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An Official Statistics publication for Scotland

HEALTH AND SOCIAL CARE

Long-term Monitoring of Health Inequalities

December 2017 report

Summary

Introduction
This report presents a range of indicators selected in order to monitor health inequalities over time.

With the exception of the Healthy Birthweight indicator, significant health inequalities persist for each indicator covered in the report.

Changes in the gap between the most and least deprived areas in Scotland
In a number of indicators, absolute inequalities (the gap between the most and least deprived areas) have narrowed over the longer term:

- **Premature Mortality (under 75 years)** - the gap has reduced by 15% from its peak in 2002, and is currently lower than at the start of the time series in 1997. The gap has, however, increased each year since 2013.
- **CHD Mortality** - the gap has halved from its widest point in 1998.
- **Alcohol-Related Admissions** - the gap has reduced by 32% since the start of the time series in 1996.
- **Low Birthweight** – the gap has reduced by 30% since its peak in 2004. The bulk of this reduction had taken place by 2008, with the gap fluctuating since then.

The gap for **Alcohol-Related Deaths** is currently 28% lower than at its peak in 2002. However, following a period where the gap narrowed, it has been increasing since 2013, and is currently 13% higher than at the start of the time series in 1997.

For the other indicators in the report, there has either been little change or long term trends in the absolute gap are less clear:

- **Healthy Life Expectancy**
- **Heart Attack Admissions**
- **Cancer Incidence**
- **Cancer Mortality**
- **Premature Mortality (aged 15-44 years)**
- **Healthy Birthweight**

Relative inequalities
The relative index of inequality (RII) indicates the extent to which health outcomes are worse in the most deprived areas compared to the average throughout Scotland. It is possible for absolute inequalities to improve, but relative inequalities to worsen.

There are three **morbidity indicators** for which the RII can reasonably be compared with one another: alcohol-related hospital admissions; heart attack hospital admissions; and cancer incidence.

Amongst these, relative inequalities in alcohol-related hospital admissions have remained highest over the longer term. Relative inequalities in heart attack admissions have increased since 2008, and cancer incidence inequalities have remained relatively stable.

Amongst the three comparable **mortality indicators** (CHD deaths, alcohol-related deaths, and cancer deaths), relative inequalities in CHD mortality have increased over the long term. The relative inequalities in alcohol-related deaths have shown more year to year fluctuation over the same period, but ultimately the RII for 2016 (1.89) is very similar to at the start of time series in 1997 (1.88).

The RII for cancer mortality has increased slightly over the longer term. However, inequalities remain wider in alcohol-related deaths and coronary heart disease deaths.

Of the other indicators in the report, the two indicators relating to premature mortality (under 75 and aged 15-44) have both shown increases in RII over time.

Contents

Background

A Ministerial Task Force on Health Inequalities led by the Minister for Public Health was established in 2007 to identify and prioritise practical actions to reduce the most significant and widening health inequalities in Scotland. The Task Force recognised the need to monitor progress in tackling health inequalities in the longer term as well as managing short and medium term progress.

A technical advisory group was set up in early 2008 to advise the Task Force on long-term monitoring of health inequalities. The group recommended a range of indicators to be monitored over time, as reflected in this report.

The technical advisory group met most recently in 2015 to review the list of indicators and the methods used to report them.[1]

[1] The first Long-Term Monitoring of Health Inequalities report, including Technical Advisory Group Membership, is available here: http://scotland.gov.uk/Publications/2008/09/25154901/0

Indicators

The indicators monitored by this report series are:

Headline indicators of health inequalities

- Healthy Life Expectancy
- Premature Mortality from all causes (aged under 75 years)
- Mental Wellbeing of adults (aged 16+)

Indicators of inequalities in morbidity and mortality

- Coronary Heart Disease: first ever hospital admission for heart attack (aged under 75 years)
- Coronary Heart Disease: deaths (aged 45-74 years)
- Cancer: incidence (aged under 75 years)
- Cancer: deaths (aged 45-74 years)
- Alcohol: first hospital admissions (aged under 75 years)
- Alcohol-related deaths (aged 45-74 years)
- All-cause mortality (aged 15-44 years)
- Low birthweight
- Healthy birthweight
- Self-assessed health of adults (aged 16+)
- Limiting long-term conditions amongst adults (aged 16+)

This year's report does not include results for the mental wellbeing indicator, the self-assessed health indicator, or the limiting long-term conditions indicators. These are produced every second year and were included in the previous report.

Tables showing the most up-to-date trends in relative and absolute inequalities for all indicators are published on the Scottish Government website.

Methods

The report uses a combination of measures of health inequalities to give a fuller understanding of the different aspects of inequalities. These are:

- Scale: How big is the problem? This measure describes the underlying scale of the problem, puts it into context and presents past trends at Scotland level.
- Relative Index of Inequality (RII): How steep is the inequalities gradient? This describes the gradient of health observed across the deprivation scale, relative to the mean health of the whole population. Unless explicitly explained, the RII indicates the extent to which health outcomes are better in the least deprived areas, or worse in the most deprived areas, compared to the mean.
- Absolute range: How big is the gap? This measure describes the absolute difference between the extremes of deprivation.

Following recommendations from the expert group, an area-based index derived from the income and employment domains of the Scottish Index of Multiple Deprivation (SIMD) is used to define deprivation. This reflects the absence of individual-level data on socio-economic circumstance.

The index is referred to as the Income and Employment Index (IEI).

These indicators and measures were recommended for long-term monitoring of deprivation-related health inequalities at Scotland level. Monitoring health inequalities due to other factors, such as age, gender and ethnicity, and indicators at a local level, may require different indicators and measures. Further information on the methods is provided in Annex 1.

Changes to indicators

The most recent meeting of the Technical Advisory Group in July 2015 focused on a number of areas for development in the report, in the short and longer term, and reviewed the list of indicators. A full record of the recommendations which will be developed for future reports is provided on the Health Inequalities pages of the Scottish Government website.

The most recently incorporated changes were the inclusion of two new 'morbidity indicators' relating to self-assessed general health and long-term conditions. These were broken down by both IEI deciles and equivalised (household) income deciles. These are not included in the current report due to the indicator data being available every second year.

Headline indicators of Health Inequalities

Healthy Life Expectancy (HLE)

In 2015-2016, male HLE at birth in the 10% most deprived areas in Scotland was 43.9 years, 26.0 years lower than in the least deprived areas (69.8 years).

Female HLE at birth was 49.9 years in the most deprived areas, 22.2 years lower than in the least deprived areas (72.0 years).

There have been no statistically significant changes to the gap in healthy life expectancy between the most and least deprived areas for men or women since 2009-2010.

Trends in HLE

Between 1999-2000 and 2007-2008, HLE increased by 3.0 years for males and by 2.3 years for females. In 2009, the format of the self-assessed health question, on which healthy life expectancy data is based, was changed to align with the European Union, leading to a major discontinuity in the series. The markedly lower estimates of HLE at birth from 2009 onwards are not comparable with estimates for earlier years.

In 2015-2016, HLE in Scotland was 59.6 years for males and 62.4 years for females. These values are not significantly different from the first estimates produced with the revised methodology in 2009-10 (59.9 and 62.1 for males and females respectively).

Inequalities in HLE, 2015-2016

HLE is significantly lower in the most deprived areas than in the least deprived areas.

In 2015-2016 males in the most deprived areas were, on average, expected to live 26 fewer years in good health than those in the least deprived areas (43.9 years vs 69.8 years). Females in the most deprived areas were, on average, expected to live 22 fewer years in good health than those in the least deprived areas (49.9 years vs 72.0 years).

Figure 1.1

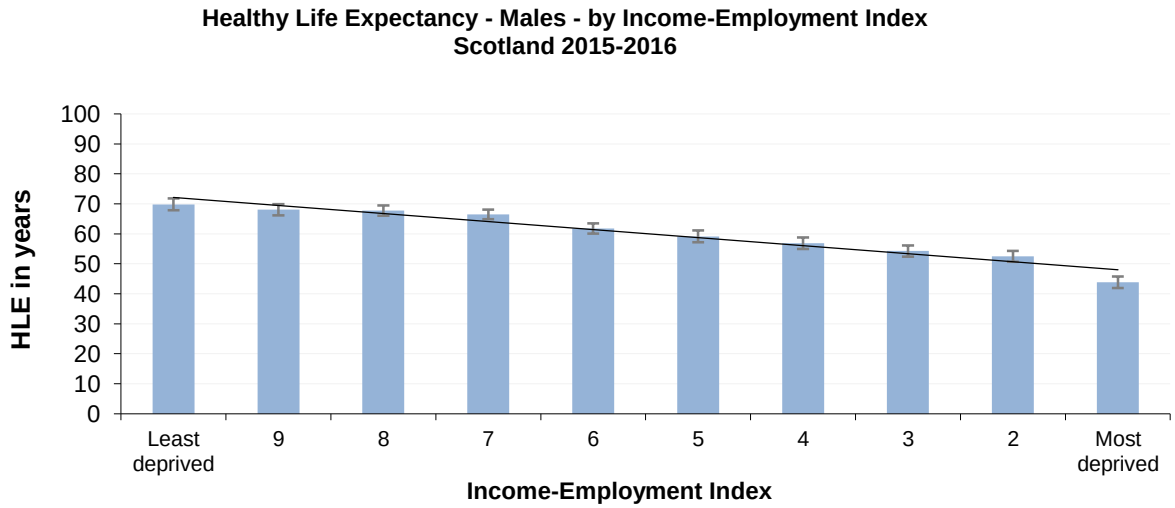
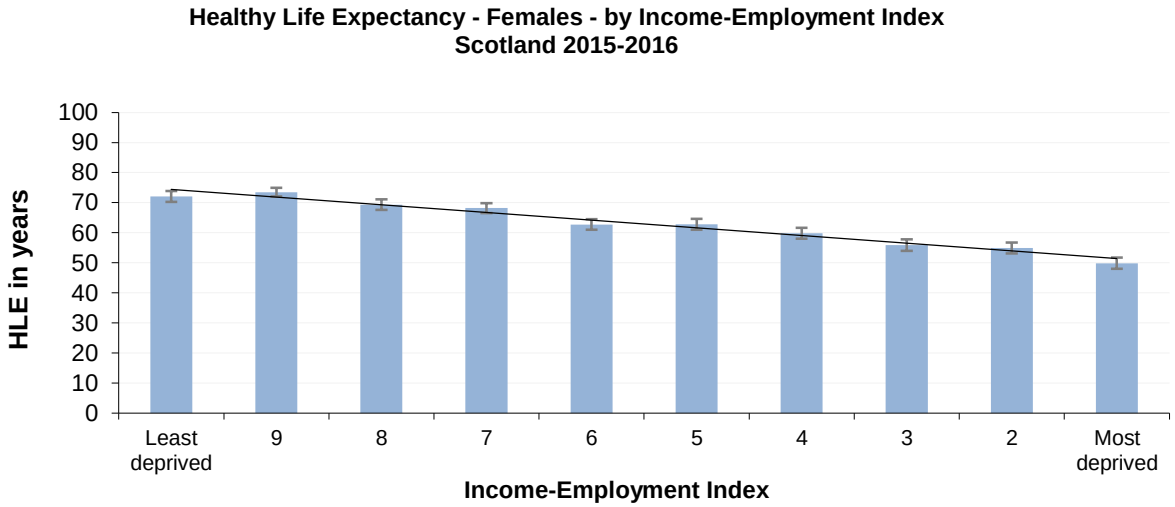


Figure 1.2



Trends in relative inequalities

The relative index of inequalities (RII) has shown little change in the period since 2009-2010, ranging from 0.36-0.41 for women and 0.38-0.45 for men over the period.

Although RII is lower in earlier years, the change in methodology used to calculate HLE means these figures are not comparable. Between 1999-2000 and 2007-2008, RII fluctuated in the range 0.29-0.33 for men and 0.25-0.28 for women and with no clear trend.

