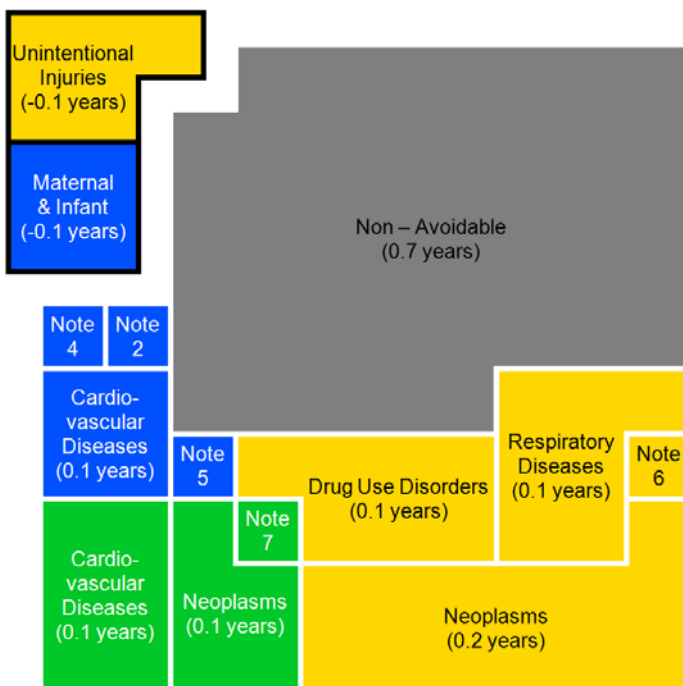
Figure 8.6: Contribution to the Difference in Male Life Expectancy between Scotland and NI, 2010-12 (1.2 years)



In 2010-12, male life expectancy was 1.2 years lower in Scotland than in NI. Of this, a third (0.4 years) was due to causes of death considered amenable to good quality healthcare, and two thirds (0.8 years) considered preventable by public health interventions. Due to the overlap between amenable and preventable mortality, overall three-quarters (0.9 years) of the difference between Scotland and NI is due to deaths from causes considered avoidable.

In Scotland, mortality was lower for both intentional injuries considered preventable and maternal & infant deaths considered amenable to good quality healthcare. This reduced the difference in male life expectancy by 0.1 years.

Figure 8.7: Contribution to the Difference in Female Life Expectancy between Scotland and NI, 2010-12 (1.4 years)



Preventable mortality accounted for over two-fifths (0.6 years) of the difference in female life expectancy between Scotland and NI, while those causes considered amenable contributed almost a fifth (0.2 years) to the life expectancy gap.

Accounting for the overlap between preventable and amenable causes, overall almost half (0.6 years) of the female life expectancy deprivation gap would be considered attributable to avoidable mortality.

Mortality from maternal and infant deaths, as well as from unintentional injuries, was higher in NI than in Scotland. This reduced the difference in life expectancy by 0.2 years.

Key:



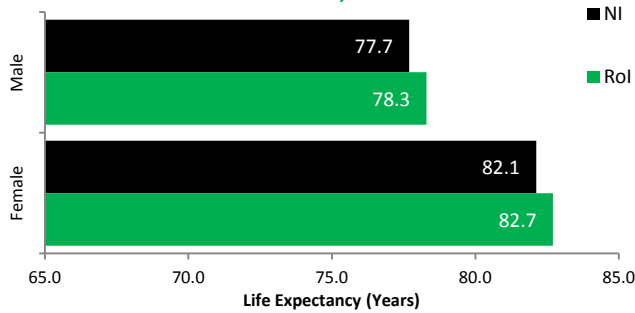
Notes

- Note 1: Genitourinary
- Note 2: Infections
- Note 3: Respiratory
- Note 4: Digestive
- Note 5: Neoplasms
- Note 6: Cardiovascular
- Note 7: Nutritional

²⁷ For definitions of avoidable, preventable and amenable mortality, see Appendix 2: Amenable, Preventable and Avoidable Mortality on page 60 of this report.

9. The Difference in Life Expectancy between Republic of Ireland and Northern Ireland

Figure 9.1: Comparison of Life Expectancy in RoI and Northern Ireland, 2010-12



In 2010-12, males in the Republic of Ireland could expect to live for 78.3 years, 0.6 years longer than males in Northern Ireland.

Females in RoI (82.7 years) could also expect to live 0.6 years longer, than females in NI.

Life Expectancy: Time Series²⁸

Similar to NI, life expectancy in the Republic of Ireland rose considerably across the period 1980-82 to 2010-12. As in NI, males in RoI experienced a greater increase (8.2 years) than females (7.1 years), leading to a narrowing of the gender gap.

Figure 9.2: Life Expectancy Time Series - RoI & NI

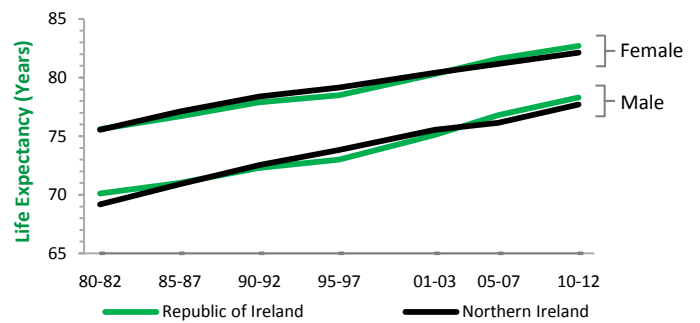
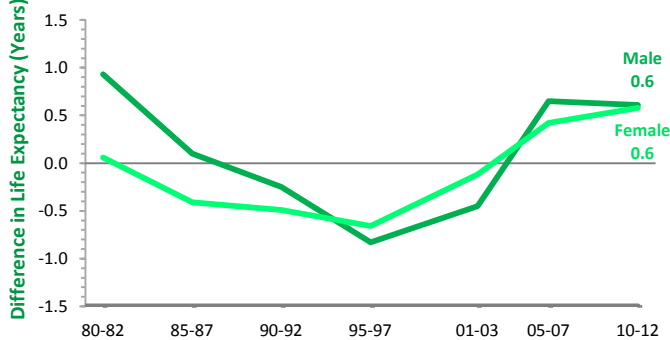


Figure 9.3: Life Expectancy Gap Time Series - RoI & NI



Difference in Life Expectancy: Time Series²⁸

In 1980-82, males in the Republic of Ireland could have expected to live 0.9 years longer than those in NI, while there was little difference between countries for females. NI experienced a period of more rapid growth up until 1995-97, which led to life expectancy of both males and females being higher than in RoI. However, life expectancy has since increased at a faster rate in RoI than NI and by 2010-12, both males and females could expect to live for 0.6 years longer in RoI.

²⁸ The RoI life expectancy values for 2000-02 are unavailable. Therefore, 2000-03 figures have been substituted with 2001-03 values.

Decomposition of Difference in Life Expectancy between RoI and NI by Age Bands, 2010-12

In 2010-12, mortality was higher in Northern Ireland than in the Republic of Ireland for all examined age groups, with the exception of those aged over 80 years.

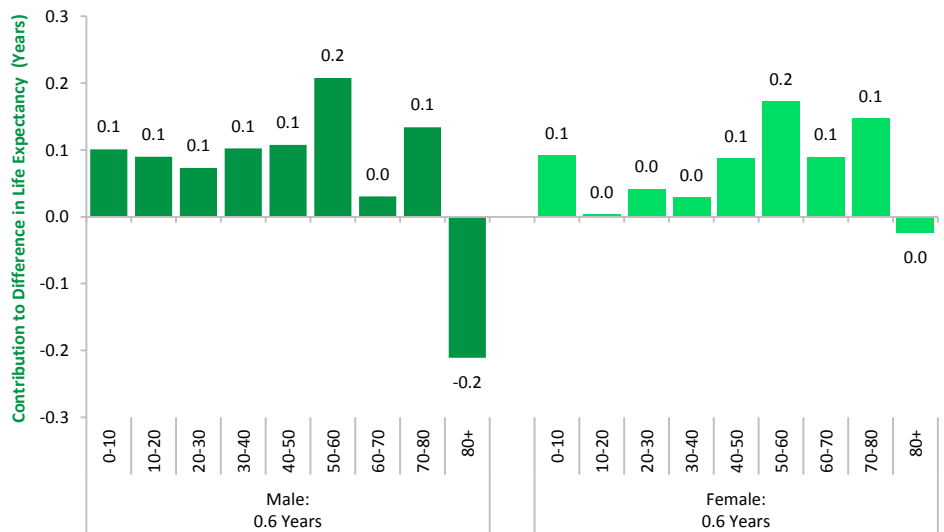
Over a third of the difference among males was due to mortality among those aged between 50 and 60 years, which was largely attributable to chronic liver disease and cancer. Conversely, higher mortality rates in RoI among males over the age of 80 reduced the gap by 0.2 years, mainly due to mental and behavioural disorders.