Figure 1.3

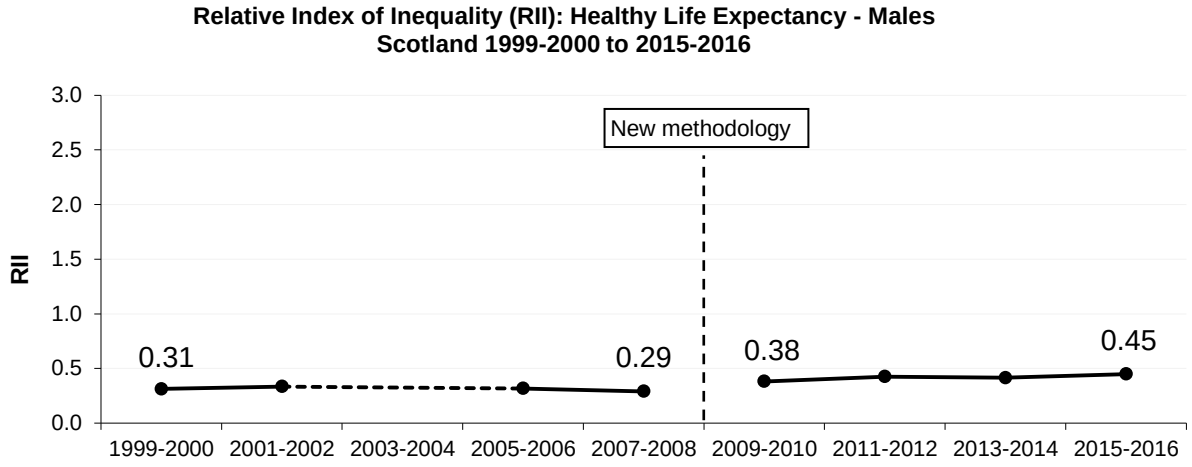
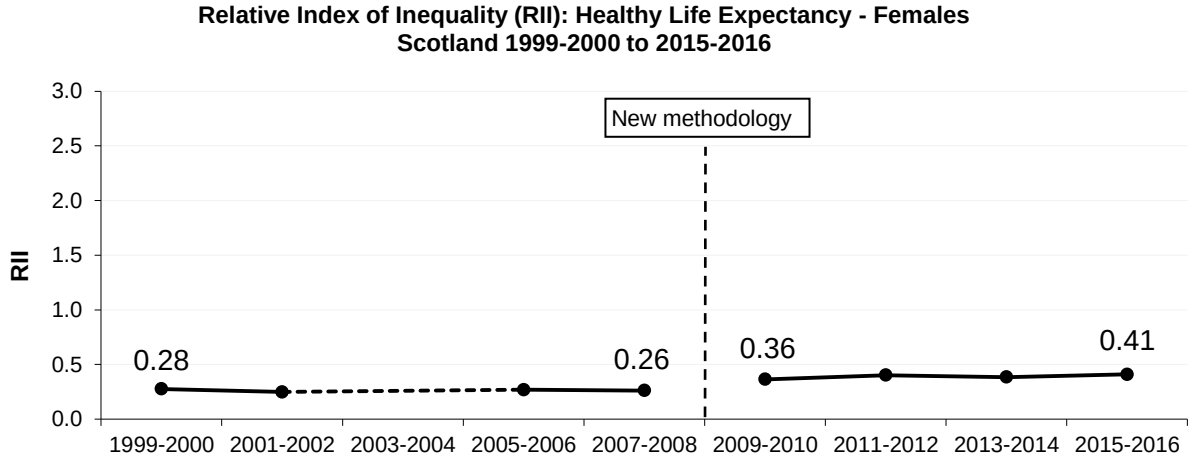


Figure 1.4



Trends in absolute inequalities

The absolute gap in male HLE has seen non-significant increases each year that the indicator has been updated since 2009-2010. The gap was 22.5 years in 2009-2010 and is 26.0 years for 2015-2016. The cumulative change from 2009-2010 is approaching statistical significance.

Among women, although there have been some fluctuations in HLE across the deprivation spectrum, recent changes have been similar in the most and least deprived areas.

Figure 1.5

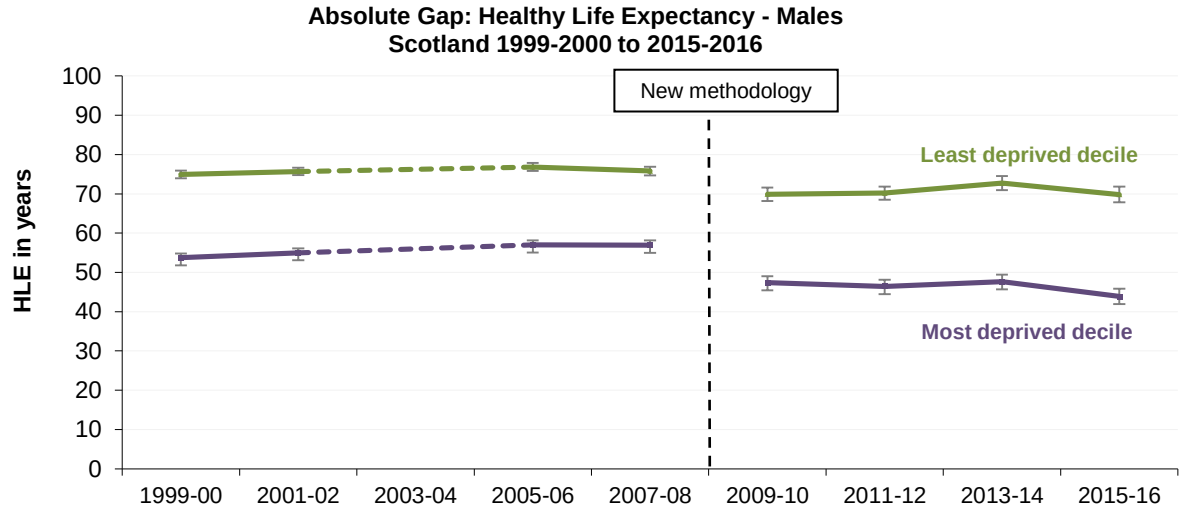
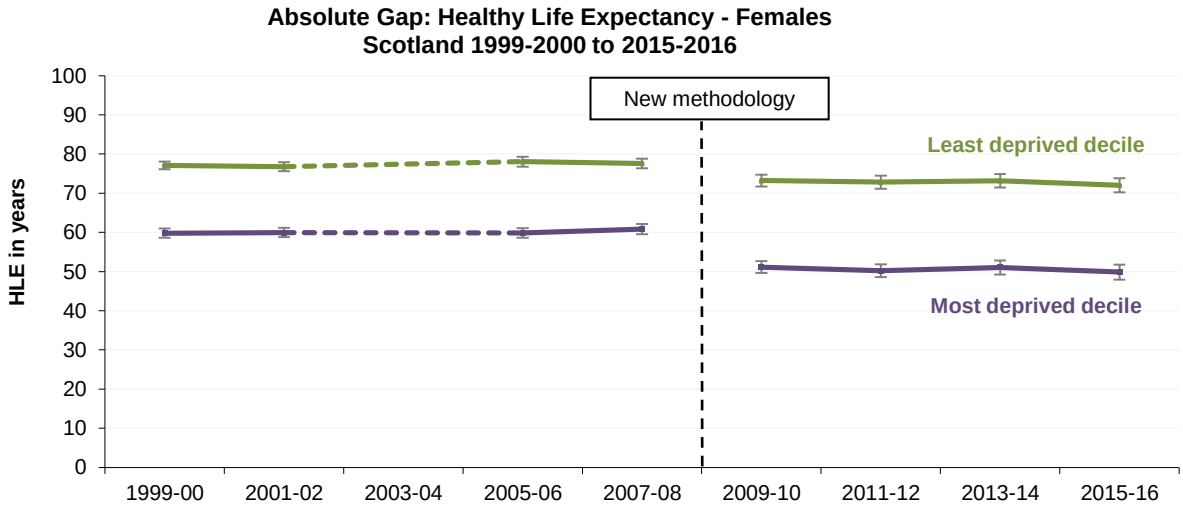


Figure 1.6



Healthy Life Expectancy and Life Expectancy, 2009-2010 to 2015-2016

The difference between HLE and life expectancy (LE) indicates the expected number of years spent in 'not good' health. In 2015-2016, men were expected to spend an average of 17.4 years in 'not good' health, compared to 18.6 years for women.

Men and women in the most deprived areas in Scotland spend more years in 'not good' health than those in the least deprived areas. In the most deprived areas, men spend on average 25.9 years in 'not good' health, compared to 12.9 years in the least deprived areas.

Females in the most deprived areas spend 26.1 years in 'not good' health, compared with 13.0 years in the least deprived areas.

Table 1.1: Trends in male healthy life expectancy and life expectancy, 2009-2010 onwards

	Male HLE in years	95%LL	95%UL	Male LE in years	95%LL	95%UL	Estimated years spent in 'not good' health
2009-2010							
Scotland	59.9	59.4	60.4	76.1	76.0	76.2	16.2
Most deprived decile	47.4	45.8	49.0	68.7	68.3	69.1	21.3
Least deprived decile	69.9	68.2	71.6	82.0	81.6	82.3	12.1
2011-2012							
Scotland	59.8	59.3	60.4	76.6	76.4	76.7	16.7
Most deprived decile	46.4	44.7	48.2	69.2	68.8	69.6	22.7
Least deprived decile	70.2	68.5	71.9	82.1	81.8	82.4	11.9
2013-2014							
Scotland	60.6	60.0	61.2	77.2	77.0	77.3	16.6
Most deprived decile	47.6	45.8	49.4	70.2	69.8	70.6	22.6
Least deprived decile	72.7	71.0	74.5	82.5	82.2	82.9	9.8
2015-2016							
Scotland	59.6	59.0	60.2	77.0	76.9	77.1	17.4
Most deprived decile	43.9	41.9	45.8	69.8	69.4	70.2	25.9
Least deprived decile	69.8	67.9	71.8	82.7	82.4	83.0	12.9

Table 1.2: Trends in female healthy life expectancy and life expectancy, 2009-2010 onwards

	Female HLE in years	95%LL	95%UL	Female LE in years	95%LL	95%UL	Estimated years spent in 'not good' health
2009-2010							
Scotland	62.1	61.6	62.6	80.6	80.5	80.8	18.6
Most deprived decile	51.1	49.6	52.6	76.1	75.7	76.5	24.9
Least deprived decile	73.2	71.7	74.7	84.8	84.5	85.1	11.6
2011-2012							
Scotland	62.3	61.8	62.9	80.9	80.8	81.0	18.5
Most deprived decile	50.2	48.6	51.8	76.4	76.0	76.7	26.1
Least deprived decile	72.8	71.2	74.5	84.8	84.5	85.2	12.0
2013-2014							
Scotland	62.2	61.7	62.8	81.2	81.1	81.3	19.0
Most deprived decile	51.0	49.2	52.9	76.7	76.3	77.0	25.7
Least deprived decile	73.2	71.4	74.9	84.5	84.2	84.8	11.3
2015-2016							
Scotland	62.4	61.9	63.0	81.1	81.0	81.2	18.6
Most deprived decile	49.9	48.0	51.8	76.0	75.6	76.3	26.1
Least deprived decile	72.0	70.2	73.9	85.0	84.7	85.3	13.0

Premature Mortality (under 75 years)

Despite increasing in each of the past three years, the gap in premature mortality rates between the most and least deprived areas has reduced overall from its widest point in 2002 and is lower than at the start of the time series in 1997.

Relative inequalities, however, have widened over the long term. In 1997, premature mortality rates were 2.7 times higher in the most deprived areas compared to the least deprived; in 2016, rates were 3.7 times higher in the most deprived areas.

Trends in premature mortality

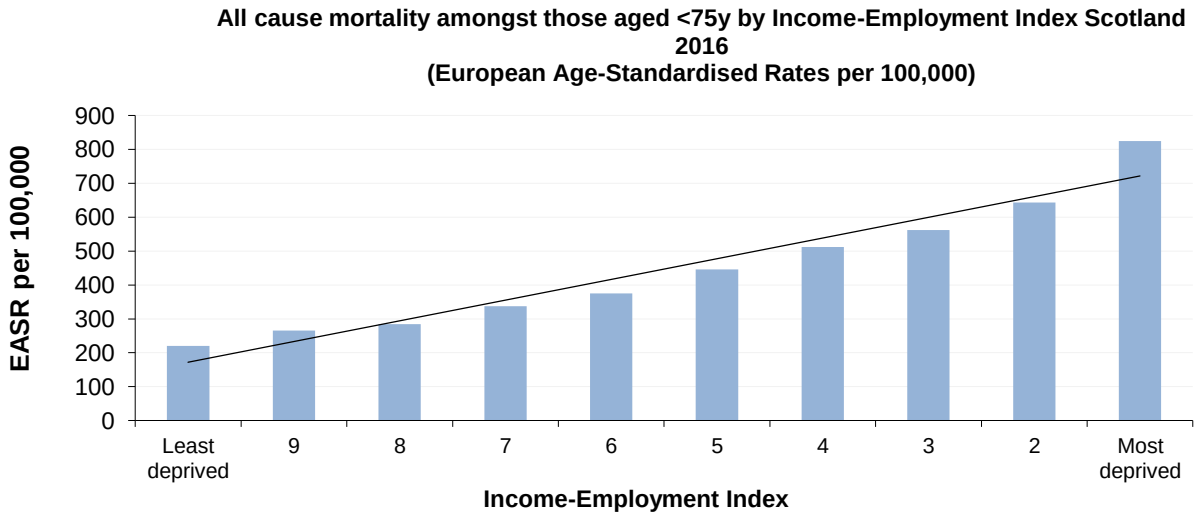
More than 21,000 people in Scotland died before the age of 75 in 2016.

Over the long term there has been a reduction in the mortality rate among under-75s. The age-standardised mortality rate among under-75s in 2016 was 439.7 per 100,000 people, a reduction of 33 per cent since 1997 (651.9 per 100,000).

Inequalities in premature mortality, 2016

In 2016, the premature mortality rate in the 10% most deprived areas was 824.9 per 100,000, 3.7 times higher than the rate in the least deprived areas (220.4 per 100,000).

Figure 2.1



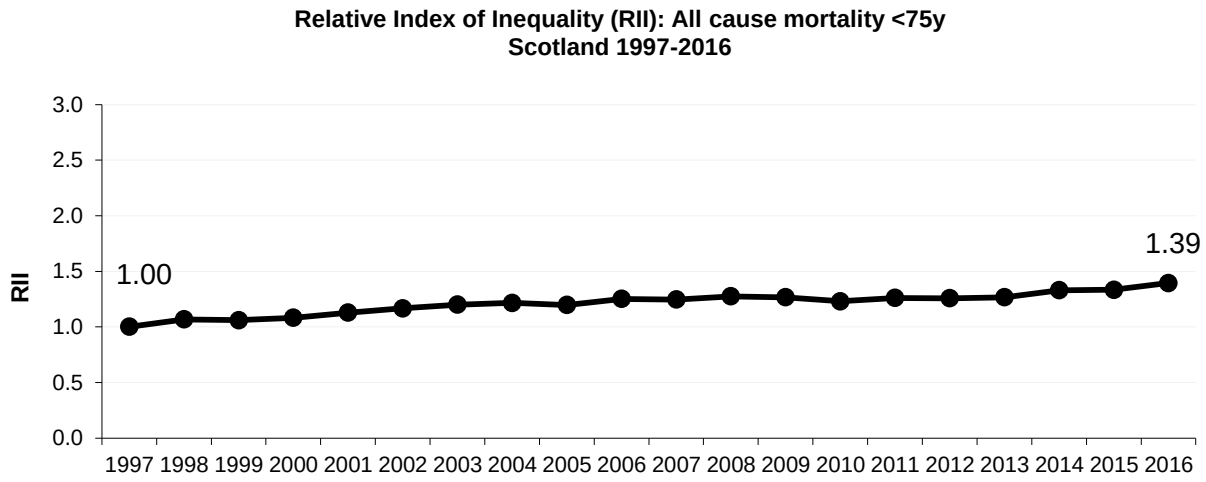
Trends in relative inequalities

Over the longer term, relative inequalities have increased. The RII for 2016 is 1.39, compared with 1.00 at the start of the time series in 1997.

Between 1997 and 2016, premature mortality rates declined by 42% in the least deprived areas, but by only 20% in the most deprived areas in Scotland.

In 1997, premature mortality rates were 2.7 times higher in the most deprived areas compared to the least deprived; in 2016, premature mortality rates were 3.7 times higher in the most deprived areas.

Figure 2.2

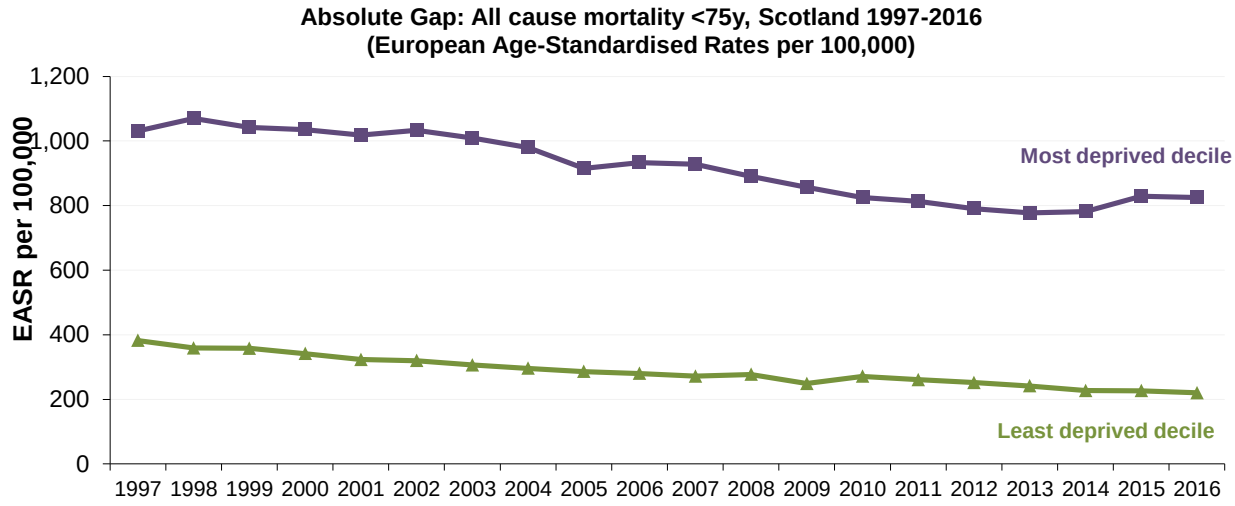


Trends in absolute inequalities

Absolute inequalities in premature mortality reached a peak in 2002. Between 2002 and 2013 there was a general downward trend. Most notably, the absolute gap between the most and least deprived areas reduced every year between 2007 and 2013.

Since 2013 the gap has increased, although it is currently still lower than at any point prior to 2010.

Figure 2.3



In 2002, the premature mortality rate in the most deprived areas was 1,033.2 per 100,000 and 319.8 per 100,000 in the least deprived areas, a gap of 713.4 per 100,000. In 2016, the gap had reduced to 604.5 per 100,000.

Table 2.1: Trends in premature mortality, 1997-2016

Year	Number of deaths	Target population size	Rate per 100,000 (EASR)
1997	26,081	4,740,269	651.9
1998	25,857	4,729,975	643.3
1999	25,491	4,721,298	632.5
2000	24,593	4,708,667	607.3
2001	24,168	4,703,661	593.1
2002	24,219	4,701,958	588.9
2003	23,789	4,702,431	573.4
2004	22,896	4,714,233	546.2
2005	22,441	4,735,320	530.3
2006	22,237	4,752,425	520.4
2007	22,359	4,783,452	516.8
2008	22,005	4,811,453	501.3
2009	21,229	4,835,007	477.0
2010	20,997	4,858,058	467.4
2011	20,685	4,888,316	456.1
2012	20,446	4,895,114	445.3
2013	20,344	4,903,074	437.5
2014	19,961	4,914,362	423.2
2015	20,988	4,935,283	440.5
2016	21,313	4,962,391	439.7

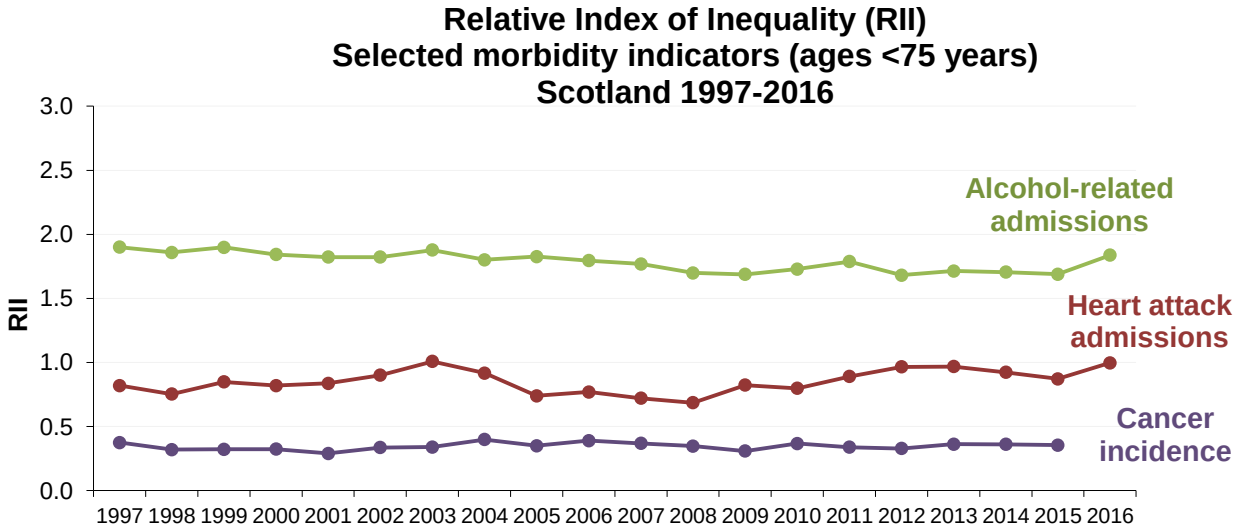
Inequalities in morbidity and mortality indicators

The relative index of inequality (RII) indicates the extent to which health outcomes are worse in the most deprived areas compared to the average throughout Scotland. While comparisons of RII between indicators are possible, they should be made with some caution, in particular where absolute values are significantly higher or lower in the compared indicators or where the measurement scale differs (for example, relative inequalities in Mental Wellbeing scores, which are based on responses to survey questions, compared to relative inequalities in an age-standardised mortality rate).

The following charts group indicators in this report into broadly comparable categories: the first shows hospital admissions and incidence of conditions for people belonging to the under 75 age group; while the second shows mortality rates in the 45-74 age group for three causes of death.

Although relative inequalities in heart attack hospital admissions have increased in recent years, inequalities have remained highest in alcohol-related admissions throughout the period covered by this report. Inequalities in cancer incidence have remained relatively stable.

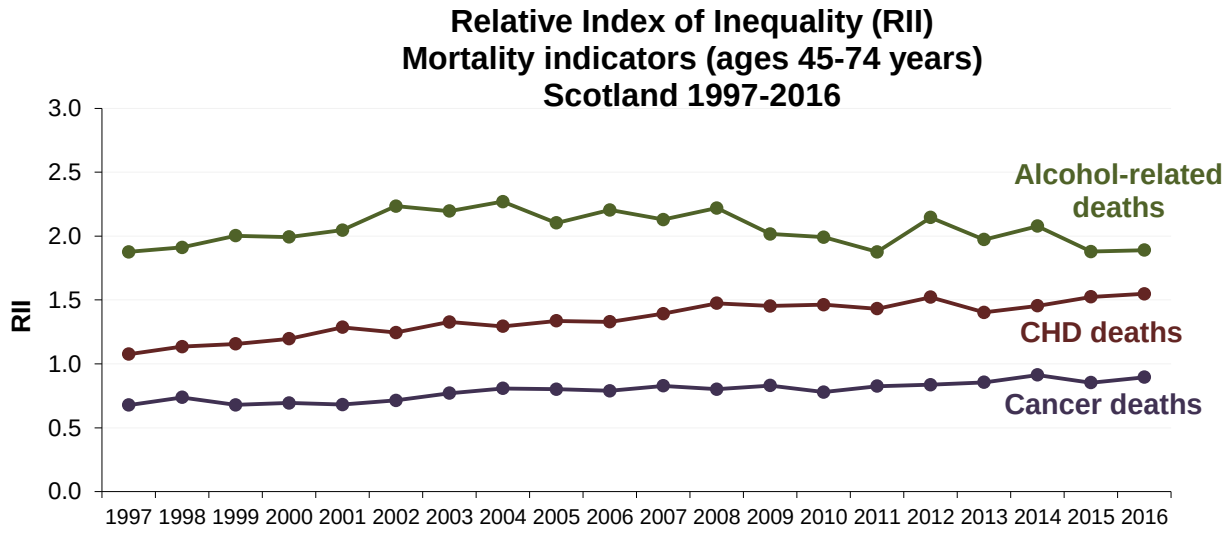
Figure 3.1



Relative inequalities in CHD mortality among adults aged 45-74 have increased over the long term. Relative inequalities for alcohol-related deaths have shown more year to year fluctuation over the same period, and are currently very similar to at the start of the time series (1.89 vs 1.88)

Although RII in cancer mortality has increased slightly over the longer term, inequalities remain widest in alcohol-related deaths and coronary heart disease deaths.