As seen for males, the largest contribution to the female life expectancy differential was due to mortality patterns in the 50-60 age band, accounting for more than a quarter of the total gap, while almost a further quarter was attributable to mortality in the 70-80 age band.

Table 8.1: Contribution of Age Groups to Life Expectancy Gap²⁹

Age Group	Contribution in years	
	Male	Female
0-10	0.1	0.1
10-20	0.1	0.0
20-30	0.1	0.0
30-40	0.1	0.0
40-50	0.1	0.1
50-60	0.2	0.2
60-70	0.0	0.1
70-80	0.1	0.1
80+	-0.2	0.0
Total	0.6	0.6

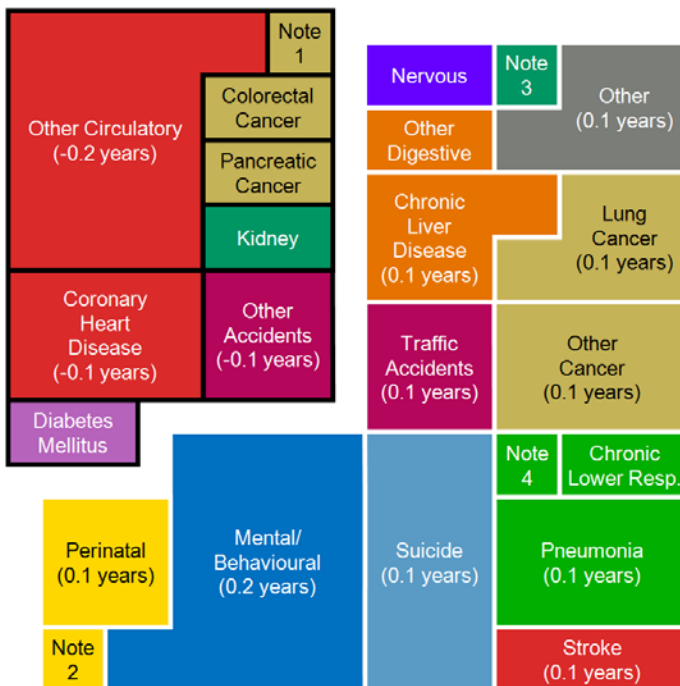
Figure 9.4 - Decomposition of Life Expectancy Difference by Age Bands, 2010-12



²⁹ Deaths data from the Republic of Ireland provided with upper age band of "over 85 years".

Decomposition of Difference in Life Expectancy between RoI and NI by Underlying Cause of Death³⁰

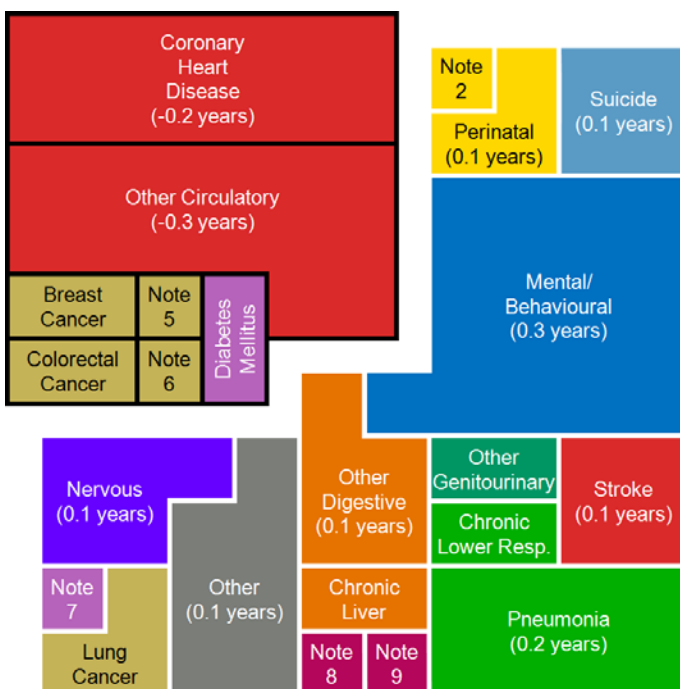
Figure 9.5: Contribution to the Difference in Male Life Expectancy between RoI and NI, 2010-12 (0.6 years)



The male life expectancy gap of 0.6 years between the Republic of Ireland and Northern Ireland was largely due to higher mortality in NI across a range of causes, including mental and behavioural disorders (0.2 years), as well as various forms of cancer and respiratory diseases.

It is worth noting, however, that the extent of the gap was offset due to comparatively low mortality in NI from circulatory diseases³¹ (-0.4 years), pancreatic and colorectal cancers (combined -0.1 years) and from non-traffic related accidents (-0.1 years).

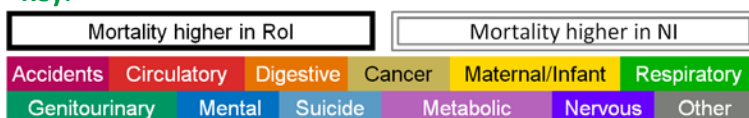
Figure 9.6: Contribution to the Difference in Female Life Expectancy between RoI and NI, 2010-12 (0.6 years)



As seen for male life expectancy, the gap could be explained by higher mortality for females in NI across a range of causes of death (totalling 1.3 years), most notably from mental and behavioural disorders (0.3 years) and respiratory diseases (0.2 years).

It should be noted that some causes of mortality were lower in Northern Ireland, including mortality from circulatory diseases³¹ (-0.5 years) and from certain forms of cancer (-0.1 years).

Key:



Notes:

- Note 1: Prostate Cancer
- Note 2: Congenital
- Note 3: Other Genitourinary
- Note 4: Other Respiratory
- Note 5: Lymphatic Cancer
- Note 6: Other Cancer
- Note 7: Other Metabolic
- Note 8: Traffic Accidents
- Note 9: Other Accidents

³⁰ Causes defined separately to those in other chapters due to difference in data source, as outlined in Appendix 1 – Causes of Death ICD-10 Definitions on page 59 of this report. This change in data source was also unsuitable for calculation of avoidable mortality.

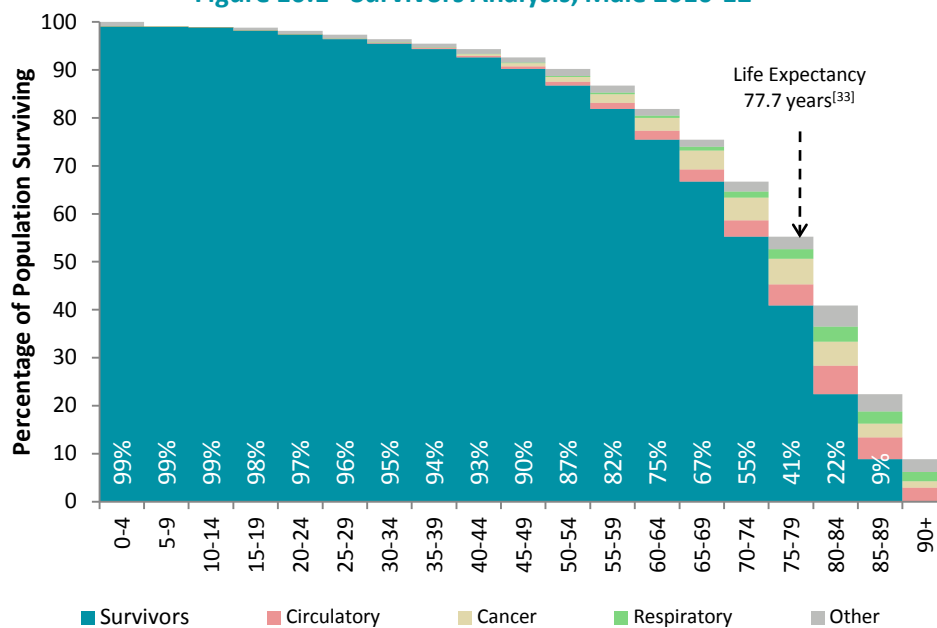
³¹ Excluding strokes, which were more prevalent in Northern Ireland.