Figure 3.2



Coronary Heart Disease - first ever hospital admission for heart attack aged under 75 years

Trends in heart attack hospital admissions

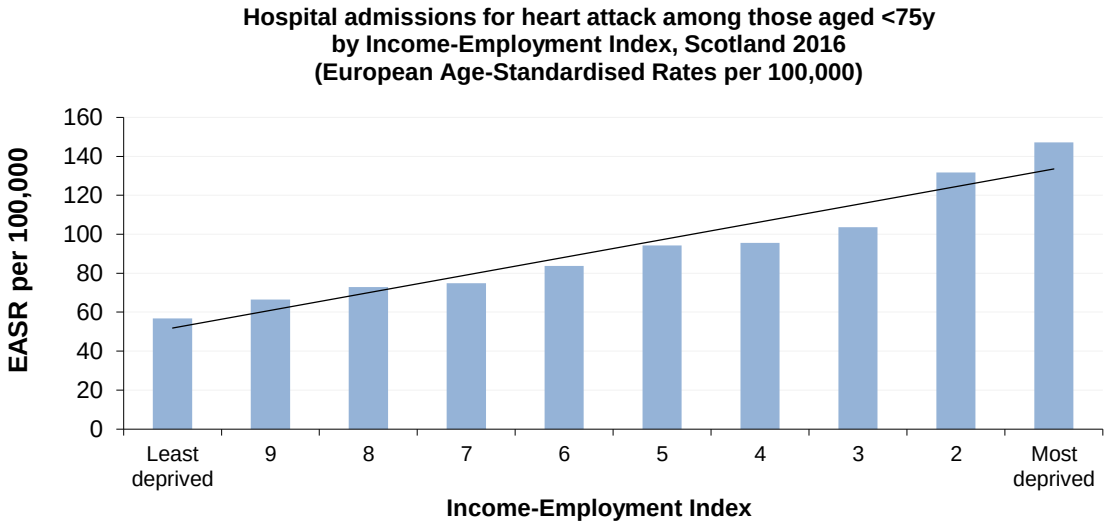
In 2016, around 4,500 new cases of heart attack (for those aged under 75 years) were recorded in Scottish hospitals.

The rate of admissions is currently 37% lower than in 1997 and has shown a downward trend since 2012. However, this recent improvement follows significant increases between 2007 and 2012 and the rate of admissions is currently higher than the low point seen in 2007.

Inequalities in hospital heart attack hospital admissions, 2016

The latest admission rate in Scotland's most deprived areas is 2.6 times greater than that of the least deprived (147.2 cases per 100,000 compared to 56.7 per 100,000).

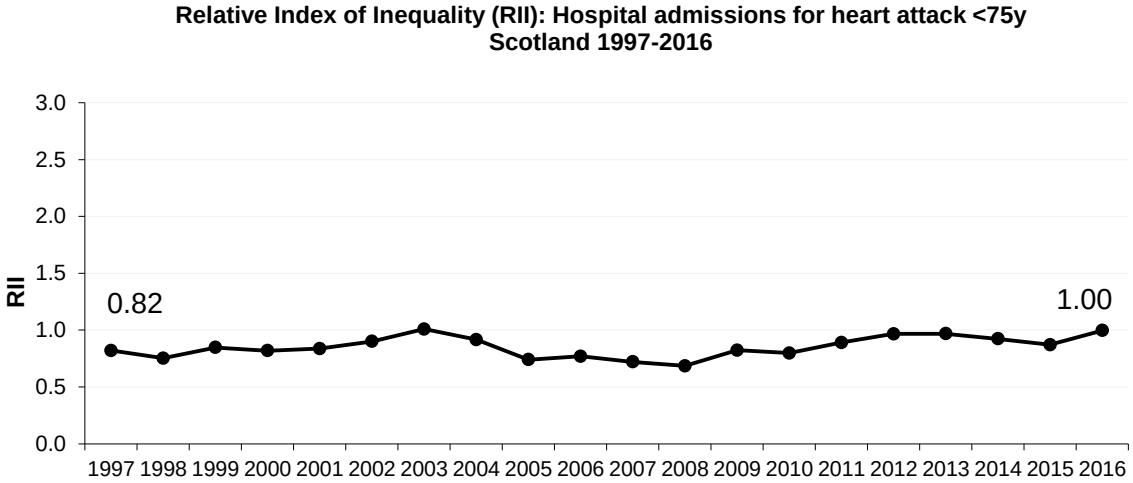
Figure 4.1



Trends in relative inequalities

Relative inequality levels for heart attack hospital admissions have fluctuated over time. The RII for 2016 (1.00) is higher than that at the start of the time series (0.82)

Figure 4.2

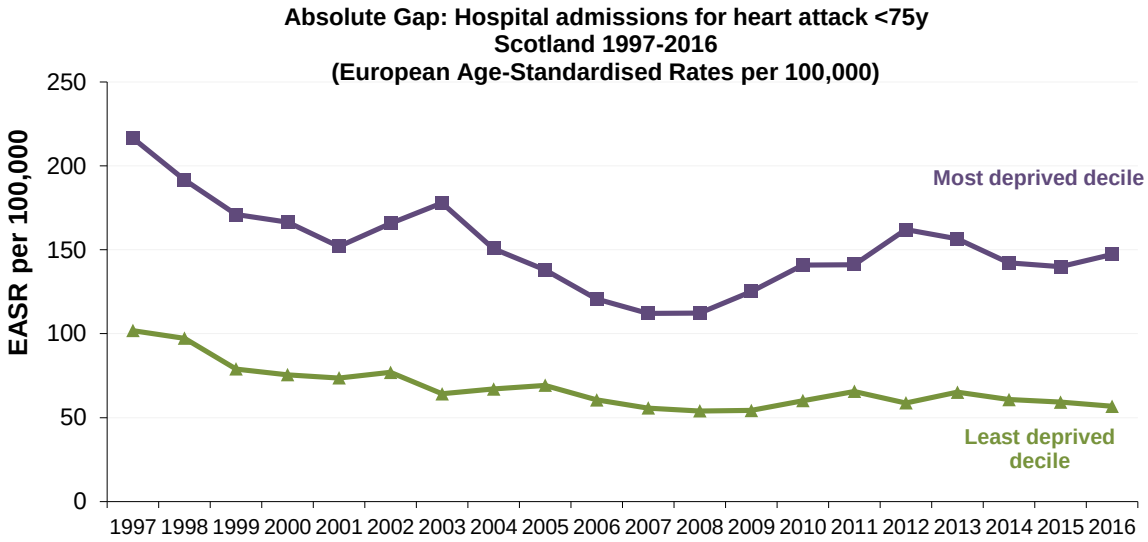


Heart attack hospital admission rates (aged < 75) have generally been 2-3 times higher in the most deprived areas compared to the least deprived areas. In 2016, rates are 2.6 times higher in the most deprived areas than in the least deprived.

Trends in absolute inequalities

The absolute gap is currently lower than at the start of the time series in 1997. However, absolute inequalities have fluctuated over that time, with the gap at its narrowest between 2006 and 2008.

Figure 4.3



In 2016, the heart attack admission rate in the most deprived areas was 147.2 per 100,000, compared to a rate of 56.7 per 100,000 in the least deprived areas (a gap of 90.5 per 100,000).

The gap was largest in 1997, when the admissions rate was 216.5 per 100,000 and 101.9 per 100,000 in the most and least deprived areas respectively (a gap of 114.6 per 100,000).

Table 4.1: Trends in heart attack hospital admissions (aged <75), 1997-2016

	Total admissions	Population	Rate per 100,000 (EASR)
1997	5,764	4,740,269	145.1
1998	5,676	4,729,975	141.5
1999	5,101	4,721,298	126.6
2000	4,812	4,708,667	118.4
2001	4,776	4,703,661	116.9
2002	4,833	4,701,958	116.6
2003	4,569	4,702,431	109.0
2004	4,413	4,714,233	103.9
2005	4,047	4,735,320	94.2
2006	3,750	4,752,425	86.4
2007	3,549	4,783,452	80.4
2008	3,655	4,811,453	81.7
2009	3,851	4,835,007	84.9
2010	4,377	4,858,058	95.4
2011	4,537	4,888,316	97.7
2012	4,747	4,895,114	100.8
2013	4,697	4,903,074	98.8
2014	4,503	4,914,362	93.4
2015	4,521	4,935,283	92.8
2016	4,521	4,962,391	91.5

Coronary Heart Disease (CHD) Mortality - deaths aged 45-74 years

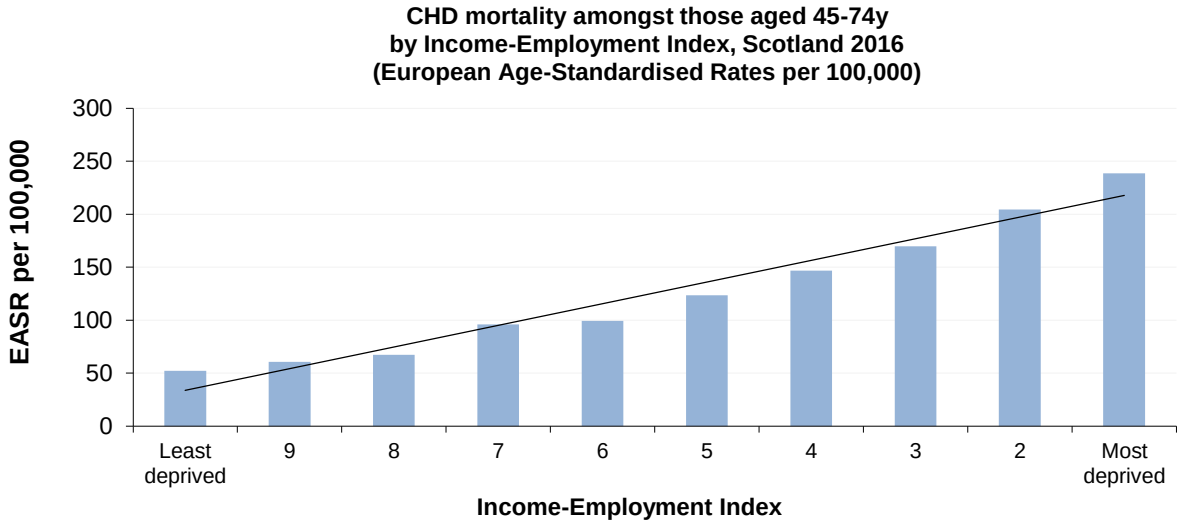
Trends in CHD deaths

Since 1997, there has been a considerable decrease in CHD mortality amongst the population aged 45-74 years. At 124.7 per 100,000, the death rate for this age group is one third what it was in 1997. However, CHD remains one of Scotland's biggest causes of premature mortality, and accounted for around 2,500 deaths amongst those aged 45-74 years.

Inequalities in CHD deaths, 2016

In 2016, the CHD mortality rate was 4.6 times greater in Scotland's most deprived areas compared to the least deprived (238.6 compared to 52.3 deaths per 100,000 population).

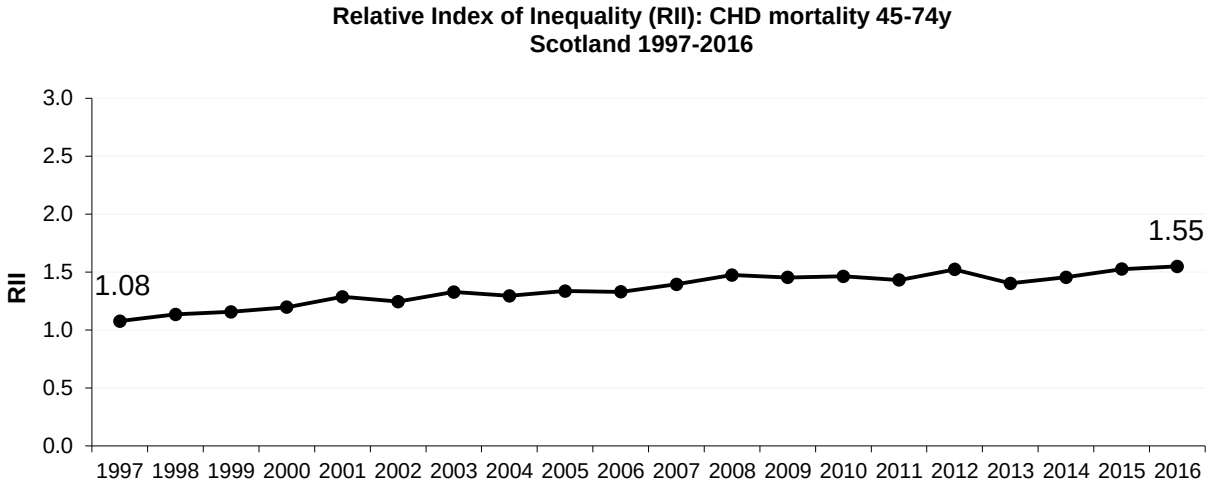
Figure 5.1



Trends in relative inequalities

Relative inequalities in CHD mortality have grown over the longer term. In particular, there was steady growth between 1997 and 2008. RII is currently at its highest point in the time series.

Figure 5.2



Since 1997, CHD mortality rates have typically been 3-4 times higher in the most deprived areas compared to the least deprived areas. In the last three years, rates were 5 times higher in deprived areas.

Trends in absolute inequalities

In contrast to relative inequality, absolute inequality has reduced over the longer term from a high in 1998. The current gap is roughly half what it was in 1998.

Figure 5.3

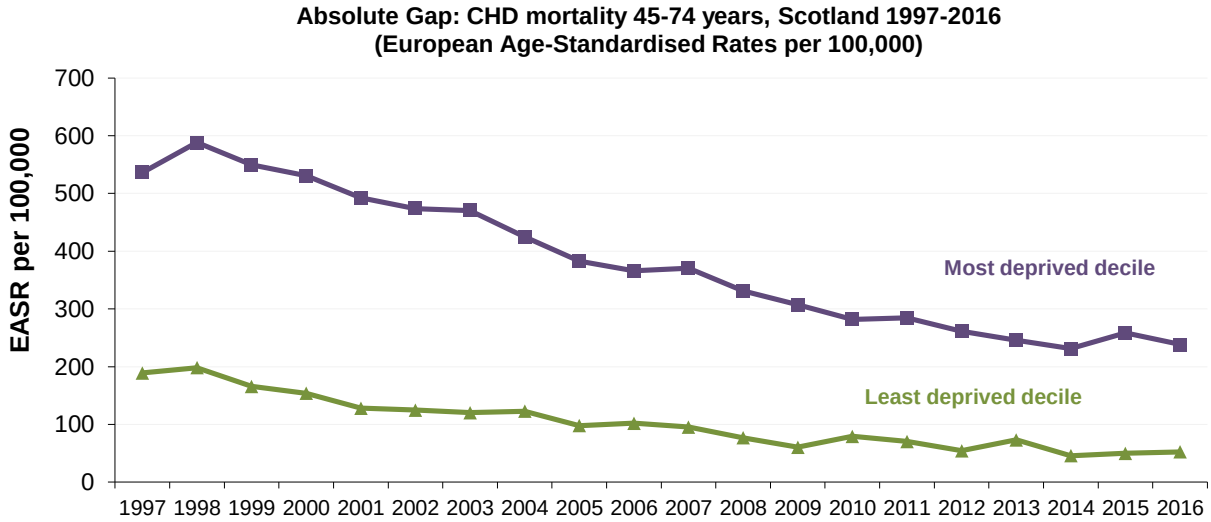


Table 5.1: Trends in coronary heart disease deaths (aged 45-74), 1997-2016

	Number of deaths	Target population size	Rate per 100,000 (EASR)
1997	5,887	1,635,590	372.5
1998	5,675	1,646,711	357.9
1999	5,389	1,658,124	338.9
2000	4,858	1,670,660	303.9
2001	4,483	1,687,422	279.3
2002	4,310	1,706,141	265.9
2003	4,197	1,727,112	256.3
2004	3,840	1,751,037	232.3
2005	3,721	1,774,865	222.3
2006	3,393	1,799,382	200.8
2007	3,374	1,827,320	196.6
2008	3,155	1,856,874	180.9
2009	2,857	1,885,693	160.7
2010	2,811	1,914,226	156.6
2011	2,592	1,941,253	142.6
2012	2,584	1,964,203	139.7
2013	2,515	1,986,202	133.7
2014	2,358	2,007,988	123.1
2015	2,463	2,026,210	127.4
2016	2,467	2,047,858	124.7

Cancer - incidence rate aged under 75 years

Trends in cancer incidence

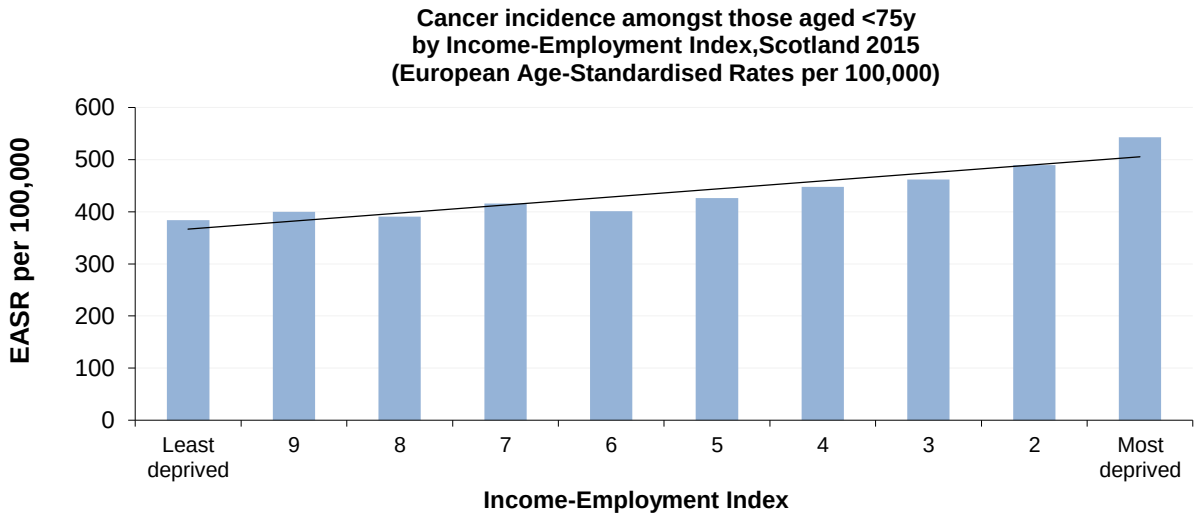
Cancer incidence among people aged under 75 has been increasing in recent years. Other than a slight drop seen in the most recently available year (2015), cancer incidence has increased each year since 2005. In 2015, there were around 21,000 new cases.

This is explained in part by Scotland's ageing population. The age-standardised cancer incidence rate, although currently higher than 2005, shows a less consistent trend.

Inequalities in cancer incidence, 2015

In 2015, there were 543.3 cases per 100,000 people in the most deprived areas, compared to 383.8 per 100,000 in the least deprived.

Figure 6.1



Cancer incidence is more common in the most deprived areas of Scotland. However, this is not the case for all types of cancer.[2] This is driven in part by variations in screening uptake, leading to socially patterned rises in cancer incidence and, in turn, cancer survival for some types of cancer in the least deprived areas.

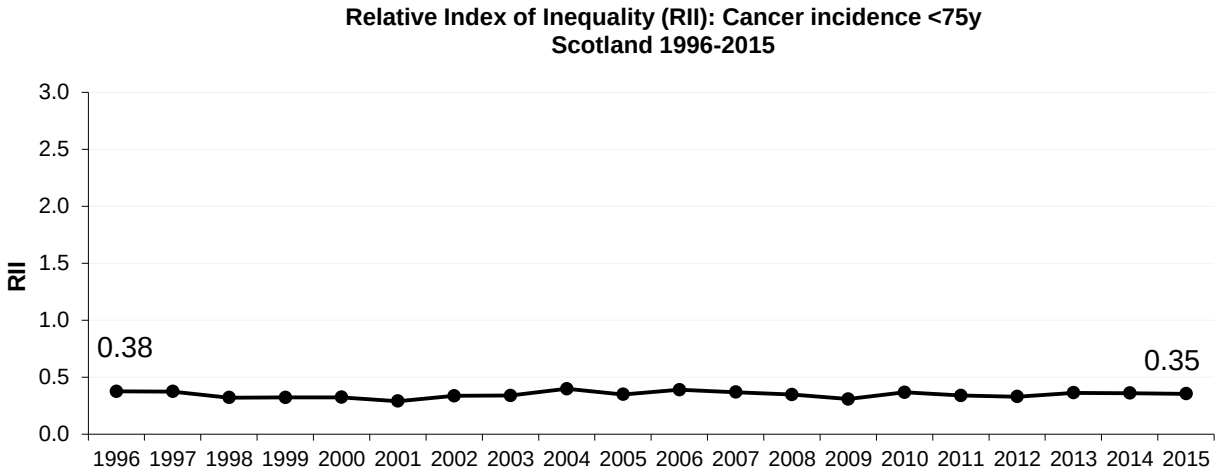
As has been the case previously, of the most common types of cancer, the absolute gap between most and least deprived areas was largest for cancer of the trachea, bronchus and lung (2015 rates were 128.9 and 33.9 per 100,000 population in the most and least deprived areas respectively).

[2] Web tables accompanying this publication include incidence inequality data for prostate cancer, breast cancer, cancer of the trachea, bronchus and lung, and colorectal cancer.

Trends in relative inequalities

Changes in the relative index of inequality over time have been minimal and show no clear pattern, fluctuating between 0.29 and 0.40.

Figure 6.2

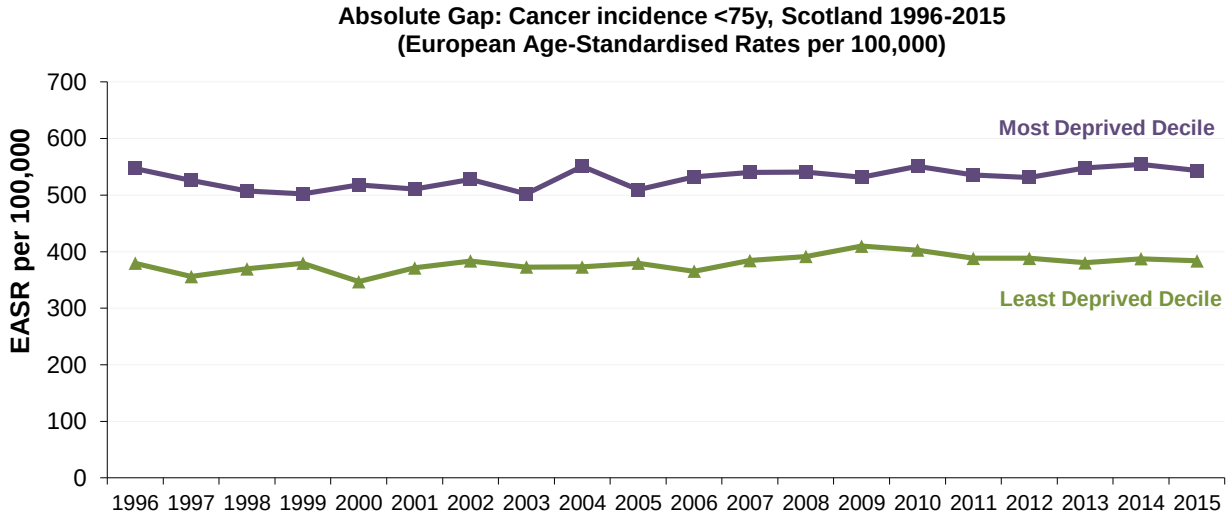


Incidence rates have typically been 30-50% higher in the most deprived areas in Scotland compared to the least deprived (42% in 2014).