10. Further Analysis

Survivors Analysis

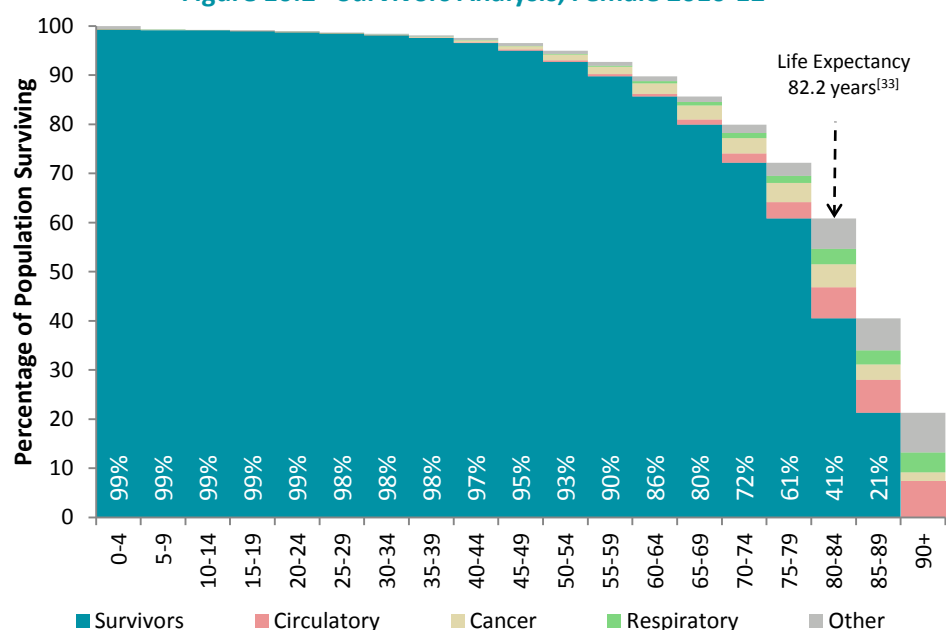
In calculating life expectancy, the rate of survival of the population is generated and is set out for 2010-12 in the charts below. For example, for male life expectancy below, 99% of those born in 2010-12 would be expected to live beyond 14 years of age, 98% would be expected to live beyond 19 years of age, 97% beyond 24 years of age, and so forth. The proportion of deaths that would occur within each age band from each of the three major causes of death is also indicated³².

Figure 10.1 - Survivors Analysis, Male 2010-12



Of males born in the period 2010-12, three-quarters are expected to live until at least 64 years of age. While over half will live until the age of 75, only a fifth are expected to live to 85 years and beyond. Less than a tenth (9%) of the male population can expect to live past the age of 90 years.

Figure 10.2 - Survivors Analysis, Female 2010-12



Of females born in the period 2010-12, four-fifths are expected to live until at least 69 years of age, and two-fifths are expected to live to 85 years and beyond. Around a fifth of the female population can expect to live past the age of 90 years, around twice the equivalent survival rate for males.

³² The majority of deaths in the 0-4 age group were attributable to congenital or perinatal conditions among those under 1 year of age.

³³ The overall life expectancy at birth figure is the total combined number of years expected to be lived by those born in the period (estimated using the survivors analysis), divided by the total population analysed. This is approximately equal to the age at which mortality passes 50%.

Table 10.1 – The Difference in Life Expectancy between the 20% Most Deprived Areas and NI, 2010-12

		Life Expectancy at Birth			Life Expectancy at Age 65						
Male	NI	Most Deprived	MD – NI	NI	Most Deprived	MD – NI					
	77.7 Years 06-08: 76.3	73.5 Years 06-08: 71.8	4.3 Years 06-08: -4.5	17.8 Years 06-08: 16.8	16.5 Years 06-08: 15.4	1.3 Years 06-08: -1.5					
Female	NI	Most Deprived	MD – NI	NI	Most Deprived	MD – NI					
	82.1 Years 06-08: 81.2	79.6 Years 06-08: 78.6	2.6 Years 06-08: -2.6	20.5 Years 06-08: 19.8	19.2 Years 06-08: 18.6	1.3 Years 06-08: -1.2					
Contribution to Most Deprived-NI Gap from Age Bands (Years)											
Age Bands	Male		Female		Age Bands	Male		Female			
0-10	0.1	(3%)	0.0	(-1%)	50-60	0.9	(22%)	0.5	(20%)		
10-20	0.2	(4%)	0.0	(1%)	60-70	1.0	(24%)	0.8	(29%)		
20-30	0.4	(10%)	0.1	(3%)	70-80	0.7	(16%)	0.8	(32%)		
30-40	0.4	(9%)	0.1	(5%)	80-90	0.1	(1%)	0.1	(5%)		
40-50	0.7	(16%)	0.4	(14%)	90+	-0.2	(-5%)	-0.2	(-9%)		
Contribution to Most Deprived - NI Gap from Causes of Death (Years)				At Birth		At Age 65					
				Male	Female	Male	Female				
Circulatory	Coronary Heart Disease			0.6	(14%)	0.2	(9%)	0.5	(28%)	0.5	(28%)
	Stroke			0.1	(3%)	0.1	(4%)	0.2	(10%)	0.2	(12%)
	Other Circulatory			0.2	(5%)	0.1	(6%)	0.1	(6%)	0.1	(5%)
Respiratory	Pneumonia			0.1	(1%)	0.1	(3%)	0.1	(4%)	0.2	(9%)
	Chronic Lower Respiratory Disease			0.2	(6%)	0.3	(14%)	0.3	(15%)	0.2	(14%)
	Other Respiratory			0.1	(2%)	0.0	(1%)	0.0	(2%)	0.1	(3%)
Cancer	Lung			0.5	(13%)	0.6	(22%)	0.4	(24%)	0.3	(19%)
	Breast			0.0	(0%)	0.0	(-1%)	0.0	(0%)	0.1	(3%)
	Prostate			0.0	(0%)	0.0	(0%)	0.0	(1%)	0.0	(0%)
	Colorectal			0.1	(2%)	0.0	(0%)	0.0	(3%)	0.0	(2%)
	Lymphatic			0.0	(1%)	0.0	(-1%)	0.0	(0%)	0.0	(0%)
	Pancreatic			0.0	(1%)	0.0	(1%)	0.0	(1%)	0.0	(2%)
	Other			0.3	(8%)	0.3	(13%)	0.2	(9%)	0.1	(7%)
Metabolic	Diabetes Mellitus			0.1	(1%)	0.0	(2%)	0.0	(1%)	0.0	(2%)
	Other Metabolic			0.0	(0%)	0.0	(2%)	0.0	(0%)	0.0	(1%)
Mental	Mental /Behavioural			0.2	(4%)	0.0	(-1%)	-0.2	(-9%)	-0.3	(-15%)
Nervous	Nervous System			0.0	(0%)	0.0	(1%)	-0.1	(-3%)	-0.1	(-6%)
Digestive	Chronic Liver Disease			0.4	(9%)	0.2	(8%)	0.1	(5%)	0.0	(2%)
	Other Digestive			0.1	(3%)	0.2	(7%)	0.1	(3%)	0.1	(5%)
Accidental	Traffic Accidents			0.0	(-1%)	0.0	(0%)	0.0	(0%)	0.0	(1%)
	Other Accidents			0.3	(7%)	0.1	(3%)	0.0	(0%)	0.0	(1%)
Suicide	Suicide			0.7	(17%)	0.2	(8%)	0.0	(-1%)	0.0	(0%)
Genitourinary	Kidney Disease			0.0	(0%)	0.0	(0%)	0.0	(2%)	0.0	(2%)
	Other Genitourinary			0.0	(0%)	0.0	(0%)	0.0	(0%)	0.0	(0%)
Maternal & Infant	Perinatal			0.1	(1%)	0.0	(2%)	0.0	(0%)	0.0	(0%)
	Congenital			0.0	(1%)	-0.1	(-3%)	0.0	(0%)	0.0	(0%)
Other	Other Causes of Death			0.2	(4%)	0.1	(3%)	0.0	(0%)	0.0	(3%)
Avoidable				3.6	(83%)	1.8	(71%)	-	-	-	-
Amenable				1.2	(27%)	0.6	(15%)	-	-	-	-
Preventable				3.1	(73%)	1.5	(46%)	-	-	-	-
Amenable & Preventable				0.7	(15%)	0.2	(10%)	-	-	-	-
Non-Avoidable				0.7	(16%)	0.7	(28%)	-	-	-	-