Trends in absolute inequalities

Absolute inequality levels in cancer incidence have fluctuated over time. Rates in both the least and most deprived areas of Scotland have shown no clear pattern.

Figure 6.3



The gap was widest in 2004 (rates of 551.1 per 100,000 and 372.9 per 100,000 in the most and least deprived areas, respectively) but the adjacent years of 2003 and 2005 displayed relatively narrow gaps.

Table 6.1: Trends in cancer incidence (aged < 75), 1997-2015

	Number of new cases	Target population size	Rate per 100,000 (EASR)
1996	18,128	4,754,906	452.7
1997	17,167	4,740,269	427.4
1998	17,109	4,729,975	424.3
1999	16,914	4,721,298	417.5
2000	17,138	4,708,667	420.6
2001	17,147	4,703,661	418.9
2002	17,530	4,701,958	423.6
2003	17,574	4,702,431	420.8
2004	18,159	4,714,233	430.3
2005	17,987	4,735,320	421.9
2006	18,167	4,752,425	423.3
2007	18,775	4,783,452	430.8
2008	19,449	4,811,453	439.7
2009	19,999	4,835,007	446.6
2010	20,015	4,858,058	441.9
2011	20,208	4,888,316	441.3
2012	20,296	4,895,114	436.8
2013	20,598	4,903,074	437.7
2014	21,064	4,914,362	442.4
2015	20,888	4,935,283	433.5

Cancer- deaths aged 45-74 years

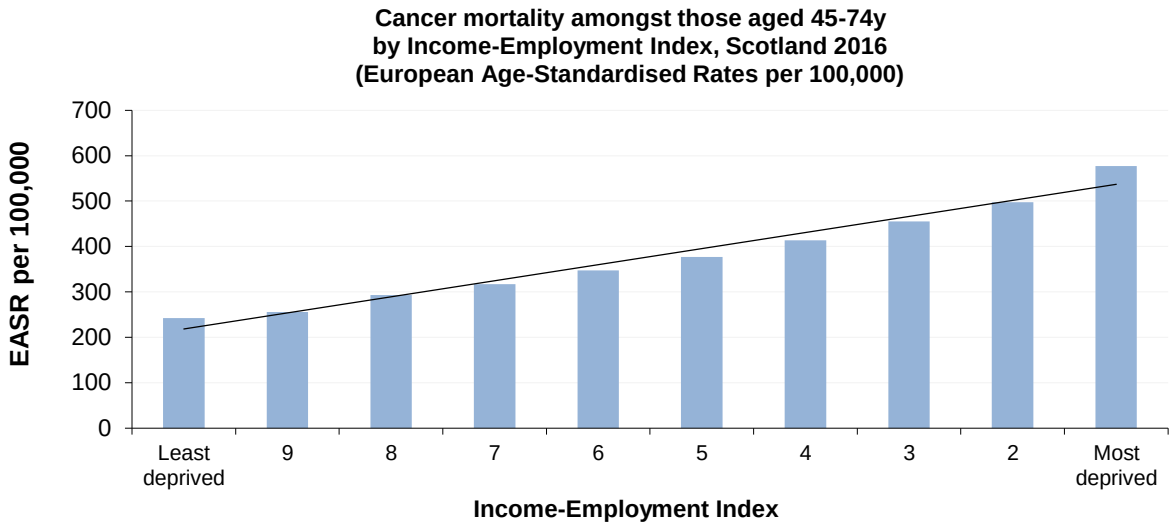
Trends in cancer deaths

The cancer mortality rate amongst those aged 45-74 years has fallen by around 30% since 1996 (from 529.8 to 373.5 per 100,000 population, in 2016). The number of deaths each year has also reduced in this period, from around 8,400 to 7,400.

Inequalities in cancer deaths, 2016

Of people in the 45-74 year age group, those in Scotland's most deprived areas are more than twice as likely to die of cancer than those in the least deprived (577.4 deaths per 100,000 population compared to 242.4 per 100,000 population, in 2016).

Figure 7.1



As is the case for cancer incidence, inequality levels vary when examining deaths by cancer type[3]. As described in the previous section, variations in screening uptake may lead to socially patterned rises in cancer incidence and, in turn, cancer survival (therefore having a possible effect on mortality) for some types of cancer.

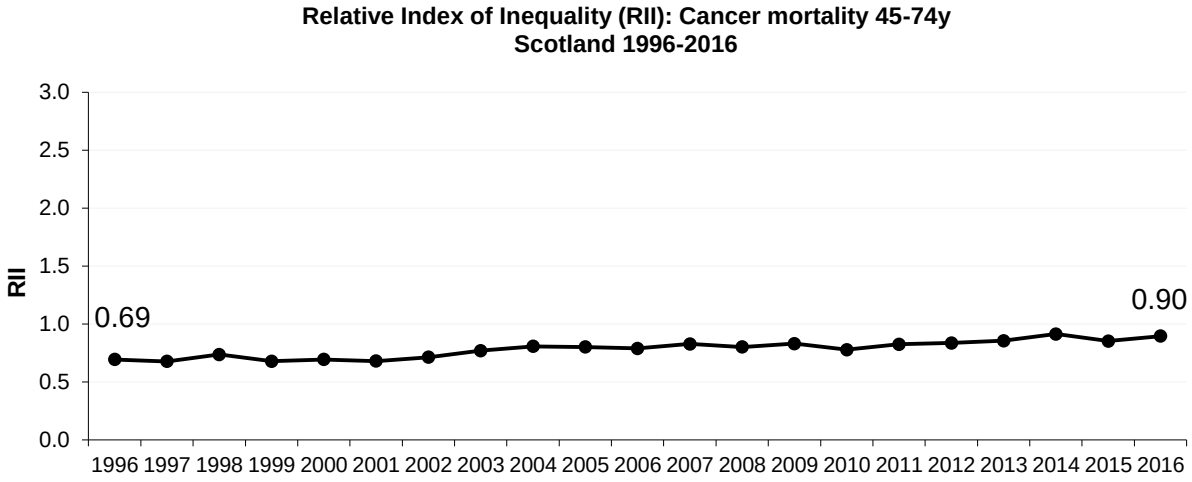
The most considerable differences between rates in the most and least deprived areas are again observed for cancer of the trachea, bronchus and lung (202.0 compared to 42.4 per 100,000 population).

[3] Web tables accompanying this publication include mortality inequality data for prostate cancer, breast cancer, cancer of the trachea, bronchus and lung, and colorectal cancer.

Trends in relative inequalities

Relative inequalities for this indicator have increased over time with the five highest value in the time series coming in the last five years. The latest RII figure (0.90) compares with a range of 0.68-0.81 seen in the years between 1997 and 2006.

Figure 7.2



Each year since 2013, cancer mortality rates (aged 45-74) have been 2.4 times higher in the most deprived compared to least deprived areas. In 1996, rates were 2.0 times higher in the most deprived areas.

Trends in absolute inequalities

Levels of absolute inequality for cancer deaths have fluctuated since 1997. The gap was narrowest in 2010 when rates were 310.3 per 100,000 in the least deprived areas and 615.1 in the most deprived areas.

Figure 7.3

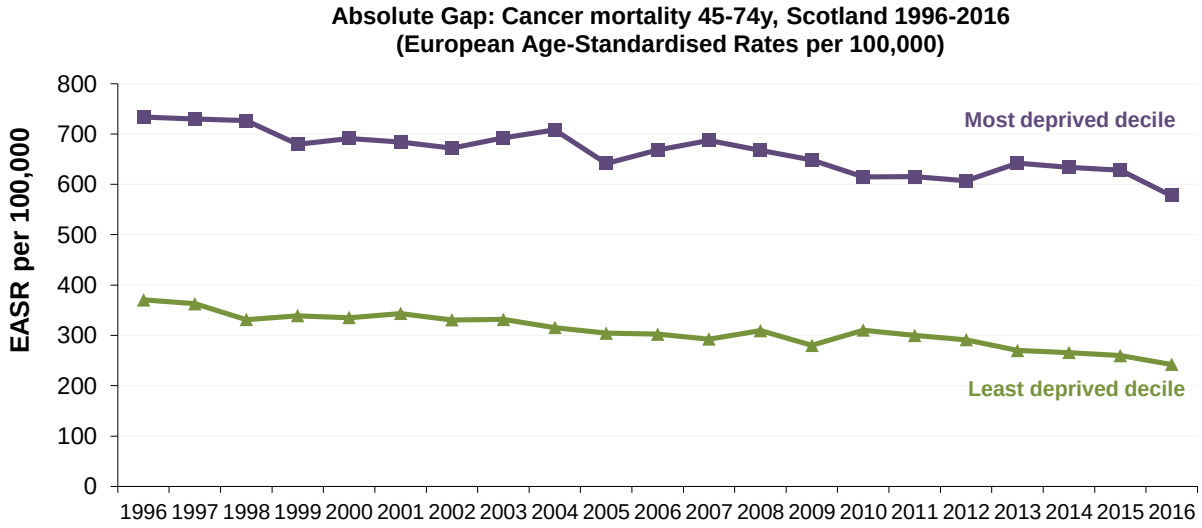


Table 7.1: Trends in cancer mortality (aged 45-74), 1997-2016

	Number of deaths	Target population size	Rate per 100,000 (EASR)
1996	8,402	1,631,224	529.8
1997	8,068	1,635,590	509.1
1998	7,995	1,646,711	501.9
1999	7,904	1,658,124	494.4
2000	7,776	1,670,660	484.8
2001	7,903	1,687,422	489.2
2002	7,850	1,706,141	481.2
2003	7,706	1,727,112	467.4
2004	7,678	1,751,037	460.9
2005	7,606	1,774,865	451.8
2006	7,486	1,799,382	441.3
2007	7,569	1,827,320	439.5
2008	7,536	1,856,874	431.0
2009	7,481	1,885,693	421.2
2010	7,394	1,914,226	411.1
2011	7,428	1,941,253	408.5
2012	7,514	1,964,203	406.2
2013	7,520	1,986,202	399.8
2014	7,445	2,007,988	389.6
2015	7,621	2,026,210	392.9
2016	7,385	2,047,858	373.5

Alcohol - first hospital admission aged under 75 years

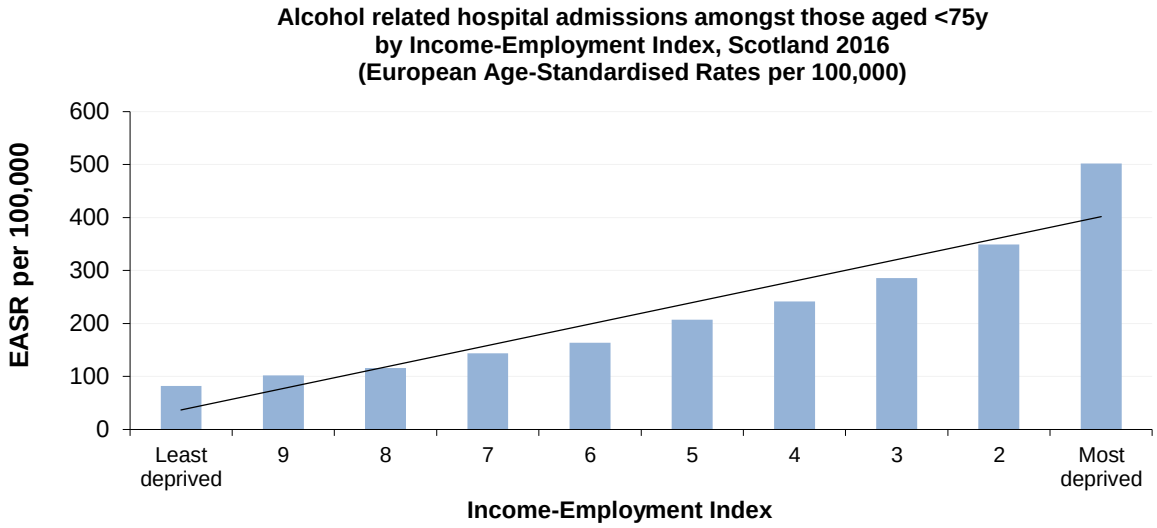
Trends in alcohol-related admissions

The hospital admission rate for alcohol-related conditions amongst those aged under 75 years has fallen over time, with a 24% decrease between 1996 and 2016 (289.8 and 219.1 cases per 100,000 respectively).