Table 10.2 – Belfast Health & Social Care Trust, 2010-12

	Life Expectancy at Birth			Life Expectancy at Age 65							
	NI	Belfast	Belfast – NI	NI	Belfast	Belfast – NI					
Male	77.7 Years	75.9 Years	-1.8 Years	17.8 Years	17.0 Years	-0.8 Years					
	06-08: 76.3	06-08: 74.6	06-08: -1.7	06-08: 16.8	06-08: 16.0	06-08: -0.8					
Female	82.1 Years	80.9 Years	-1.2 Years	20.5 Years	19.9 Years	-0.6 Years					
	06-08: 81.2	06-08: 80.1	06-08: -1.1	06-08: 19.8	06-08: 19.3	06-08: -0.5					
Contribution to Belfast-NI Gap from Age Bands (Years)											
Age Bands	Male		Female		Age Bands	Male		Female			
0-10	0.1	(-3%)	0.0	(2%)	50-60	-0.4	(21%)	-0.3	(25%)		
10-20	0.0	(2%)	0.0	(3%)	60-70	-0.6	(35%)	-0.3	(24%)		
20-30	0.0	(1%)	0.0	(0%)	70-80	-0.3	(20%)	-0.3	(27%)		
30-40	-0.1	(6%)	0.0	(3%)	80-90	0.0	(2%)	0.0	(2%)		
40-50	-0.3	(15%)	-0.2	(14%)	90+	0.0	(1%)	0.0	(1%)		
Contribution to Belfast-NI Gap from Causes of Death (Years)				At Birth		At Age 65					
				Male	Female	Male	Female				
Circulatory	Coronary Heart Disease			-0.2	(10%)	0.0	(3%)	0.0	(-3%)	0.0	(-2%)
	Stroke			-0.1	(3%)	-0.1	(6%)	0.0	(2%)	0.0	(1%)
	Other Circulatory			0.0	(2%)	0.0	(0%)	0.0	(1%)	0.0	(2%)
Respiratory	Pneumonia			-0.1	(4%)	0.0	(1%)	-0.1	(8%)	0.0	(0%)
	Chronic Lower Respiratory Disease			-0.1	(7%)	-0.1	(12%)	-0.1	(13%)	-0.1	(16%)
	Other Respiratory			-0.1	(4%)	0.0	(3%)	-0.1	(7%)	0.0	(3%)
Cancer	Lung			-0.4	(20%)	-0.3	(22%)	-0.3	(33%)	-0.2	(26%)
	Breast			0.0	(0%)	0.0	(-1%)	0.0	(0%)	0.0	(0%)
	Prostate			0.0	(1%)	0.0	(0%)	0.0	(5%)	0.0	(0%)
	Colorectal			-0.1	(3%)	0.0	(1%)	0.0	(3%)	0.0	(4%)
	Lymphatic			0.0	(2%)	0.0	(-3%)	0.0	(5%)	0.0	(-2%)
	Pancreatic			0.0	(-1%)	0.0	(3%)	0.0	(-3%)	0.0	(3%)
	Other			-0.2	(9%)	-0.1	(9%)	-0.1	(14%)	-0.1	(13%)
Metabolic	Diabetes Mellitus			0.0	(0%)	0.0	(1%)	0.0	(2%)	0.0	(-4%)
	Other Metabolic			0.0	(0%)	0.0	(1%)	0.0	(-1%)	0.0	(1%)
Mental	Mental /Behavioural			-0.1	(4%)	0.0	(-1%)	0.0	(-1%)	0.0	(-1%)
Nervous	Nervous System			0.0	(2%)	-0.2	(13%)	0.0	(4%)	-0.1	(14%)
Digestive	Chronic Liver Disease			-0.2	(12%)	0.0	(3%)	0.0	(4%)	0.0	(-2%)
	Other Digestive			0.0	(2%)	-0.1	(7%)	0.0	(4%)	-0.1	(9%)
Accidental	Traffic Accidents			0.1	(-7%)	0.0	(-2%)	0.0	(-1%)	0.0	(-1%)
	Other Accidents			-0.1	(5%)	0.0	(3%)	-0.1	(7%)	-0.1	(10%)
Suicide	Suicide			-0.2	(13%)	-0.1	(8%)	0.0	(0%)	0.0	(1%)
Genitourinary	Kidney Disease			0.0	(0%)	0.0	(1%)	0.0	(-1%)	0.0	(-1%)
	Other Genitourinary			0.0	(1%)	0.0	(1%)	0.0	(2%)	0.0	(2%)
Maternal & Infant	Perinatal			0.0	(0%)	0.0	(-3%)	0.0	(0%)	0.0	(0%)
	Congenital			0.1	(-3%)	0.0	(3%)	0.0	(0%)	0.0	(-1%)
Other	Other Causes of Death			-0.1	(4%)	-0.1	(8%)	0.0	(-2%)	-0.1	(9%)
Avoidable				-1.5	(87%)	-0.8	(65%)	-	-	-	-
Amenable				-0.5	(29%)	-0.3	(18%)	-	-	-	-
Preventable				-1.3	(76%)	-0.6	(40%)	-	-	-	-
Amenable & Preventable				-0.3	(0%)	-0.1	(7%)	-	-	-	-
Non-Avoidable				-0.3	(0%)	-0.4	(33%)	-	-	-	-

Table 10.3 – Northern Health & Social Care Trust, 2010-12

		Life Expectancy at Birth			Life Expectancy at Age 65							
Male	NI	Northern	Northern – NI		NI	Northern	Northern – NI					
	77.7 Years 06-08: 76.3	78.3 Years 06-08: 77.2	0.6 Years 06-08: 0.8		17.8 Years 06-08: 16.8	17.9 Years 06-08: 17.2	0.1 Years 06-08: 0.4					
Female	NI	Northern	Northern – NI		NI	Northern	Northern – NI					
	82.1 Years 06-08: 81.2	82.7 Years 06-08: 82.7	0.5 Years 06-08: 1.5		20.5 Years 06-08: 19.8	20.7 Years 06-08: 20.1	0.2 Years 06-08: 0.3					
Contribution to Northern-NI Gap from Age Bands (Years)												
Age Bands	Male		Female		Age Bands	Male		Female				
0-10	0.0	(8%)	0.0	(5%)	50-60	0.2	(31%)	0.2	(33%)			
10-20	0.0	(5%)	0.0	(5%)	60-70	0.1	(25%)	0.0	(6%)			
20-30	0.0	(8%)	0.0	(-1%)	70-80	0.0	(6%)	0.1	(14%)			
30-40	0.0	(6%)	0.0	(5%)	80-90	0.0	(3%)	0.0	(7%)			
40-50	0.0	(7%)	0.1	(21%)	90+	0.0	(1%)	0.0	(4%)			
Contribution to Northern-NI Gap from Causes of Death (Years)					At Birth		At Age 65					
					Male	Female	Male	Female				
Circulatory	Coronary Heart Disease				0.1	(15%)	0.1	(13%)	0.1	(55%)	0.0	(5%)
	Stroke				0.0	(-4%)	0.0	(8%)	0.0	(-13%)	0.0	(9%)
	Other Circulatory				0.0	(3%)	0.0	(-4%)	0.0	(22%)	0.0	(-5%)
Respiratory	Pneumonia				0.0	(4%)	0.0	(-4%)	0.0	(10%)	0.0	(-11%)
	Chronic Lower Respiratory Disease				0.0	(0%)	0.0	(0%)	0.0	(7%)	0.0	(8%)
	Other Respiratory				0.0	(4%)	0.0	(2%)	0.0	(9%)	0.0	(0%)
Cancer	Lung				0.1	(17%)	0.1	(18%)	0.1	(61%)	0.0	(25%)
	Breast				0.0	(0%)	0.1	(10%)	0.0	(1%)	0.0	(20%)
	Prostate				0.0	(5%)	0.0	(0%)	0.0	(29%)	0.0	(0%)
	Colorectal				0.0	(3%)	0.0	(5%)	0.0	(11%)	0.0	(5%)
	Lymphatic				0.0	(1%)	0.0	(-3%)	0.0	(8%)	0.0	(-16%)
	Pancreatic				0.0	(-3%)	0.0	(1%)	0.0	(-12%)	0.0	(0%)
	Other				0.1	(11%)	0.1	(15%)	0.0	(-38%)	0.0	(28%)
Metabolic	Diabetes Mellitus				0.0	(-1%)	0.0	(2%)	0.0	(3%)	0.0	(1%)
	Other Metabolic				0.0	(-1%)	0.0	(-1%)	0.0	(2%)	0.0	(-5%)
Mental	Mental /Behavioural				0.0	(7%)	0.1	(10%)	0.0	(2%)	0.1	(40%)
Nervous	Nervous System				0.0	(4%)	0.0	(0%)	0.0	(-8%)	0.0	(11%)
Digestive	Chronic Liver Disease				0.1	(20%)	0.0	(6%)	0.0	(8%)	0.0	(-8%)
	Other Digestive				0.0	(-3%)	0.0	(8%)	0.0	(-21%)	0.0	(9%)
Accidental	Traffic Accidents				0.0	(-8%)	0.0	(0%)	0.0	(-12%)	0.0	(-3%)
	Other Accidents				0.0	(0%)	0.0	(6%)	0.0	(1%)	0.0	(5%)
Suicide	Suicide				0.1	(16%)	0.1	(13%)	0.0	(-8%)	0.0	(3%)
Genitourinary	Kidney Disease				0.0	(-2%)	0.0	(-4%)	0.0	(-12%)	0.0	(-12%)
	Other Genitourinary				0.0	(0%)	0.0	(-1%)	0.0	(-4%)	0.0	(-3%)
Maternal & Infant	Perinatal				0.0	(4%)	0.0	(-6%)	0.0	(0%)	0.0	(0%)
	Congenital				0.0	(-1%)	0.0	(6%)	0.0	(0%)	0.0	(-5%)
Other	Other Causes of Death				0.0	(8%)	0.0	(1%)	0.0	(-3%)	0.0	(1%)
Avoidable					0.4	(81%)	0.4	(90%)	-	-	-	-
Amenable					0.2	(29%)	0.2	(15%)	-	-	-	-
Preventable					0.4	(64%)	0.4	(48%)	-	-	-	-
Amenable & Preventable					10%	(15%)	0.1	(27%)	-	-	-	-
Non-Avoidable					0.1	(20%)	0.1	(12%)	-	-	-	-

Table 10.4 – South Eastern Health & Social Care Trust, 2010-12

		Life Expectancy at Birth			Life Expectancy at Age 65						
Male	NI	South Eastern	South Eastern – NI	NI	South Eastern	South Eastern – NI					
		77.7 Years 06-08: 76.3	78.7 Years 06-08: 77.7	0.9 Years 06-08: 1.3	17.8 Years 06-08: 16.8	18.3 Years 06-08: 17.4	0.5 Years 06-08: 0.5				
Female	NI	South Eastern	South Eastern – NI	NI	South Eastern	South Eastern – NI					
	82.1 Years 06-08: 81.2	82.6 Years 06-08: 81.8	0.5 Years 06-08: 0.6	20.5 Years 06-08: 19.8	20.7 Years 06-08: 20.2	0.2 Years 06-08: 0.4					
Contribution to South Eastern - NI Gap from Age Bands (Years)											
Age Bands	Male		Female		Age Bands	Male		Female			
0-10	0.0	(-3%)	0.1	(12%)	50-60	0.1	(16%)	0.1	(27%)		
10-20	0.0	(5%)	0.0	(-7%)	60-70	0.3	(31%)	0.2	(36%)		
20-30	-0.1	(-8%)	0.0	(-10%)	70-80	0.2	(20%)	0.1	(32%)		
30-40	0.1	(15%)	0.0	(10%)	80-90	0.1	(11%)	0.0	(-7%)		
40-50	0.1	(10%)	0.1	(13%)	90+	0.0	(3%)	0.0	(-7%)		
Contribution to South Eastern - NI Gap from Causes of Death (Years)				At Birth		At Age 65					
				Male	Female	Male	Female				
Circulatory	Coronary Heart Disease			0.2	(20%)	0.1	(17%)	0.1	(23%)	0.1	(27%)
	Stroke			0.0	(3%)	-0.1	(-11%)	0.0	(1%)	-0.1	(-35%)
	Other Circulatory			0.1	(6%)	0.0	(10%)	0.0	(6%)	0.0	(15%)
Respiratory	Pneumonia			0.0	(1%)	0.0	(2%)	0.0	(5%)	0.0	(5%)
	Chronic Lower Respiratory Disease			0.1	(13%)	0.1	(16%)	0.1	(19%)	0.1	(28%)
	Other Respiratory			0.0	(2%)	0.0	(10%)	0.0	(2%)	0.0	(17%)
Cancer	Lung			0.1	(13%)	0.1	(30%)	0.1	(18%)	0.1	(36%)
	Breast			0.0	(0%)	0.0	(-4%)	0.0	(-1%)	0.0	(-16%)
	Prostate			0.0	(-5%)	0.0	(0%)	-0.1	(-13%)	0.0	(0%)
	Colorectal			0.0	(4%)	0.0	(-8%)	0.0	(5%)	0.0	(-12%)
	Lymphatic			0.0	(1%)	0.0	(-6%)	0.0	(2%)	0.0	(10%)
	Pancreatic			0.0	(3%)	0.0	(8%)	0.0	(4%)	0.0	(12%)
	Other			0.0	(2%)	0.1	(28%)	0.0	(9%)	0.1	(28%)
Metabolic	Diabetes Mellitus			0.0	(5%)	0.0	(4%)	0.0	(8%)	0.0	(1%)
	Other Metabolic			0.0	(0%)	0.0	(2%)	0.0	(0%)	0.0	(1%)
Mental	Mental /Behavioural			0.1	(8%)	0.0	(-6%)	0.0	(6%)	0.0	(-20%)
Nervous	Nervous System			-0.1	(-8%)	0.0	(-6%)	-0.1	(-12%)	0.0	(-16%)
Digestive	Chronic Liver Disease			0.0	(1%)	0.0	(7%)	0.0	(0%)	0.0	(2%)
	Other Digestive			0.0	(0%)	0.0	(-6%)	0.0	(6%)	0.0	(1%)
Accidental	Traffic Accidents			0.1	(6%)	0.0	(-1%)	0.0	(2%)	0.0	(1%)
	Other Accidents			0.2	(17%)	0.0	(-3%)	0.0	(3%)	0.0	(-3%)
Suicide	Suicide			0.0	(-2%)	0.0	(-6%)	0.0	(2%)	0.0	(-1%)
Genitourinary	Kidney Disease			0.0	(2%)	0.0	(9%)	0.0	(5%)	0.0	(16%)
	Other Genitourinary			0.0	(2%)	0.0	(3%)	0.0	(3%)	0.0	(7%)
Maternal & Infant	Perinatal			0.0	(0%)	0.0	(-2%)	0.0	(0%)	0.0	(0%)
	Congenital			0.1	(6%)	0.1	(12%)	0.0	(1%)	0.0	(4%)
Other	Other Causes of Death			0.0	(1%)	0.0	(1%)	0.0	(-4%)	0.0	(-8%)
Avoidable				0.7	(76%)	0.3	(74%)	-	-	-	-
Amenable				0.2	(22%)	0.1	(21%)	-	-	-	-
Preventable				0.6	(70%)	0.2	(41%)	-	-	-	-
Amenable & Preventable				0.2	(18%)	0.0	(12%)	-	-	-	-
Non-Avoidable				0.3	(25%)	0.2	(27%)	-	-	-	-