Inequalities in alcohol-related admissions, 2016

Alcohol-related admissions are 6 times more common in the most deprived areas of Scotland compared to the least (502.2 compared to 82.4 cases per 100,000).

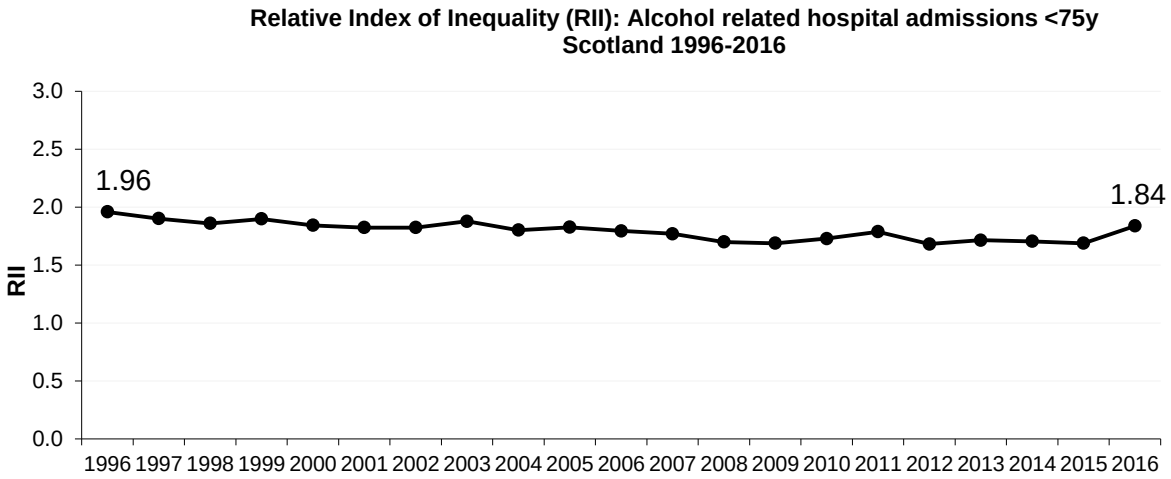
Figure 8.1



Trends in relative inequalities

A general downward trend was observed in relative inequalities for alcohol-related admissions between 1997 and 2008 (RII declining from 1.90 to 1.70). There followed a period of relatively little overall change until the most recent figure (1.84), which is the highest since 2003.

Figure 8.2



In 1997, alcohol-related admission rates were 7 times higher in the most deprived areas compared to the least deprived. For the seven years prior to 2016, rates were around 5 times higher in the most deprived areas compared to the least deprived. In 2016 they were 6 times higher.

Trends in absolute inequalities

Absolute inequality in alcohol-related admissions has generally reduced over time, due to a reduction in admissions in the most deprived areas.

Figure 8.3

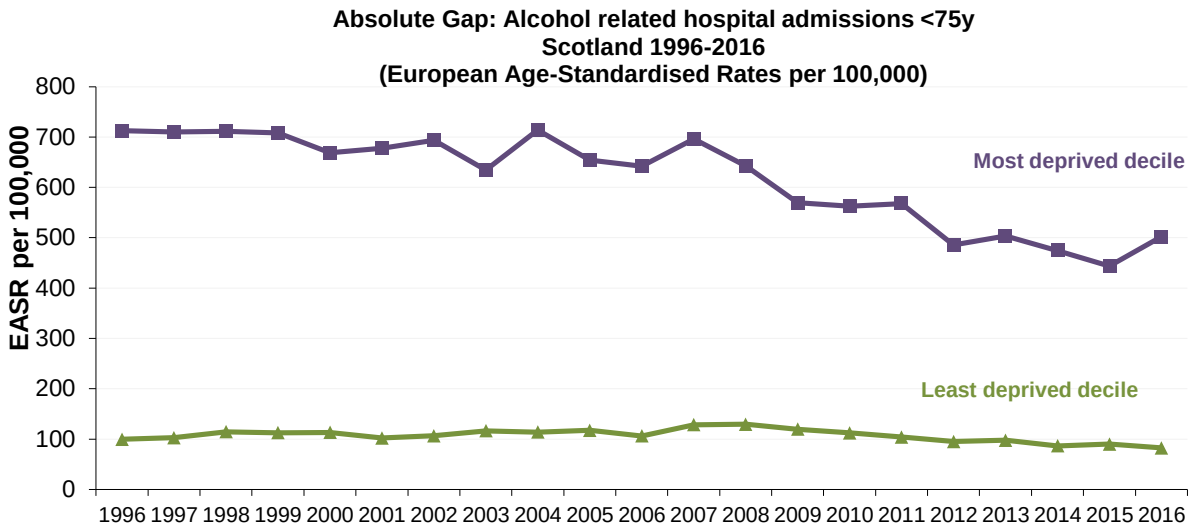


Table 8.1: Trends in alcohol-related hospital admissions (aged < 75), 1997-2016

	Number of admissions	Target population size	Rate per 100,000 (EASR)
1996	12,787	4,754,906	289.8
1997	12,918	4,740,269	292.6
1998	13,316	4,729,975	300.7
1999	13,217	4,721,298	298.2
2000	12,786	4,708,667	286.6
2001	13,469	4,703,661	300.3
2002	13,492	4,701,958	299.9
2003	12,996	4,702,431	290.0
2004	14,084	4,714,233	312.5
2005	13,346	4,735,320	293.8
2006	13,595	4,752,425	295.3
2007	14,641	4,783,452	313.5
2008	14,222	4,811,453	302.3
2009	12,891	4,835,007	272.9
2010	12,307	4,858,058	258.7
2011	12,264	4,888,316	256.2
2012	11,556	4,895,114	240.9
2013	11,225	4,903,074	236.8
2014	10,767	4,914,362	223.4
2015	10,459	4,935,283	216.1
2016	10,753	4,962,391	219.1

Alcohol - deaths aged 45-74 years

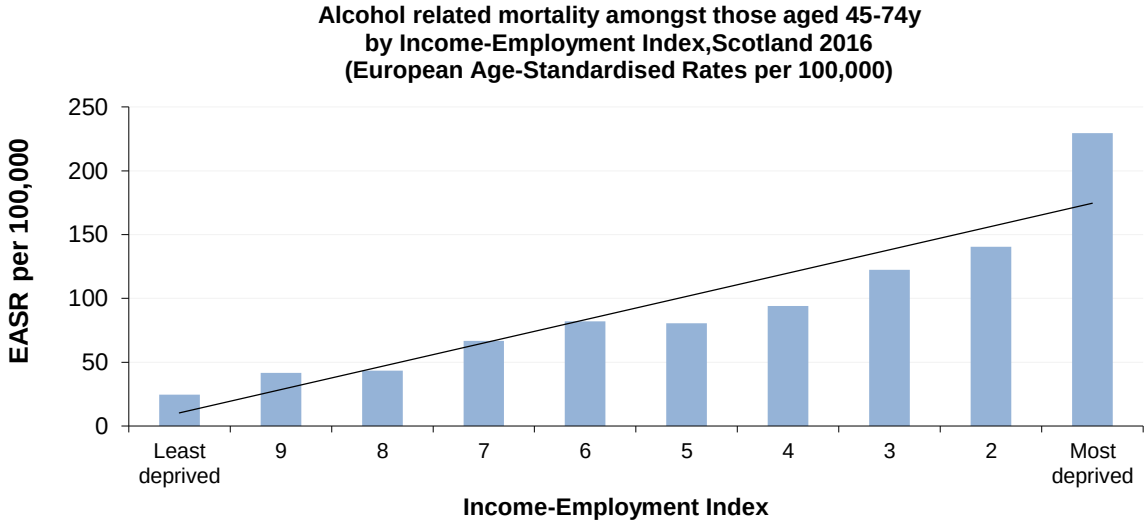
Trends in alcohol-related deaths

Alcohol-related deaths among those aged 45-74 years fell from a peak of 1,899 in 2006 to a low of 1,435 in 2013. In the past three years, however, alcohol-related deaths have increased again. The figure for 2016 (1,831) is the second highest since the times series began in 1997.

Inequalities in alcohol-related deaths, 2016

The mortality rate in Scotland's most deprived areas is over 9 times higher than that observed in the least deprived (229.4 compared to 24.6 per 100,000 population).

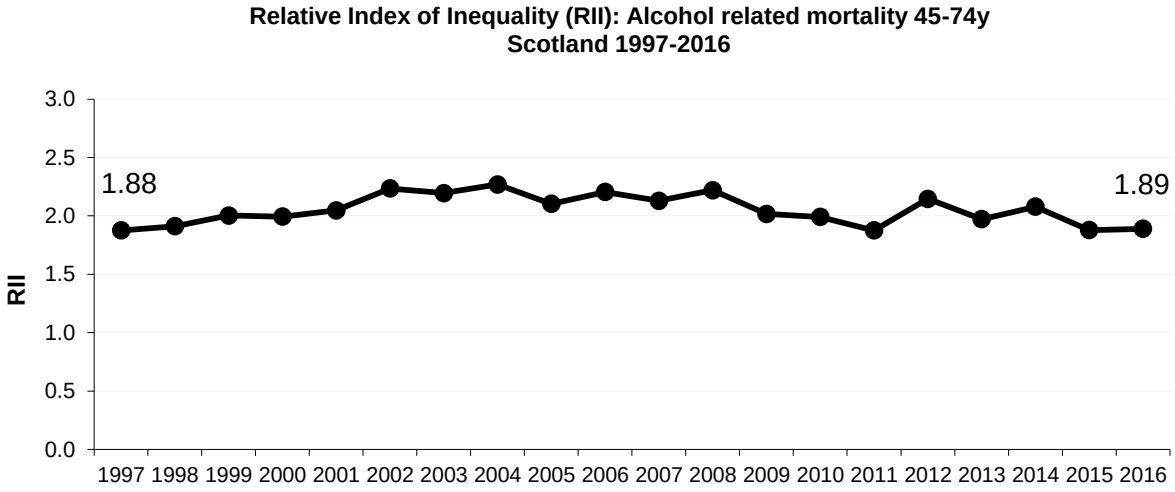
Figure 9.1



Trends in relative inequalities

Relative inequalities in alcohol related deaths increased between 1997 and 2002 (RII increasing from 1.88 to 2.23). Following recent fluctuations, relative inequalities are currently very similar to the start of the time series in 1997 (1.89 vs 1.88).

Figure 9.2



Over time the relative range between the most and least deprived areas has fluctuated, peaking in 2002 when death rates were more than twelve times higher in the most deprived areas.

Trends in absolute inequalities

Although alcohol-related deaths in the least deprived areas have remained reasonably static since 1997, there has been considerable fluctuation in deaths in the most deprived areas. This has largely driven fluctuations in the absolute gap.

Following notable highs in 2002 and 2006, and a recent low in 2013, the alcohol related mortality rate in the most deprived areas has increased in each of the past three years.