Table 10.5 – Southern Health & Social Care Trust, 2010-12

		Life Expectancy at Birth			Life Expectancy at Age 65						
Male	NI	Southern	Southern – NI	NI	Southern	Southern – NI					
		77.7 Years 06-08: 76.3	77.8 Years 06-08: 76.5	0.1 Years 06-08: 0.1	17.8 Years 06-08: 16.8	17.7 Years 06-08: 16.8	-0.1 Years 06-08: 0.0				
Female	NI	Southern	Southern – NI	NI	Southern	Southern – NI					
	82.1 Years 06-08: 81.2	82.3 Years 06-08: 81.3	0.2 Years 06-08: 0.1	20.5 Years 06-08: 19.8	20.6 Years 06-08: 19.8	0.1 Years 06-08: 0.0					
Contribution to Southern-NI Gap from Age Bands (Years)											
Age Bands	Male		Female		Age Bands	Male		Female			
0-10	-0.1	(-86%)	0.0	(19%)	50-60	0.0	(61%)	0.0	(-27%)		
10-20	0.1	(108%)	0.0	(24%)	60-70	0.0	(-7%)	0.1	(80%)		
20-30	0.0	(30%)	0.0	(24%)	70-80	0.1	(86%)	0.1	(33%)		
30-40	0.0	(45%)	0.0	(12%)	80-90	-0.2	(-246%)	0.0	(-26%)		
40-50	0.1	(96%)	-0.1	(-61%)	90+	0.0	(13%)	0.0	(23%)		
Contribution to Southern-NI Gap from Causes of Death (Years)				At Birth		At Age 65					
				Male	Female	Male	Female				
Circulatory	Coronary Heart Disease			-0.2	(-256%)	-0.1	(-66%)	-0.2	(260%)	-0.1	(-48%)
	Stroke			0.0	(35%)	0.0	(5%)	0.0	(-15%)	0.0	(10%)
	Other Circulatory			-0.1	(-114%)	-0.1	(-35%)	0.0	(47%)	0.0	(-25%)
Respiratory	Pneumonia			0.1	(103%)	0.1	(46%)	0.0	(-50%)	0.1	(53%)
	Chronic Lower Respiratory Disease			0.0	(23%)	0.1	(58%)	0.0	(-8%)	0.1	(52%)
	Other Respiratory			0.0	(37%)	0.0	(-16%)	0.0	(-7%)	0.0	(-9%)
Cancer	Lung			0.1	(92%)	0.0	(27%)	0.0	(-34%)	0.1	(63%)
	Breast			0.0	(0%)	-0.1	(-34%)	0.0	(1%)	0.0	(-30%)
	Prostate			0.0	(38%)	0.0	(0%)	0.1	(-59%)	0.0	(0%)
	Colorectal			0.0	(21%)	0.0	(6%)	0.0	(14%)	0.0	(29%)
	Lymphatic			0.0	(5%)	0.0	(-9%)	0.0	(16%)	0.0	(-14%)
	Pancreatic			0.0	(35%)	0.0	(-2%)	0.0	(9%)	0.0	(-10%)
	Other			0.0	(34%)	-0.1	(-41%)	0.0	(-41%)	-0.1	(-52%)
Metabolic	Diabetes Mellitus			0.0	(-54%)	0.0	(-25%)	0.0	(32%)	0.0	(-32%)
	Other Metabolic			0.0	(-14%)	0.0	(15%)	0.0	(11%)	0.0	(15%)
Mental	Mental /Behavioural			-0.1	(-169%)	-0.1	(-56%)	-0.1	(137%)	-0.1	(-68%)
Nervous	Nervous System			0.0	(72%)	0.1	(39%)	0.1	(-75%)	0.0	(32%)
Digestive	Chronic Liver Disease			0.1	(89%)	0.0	(17%)	0.0	(-15%)	0.0	(3%)
	Other Digestive			0.1	(94%)	0.1	(48%)	0.0	(-28%)	0.0	(29%)
Accidental	Traffic Accidents			0.0	(-75%)	0.0	(-4%)	0.0	(-1%)	0.0	(1%)
	Other Accidents			0.0	(34%)	0.0	(27%)	0.0	(-53%)	0.1	(38%)
Suicide	Suicide			0.1	(170%)	0.0	(25%)	0.0	(-9%)	0.0	(5%)
Genitourinary	Kidney Disease			0.0	(31%)	0.0	(-1%)	0.0	(-12%)	0.0	(-1%)
	Other Genitourinary			0.0	(3%)	0.0	(-8%)	0.0	(-5%)	0.0	(-11%)
Maternal & Infant	Perinatal			0.0	(-71%)	0.0	(-1%)	0.0	(0%)	0.0	(0%)
	Congenital			0.0	(-63%)	0.0	(22%)	0.0	(8%)	0.0	(-4%)
Other	Other Causes of Death			0.0	(-1%)	0.1	(63%)	0.0	(-23%)	0.1	(76%)
Avoidable				0.3	(70%)	0.2	(98%)	-	-	-	-
Amenable				0.1	(143%)	0.0	(32%)	-	-	-	-
Preventable				0.3	(402%)	0.1	(39%)	-	-	-	-
Amenable & Preventable				0.1	(7%)	-0.1	(27%)	-	-	-	-
Non-Avoidable				-0.2	(0%)	0.0	(3%)	-	-	-	-

Table 10.6 – Western Health & Social Care Trust, 2010-12

		Life Expectancy at Birth			Life Expectancy at Age 65						
Male	NI	Western	Western – NI	NI	Western	Western – NI					
	77.7 Years 06-08: 76.3	77.8 Years 06-08: 76.5	0.1 Years 06-08: 0.1	17.8 Years 06-08: 16.8	17.7 Years 06-08: 16.8	-0.1 Years 06-08: 0.0					
Female	NI	Western	Western – NI	NI	Western	Western – NI					
	82.1 Years 06-08: 81.2	82.3 Years 06-08: 81.3	0.2 Years 06-08: 0.1	20.5 Years 06-08: 19.8	20.6 Years 06-08: 19.8	0.1 Years 06-08: 0.0					
Contribution to Western-NI Gap from Age Bands (Years)											
Age Bands	Male		Female		Age Bands	Male		Female			
0-10	0.0	(33%)	0.0	(19%)	50-60	-0.1	(67%)	0.0	(-27%)		
10-20	-0.1	(121%)	0.0	(24%)	60-70	0.1	(-68%)	0.1	(80%)		
20-30	0.0	(-13%)	0.0	(24%)	70-80	0.1	(-54%)	0.1	(33%)		
30-40	-0.1	(100%)	0.0	(12%)	80-90	0.1	(-64%)	0.0	(-26%)		
40-50	0.1	(-54%)	-0.1	(-61%)	90+	0.0	(33%)	0.0	(23%)		
Contribution to Western-NI Gap from Causes of Death (Years)				At Birth		At Age 65					
				Male	Female	Male	Female				
Circulatory	Coronary Heart Disease			0.0	(11%)	-0.1	(-66%)	-0.2	(260%)	-0.1	(-48%)
	Stroke			0.0	(-30%)	0.0	(5%)	0.0	(-15%)	0.0	(10%)
	Other Circulatory			0.0	(-10%)	-0.1	(-35%)	0.0	(47%)	0.0	(-25%)
Respiratory	Pneumonia			0.0	(44%)	0.1	(46%)	0.0	(-50%)	0.1	(53%)
	Chronic Lower Respiratory Disease			0.0	(33%)	0.1	(58%)	0.0	(-8%)	0.1	(52%)
	Other Respiratory			0.0	(2%)	0.0	(-16%)	0.0	(-7%)	0.0	(-9%)
Cancer	Lung			0.0	(-49%)	0.0	(27%)	0.0	(-34%)	0.1	(63%)
	Breast			0.0	(-3%)	-0.1	(-34%)	0.0	(1%)	0.0	(-30%)
	Prostate			0.0	(-9%)	0.0	(0%)	0.1	(-59%)	0.0	(0%)
	Colorectal			0.0	(28%)	0.0	(6%)	0.0	(14%)	0.0	(29%)
	Lymphatic			0.0	(-7%)	0.0	(-9%)	0.0	(16%)	0.0	(-14%)
	Pancreatic			-0.1	(54%)	0.0	(-2%)	0.0	(9%)	0.0	(-10%)
	Other			0.0	(-43%)	-0.1	(-41%)	0.0	(-41%)	-0.1	(-52%)
Metabolic	Diabetes Mellitus			0.0	(17%)	0.0	(-25%)	0.0	(32%)	0.0	(-32%)
	Other Metabolic			0.0	(-20%)	0.0	(15%)	0.0	(11%)	0.0	(15%)
Mental	Mental /Behavioural			0.1	(-73%)	-0.1	(-56%)	-0.1	(137%)	-0.1	(-68%)
Nervous	Nervous System			0.1	(-67%)	0.1	(39%)	0.1	(-75%)	0.0	(32%)
Digestive	Chronic Liver Disease			0.0	(18%)	0.0	(17%)	0.0	(-15%)	0.0	(3%)
	Other Digestive			0.0	(-2%)	0.1	(48%)	0.0	(-28%)	0.0	(29%)
Accidental	Traffic Accidents			-0.1	(98%)	0.0	(-4%)	0.0	(-1%)	0.0	(1%)
	Other Accidents			-0.1	(109%)	0.0	(27%)	0.0	(-53%)	0.1	(38%)
Suicide	Suicide			0.1	(-56%)	0.0	(25%)	0.0	(-9%)	0.0	(5%)
Genitourinary	Kidney Disease			0.0	(32%)	0.0	(-1%)	0.0	(-12%)	0.0	(-1%)
	Other Genitourinary			0.0	(3%)	0.0	(-8%)	0.0	(-5%)	0.0	(-11%)
Maternal & Infant	Perinatal			0.0	(-37%)	0.0	(-1%)	0.0	(0%)	0.0	(0%)
	Congenital			-0.1	(61%)	0.0	(22%)	0.0	(8%)	0.0	(-4%)
Other	Other Causes of Death			0.0	(-4%)	0.1	(63%)	0.0	(-23%)	0.1	(76%)
Avoidable				-0.1	(100%)	-0.3	(73%)	-	-	-	-
Amenable				0.1	(57%)	-0.1	(28%)	-	-	-	-
Preventable				0.1	(130%)	-0.3	(33%)	-	-	-	-
Amenable & Preventable				0.1	(0%)	-0.1	(12%)	-	-	-	-
Non-Avoidable				0.0	(1%)	0.2	(29%)	-	-	-	-

Effect on Life Expectancy of Reducing Deaths from Various Causes

Artificially reducing mortality from causes such as smoking, alcohol, drugs and suicide, has the effect of increasing life expectancy by the amounts shown in tables 10.7 and 10.8. For example, if half the number of people that died from alcohol related diseases across the period, male life expectancy would have been 0.2 years higher and female life expectancy would have been 0.1 years higher. The largest increase would have been achieved by reducing smoking related mortality to zero, increasing male life expectancy by 2.5 years to 80.2 years.

The recent report from The University of Sheffield, “Model-based appraisal of minimum unit pricing for alcohol in Northern Ireland” concluded that, for instance, introducing a 50p minimum unit price on alcohol would prevent 63 deaths per annum. This is approximately equal to a reduction in alcohol related deaths of 23%, which would have the effect of increasing life expectancy for both males and females by 0.1 years. Similarly, introducing a minimum unit price on alcohol of 75p would be expected to prevent 212 alcohol related deaths per annum (79%), which would increase male life expectancy by 0.3 years, and female life expectancy by 0.2 years.

Table 10.7: Effect on Life Expectancy of Reducing Deaths from External Causes – Male (77.7 years)

Reduced By	Smoking	Alcohol	Drugs	Suicide	Avoidable
10%	77.9 (+ 0.2)	77.8 (+ 0.0)	77.7 (+ 0.0)	77.8 (+ 0.1)	78.3 (+ 0.5)
20%	78.2 (+ 0.5)	77.8 (+ 0.1)	77.8 (+ 0.0)	77.9 (+ 0.1)	78.8 (+ 1.1)
30%	78.4 (+ 0.7)	77.8 (+ 0.1)	77.8 (+ 0.1)	77.9 (+ 0.2)	79.4 (+ 1.7)
40%	78.6 (+ 0.9)	77.9 (+ 0.2)	77.8 (+ 0.1)	78.0 (+ 0.3)	80.0 (+ 2.2)
50%	78.9 (+ 1.2)	77.9 (+ 0.2)	77.8 (+ 0.1)	78.1 (+ 0.4)	80.5 (+ 2.8)
60%	79.1 (+ 1.4)	78.0 (+ 0.2)	77.9 (+ 0.1)	78.2 (+ 0.4)	81.1 (+ 3.4)
70%	79.4 (+ 1.7)	78.0 (+ 0.3)	77.9 (+ 0.2)	78.2 (+ 0.5)	81.8 (+ 4.0)
80%	79.6 (+ 1.9)	78.0 (+ 0.3)	77.9 (+ 0.2)	78.3 (+ 0.6)	82.4 (+ 4.6)
90%	79.9 (+ 2.2)	78.1 (+ 0.4)	77.9 (+ 0.2)	78.4 (+ 0.7)	83.0 (+ 5.3)
100%	80.2 (+ 2.5)	78.1 (+ 0.4)	78.0 (+ 0.2)	78.4 (+ 0.7)	83.6 (+ 5.9)

Table 10.8: Effect on Life Expectancy of Reducing Deaths from External Causes – Female (82.1 years)

Reduced By	Smoking	Alcohol	Drugs	Suicide	Avoidable
10%	82.3 (+ 0.1)	82.2 (+ 0.0)	82.1 (+ 0.0)	82.2 (+ 0.0)	82.5 (+ 0.4)
20%	82.4 (+ 0.3)	82.2 (+ 0.0)	82.2 (+ 0.0)	82.2 (+ 0.0)	82.9 (+ 0.7)
30%	82.6 (+ 0.4)	82.2 (+ 0.1)	82.2 (+ 0.0)	82.2 (+ 0.1)	83.2 (+ 1.1)
40%	82.7 (+ 0.6)	82.2 (+ 0.1)	82.2 (+ 0.0)	82.2 (+ 0.1)	83.6 (+ 1.5)
50%	82.9 (+ 0.7)	82.2 (+ 0.1)	82.2 (+ 0.1)	82.2 (+ 0.1)	84.0 (+ 1.8)
60%	83.0 (+ 0.9)	82.3 (+ 0.1)	82.2 (+ 0.1)	82.3 (+ 0.1)	84.4 (+ 2.2)
70%	83.2 (+ 1.0)	82.3 (+ 0.2)	82.2 (+ 0.1)	82.3 (+ 0.2)	84.7 (+ 2.6)
80%	83.3 (+ 1.2)	82.3 (+ 0.2)	82.2 (+ 0.1)	82.3 (+ 0.2)	85.1 (+ 3.0)
90%	83.5 (+ 1.3)	82.3 (+ 0.2)	82.2 (+ 0.1)	82.3 (+ 0.2)	85.5 (+ 3.4)
100%	83.6 (+ 1.5)	82.3 (+ 0.2)	82.2 (+ 0.1)	82.4 (+ 0.2)	85.9 (+ 3.8)

Appendix 1 – Causes of Death ICD-10 Definitions

Cause of death	ICD-10 code	International Differences ³⁴
Diseases of the circulatory system (Circulatory)	I00-I99	
Ischaemic heart disease (CHD)	I20-I25	
Cerebrovascular disease (stroke)	I60-I69	
All other diseases of the circulatory system		
Diseases of the respiratory system (Respiratory)	J00-J99	
Pneumonia	J12-J18	J47 – Categorised “Other Respiratory” for England & Wales
Chronic lower respiratory diseases	J40-J47	
All other diseases of the respiratory system		
Malignant neoplasms (Cancer)	C00-C99	
Malignant neoplasm of trachea, bronchus or lung	C33-C34	Lymphatic cancer (C81–C96) categorised “Other Cancer” for England & Wales
Malignant neoplasm of breast	C50	
Malignant neoplasm of prostate	C61	
Malignant neoplasm of colon, rectum and anus	C18-C21	
Malignant neoplasm of lymphatic, haematopoietic tissue	C81-C96	
Malignant neoplasm of pancreas	C25	
All other malignant neoplasms		
Endocrine, nutritional and metabolic diseases (Metabolic)	E00-E90	
Diabetes mellitus	E10-E14	
All other endocrine, nutritional and metabolic diseases		
Mental and behavioural diseases (Mental)	F00-F99	
Diseases of the nervous system and the sense organs (Nervous)	G00-H95	
Diseases of the digestive system (Digestive)	K00-K93	
Chronic liver disease	K70, K73-K74	Categorised as “Digestive” for England & Wales
All other diseases of the digestive system		
Accidents	V01-X59, Y85, Y86	
Transport accidents	V01-V99	
All other accidents		
Intentional self-harm and event of undetermined intent (Suicide)	X60-X84, Y10-Y34, Y87.0, Y87.2	Y87.0, Y87.2 categorised as “Other Causes” for England, Wales & RoI
Diseases of the genitourinary system (Genitourinary)	N00-N99	
Diseases of the kidney and ureter	N00-N29	N20-29 categorised as “Other Genitourinary”
All other diseases of the genitourinary system		
Maternal/Infant		
Certain conditions originating in the perinatal period	P00-P96	
Congenital malformations, deformations and chromosomal abnormalities	Q00-Q99	
Other causes (all causes not covered by the above categories)		

³⁴ For some ICD-10 codes, a breakdown of deaths was not available for all countries. In chapters comparing England, Wales or RoI, consistent coding of deaths has been used for causes of death in NI.

Appendix 2: Amenable, Preventable and Avoidable Mortality

Causes of death have been categorised as avoidable using the Office for National Statistics (ONS) definition, below.

Amenable: A death is amenable if, in the light of medical knowledge and technology at the time of death, all or most deaths from that cause (subject to age limits if appropriate) could be avoided through good quality healthcare.

Preventable: A death is preventable if, in the light of understanding of the determinants of health at the time of death, all or most deaths from that cause (subject to age limits if appropriate) could be avoided by public health interventions in the broadest sense.

Avoidable: Avoidable deaths are all those defined as preventable, amenable, or both, where each death is counted only once. Where a cause of death falls within both the preventable and amenable definition, all deaths from that cause are counted in both categories when they are presented separately.

Table A2: Amenable, Preventable & Avoidable Mortality – ICD-10 Codes

The table below lists the ICD-10 codes of all causes of death considered avoidable, with indication as to which are considered amenable, preventable or both. NI

Condition group and cause	ICD-10 codes	Age	Amenable	Preventable
Infections				
Tuberculosis	A15-A19, B90	0-74	•	•
Selected invasive bacterial and protozoal infections	A38-A41, A46, A48.1, B50-B54, G00, G03, J02, L03	0-74	•	
Hepatitis C	B17.1, B18.2	0-74	•	•
HIV/AIDS	B20-B24	All	•	•
Neoplasms				
Malignant neoplasm of lip, oral cavity and pharynx	C00-C14	0-74		•
Malignant neoplasm of oesophagus	C15	0-74		•
Malignant neoplasm of stomach	C16	0-74		•
Malignant neoplasm of colon and rectum	C18-C21	0-74	•	•
Malignant neoplasm of liver	C22	0-74		•
Malignant neoplasm of trachea, bronchus and lung	C33-C34	0-74		•
Malignant melanoma of skin	C43	0-74	•	•
Mesothelioma	C45	0-74		•
Malignant neoplasm of breast	C50	0-74	•	•
Malignant neoplasm of cervix uteri	C53	0-74	•	•
Malignant neoplasm of bladder	C67	0-74	•	
Malignant neoplasm of thyroid gland	C73	0-74	•	
Hodgkin's disease	C81	0-74	•	
Leukaemia	C91, C92.0	0-44	•	
Benign neoplasms	D10-D36	0-74	•	
Nutritional, endocrine and metabolic				
Diabetes mellitus	E10-E14	0-49	•	•

Condition group and cause	ICD-10 codes	Age	Amenable	Preventable
Drug use disorders				
Alcohol related diseases, excluding external causes	F10, G31.2, G62.1, I42.6, K29.2, K70, K73, K74 (excl. K74.3-K74.5), K86.0	0-74		•
Illicit drug use disorders	F11-F16, F18-F19	0-74		•
Neurological disorders				
Epilepsy and status epilepticus	G40-G41	0-74	•	
Cardiovascular diseases				
Rheumatic and other valvular heart disease	I01-I09	0-74	•	
Hypertensive diseases	I10-I15	0-74	•	
Ischaemic heart disease	I20-I25	0-74	•	•
DVT with pulmonary embolism	I26, I80.1-I80.3, I80.9, I82.9	0-74		•
Cerebrovascular diseases	I60-I69	0-74	•	
Aortic aneurysm and dissection	I71	0-74		•
Respiratory diseases				
Influenza (including swine flu)	J09-J11	0-74	•	•
Pneumonia	J12-J18	0-74	•	
Chronic obstructive pulmonary disorder	J40-J44	0-74		•
Asthma	J45-J46	0-74	•	
Digestive disorders				
Gastric and duodenal ulcer	K25-K28	0-74	•	
Acute abdomen, appendicitis, intestinal obstruction, cholecystitis/lithiasis, pancreatitis, hernia	K35-K38, K40-K46, K80-K83, K85, K86.1-K86.9, K91.5	0-74	•	
Genitourinary disorders				
Nephritis and nephrosis	N00-N07, N17-N19, N25-N27	0-74	•	
Obstructive uropathy and prostatic hyperplasia	N13, N20-N21, N35, N40, N99.1	0-74	•	
Maternal and infant				
Complications of perinatal period	P00-P96, A33	All	•	
Congenital malformations, deformations and chromosomal anomalies	Q00-Q99	0-74	•	
Unintentional injuries				
Transport Accidents	V01-V99	All		•
Accidental Injury	W00-X59	All		•
Intentional injuries				
Suicide and self inflicted injuries	X60-X84, Y10-Y34	All		•
Homicide/Assault	X85-Y09, U50.9	All		•
Misadventures to patients during surgical and medical care	Y60-Y69, Y83-Y84	All	•	•

Also available from the Health & Social Care Inequalities Monitoring System (HSCIMS)

Health Inequalities

NI Health & Social Care Inequalities Monitoring System

Regional 2014

Analysis at regional level examining health inequality gaps by deprivation and rurality.
<http://www.dhsspsni.gov.uk/index/statistics/health-inequalities/regional-health-inequalities.htm>

Health Inequalities

NI Health & Social Care Inequalities Monitoring System

Sub-regional – HSC Trusts 2015

Sub-regional analysis at HSC Trust level examining health inequality gaps within each trust as well as compared with the Northern Ireland average.
<http://www.dhsspsni.gov.uk/index/statistics/health-inequalities/sub-regional-health-inequalities.htm>

Making Life Better

Monitoring the Wider Social Determinants of Health & Wellbeing

Key Indicators & Baselines 2014

Introducing and establishing baseline positions for the key indicators set out in the Making Life Better strategic framework.
<http://www.dhsspsni.gov.uk/index/statistics/health-inequalities/social-determinants-of-health.htm>

Health Inequalities

NI Health & Social Care Inequalities Monitoring System

Section 75 Analysis of Mortality Patterns 2003-07

Mortality analysis using longitudinal data from the Northern Ireland Mortality Study to provide robust assessments of the differences in the health outcomes across the various Section 75 equality groups in NI.
http://www.dhsspsni.gov.uk/hscims_s75_analysis_of_mortality_patterns_2003-07.pdf

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