Figure 9.3

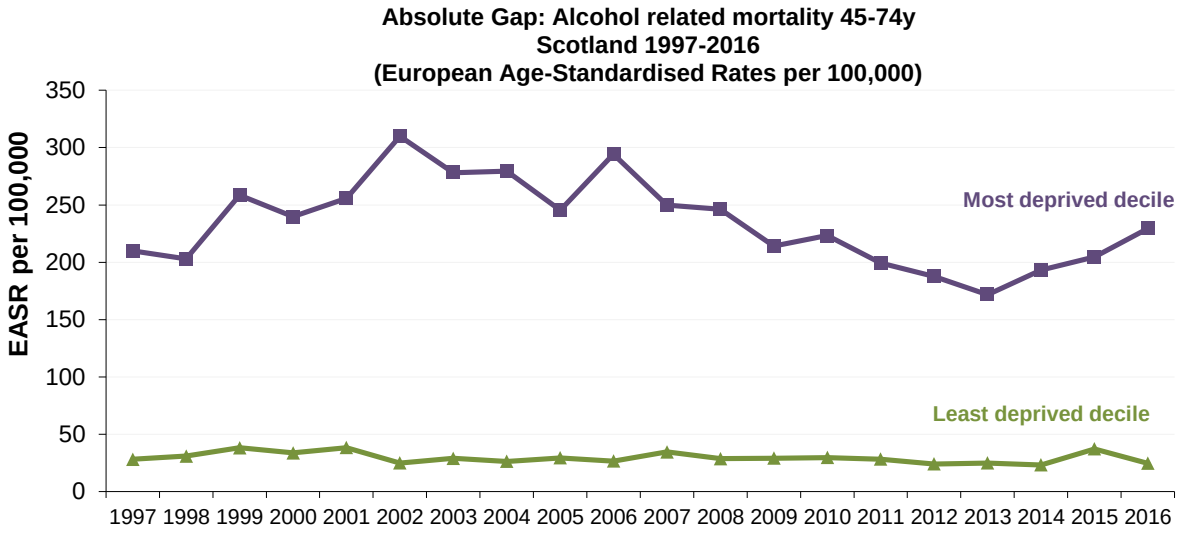


Table 9.1: Trends in alcohol-related deaths (aged 45-74), 1997-2016

	Number of deaths	Target population size	Rate per 100,000 (EASR)
1997	1,318	1,635,590	81.1
1998	1,415	1,646,711	86.4
1999	1,508	1,658,124	91.5
2000	1,489	1,670,660	89.8
2001	1,565	1,687,422	93.5
2002	1,753	1,706,141	103.5
2003	1,749	1,727,112	102.1
2004	1,764	1,751,037	101.5
2005	1,790	1,774,865	101.6
2006	1,899	1,799,382	106.7
2007	1,801	1,827,320	99.5
2008	1,782	1,856,874	97.0
2009	1,611	1,885,693	86.4
2010	1,674	1,914,226	88.5
2011	1,571	1,941,253	82.4
2012	1,441	1,964,203	74.3
2013	1,435	1,986,202	73.0
2014	1,510	2,007,988	76.0
2015	1,665	2,026,210	83.2
2016	1,831	2,047,858	90.0

Premature Mortality (aged 15-44 years)

Trends in all-cause mortality aged 15-44

The mortality rate of those aged 15-44 was lower in 2016 than at the start of the time series in 1997.

However, having reduced each year between 2006 and 2014, the rate has increased in the last two years. At 112.5 per 100,00 population, the rate for 2016 is the highest it has been since 2009.

There were a total of 2,194 deaths of people aged 15-44 in Scotland in 2016, compared with the peak of 2,566 in 2002.

The deaths in 2016 included 329 probable suicides, 568 drug-related deaths and 34 deaths from assault. While the rates of probable suicide and deaths from assault in this age group have generally declined in recent years, drug-related deaths have increased since 1997. In 2016, the drug-related death rate was 29.15 per 100,000, this compares with only 8.9 per 100,000 in 1997.

Inequalities in all-cause mortality aged 15-44, 2016

The mortality rate amongst people aged 15-44 years is 6 times higher in the most deprived areas (248.5 per 100,000) compared to the least deprived (43.4 per 100,000).

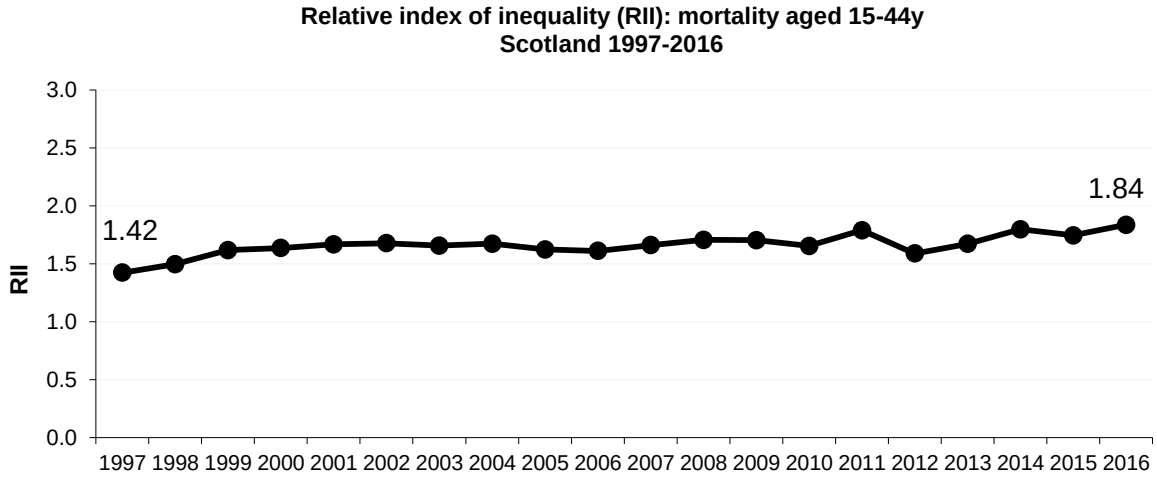
Figure 10.1

Trends in relative inequalities

Relative inequalities have increased over time and are currently at their highest point in the time series (1.84).

Since 1999, death rates have typically been between five and six times higher in the most deprived areas compared to the least deprived.

Figure 10.2



Trends in absolute inequalities

The absolute gap between the most and least deprived areas in all-cause mortality between ages 15 and 44 reached its lowest level in 2013, with death rates of 199.7 and 40.1 per 100,000 respectively (a gap of 159.6 per 100,000).

In each of the three years since 2013, the mortality rate between ages 15 and 44 in the most deprived areas has increased and the gap between the most and least deprived areas has widened to 205.1 per 100,000 in 2016.

Figure 10.3

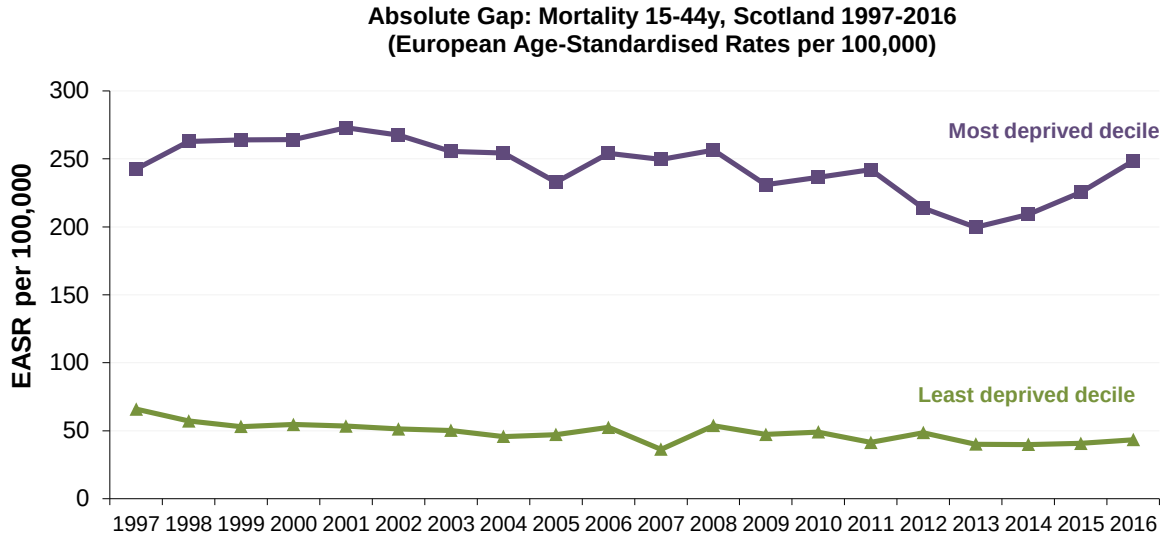


Table 10.1: Trends in all-cause mortality (aged 15-44), 1997-2016

	Number of all-causes deaths	Target population size	Rate per 100,000 (EASR)
1997	2,440	2,158,030	116.3
1998	2,507	2,142,787	119.4
1999	2,507	2,129,794	119.0
2000	2,501	2,118,568	118.7
2001	2,509	2,111,242	119.0
2002	2,566	2,102,670	122.0
2003	2,461	2,094,408	116.9
2004	2,409	2,088,563	114.7
2005	2,305	2,091,415	109.3
2006	2,482	2,091,581	118.3
2007	2,461	2,097,902	117.5
2008	2,443	2,096,495	117.5
2009	2,389	2,092,065	115.1
2010	2,229	2,087,635	108.6
2011	2,262	2,092,311	110.8
2012	2,071	2,077,902	102.8
2013	1,990	2,064,867	100.1
2014	1,904	2,053,897	96.8
2015	1,976	2,053,401	101.2
2016	2,194	2,054,055	112.5

Table 10.2: Trends in deaths from assault, drug-related deaths and probable suicides, 1997-2016

	Deaths from assault		Drug related deaths		Suicides	
	Number	EASR per 100,000	Number	EASR per 100,000	Number	EASR per 100,000
1997	56	2.61	196	8.91	518	23.88
1998	65	3.03	227	10.56	526	24.44
1999	86	4.03	274	12.92	529	24.71
2000	60	2.85	268	12.69	541	25.60
2001	63	3.01	289	13.76	531	25.25
2002	76	3.63	345	16.72	539	25.73
2003	71	3.37	282	13.62	456	21.81
2004	78	3.77	311	15.24	475	22.67
2005	50	2.39	277	13.41	436	20.95
2006	83	3.99	350	17.14	435	20.93
2007	54	2.59	392	19.05	453	21.79
2008	53	2.54	477	23.29	480	23.35
2009	47	2.25	436	21.31	432	20.81
2010	54	2.57	384	18.88	423	20.53
2011	53	2.55	454	22.48	420	20.51
2012	37	1.85	416	20.75	375	18.34
2013	35	1.69	354	17.89	356	17.72
2014	22	1.04	416	21.11	309	15.37
2015	28	1.41	442	22.75	306	15.32
2016	34	1.72	568	29.15	329	16.23

Low Birthweight

Trends in low birthweight

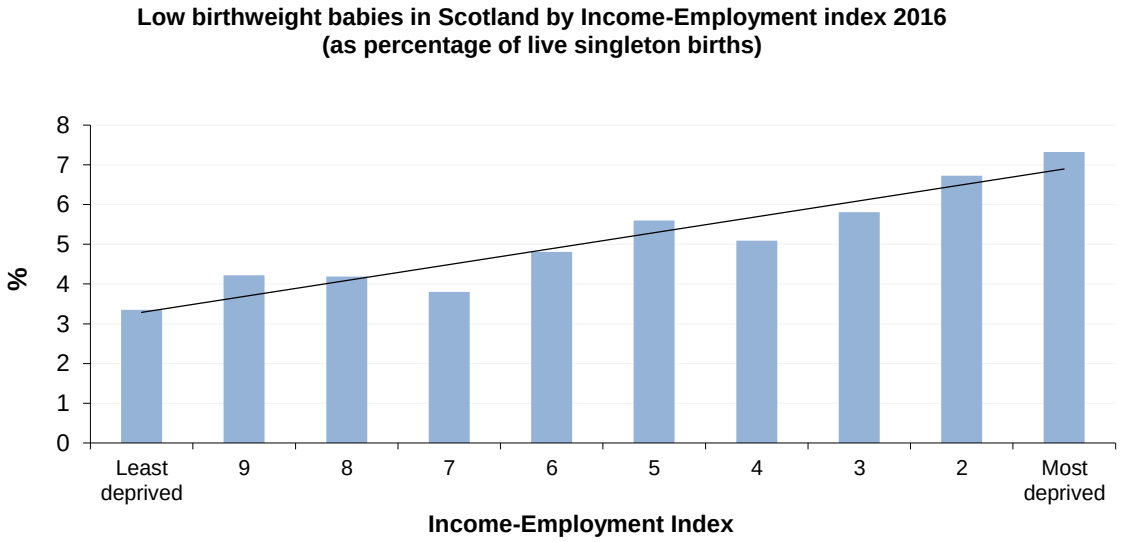
Around 2,800 low birthweight babies were born in Scotland in 2016.

The percentage of babies born with low birthweight has ranged between 5.0% and 5.3% in the years since 2009. Between 1996 and 2008, the percentage varied between 5.5% and 6.0%.

Inequalities in low birthweight 2016

In 2016, 7.3% of live singleton births in the most deprived areas were recorded as low birthweight. This is more than double the percentage in the least deprived areas (3.3%).

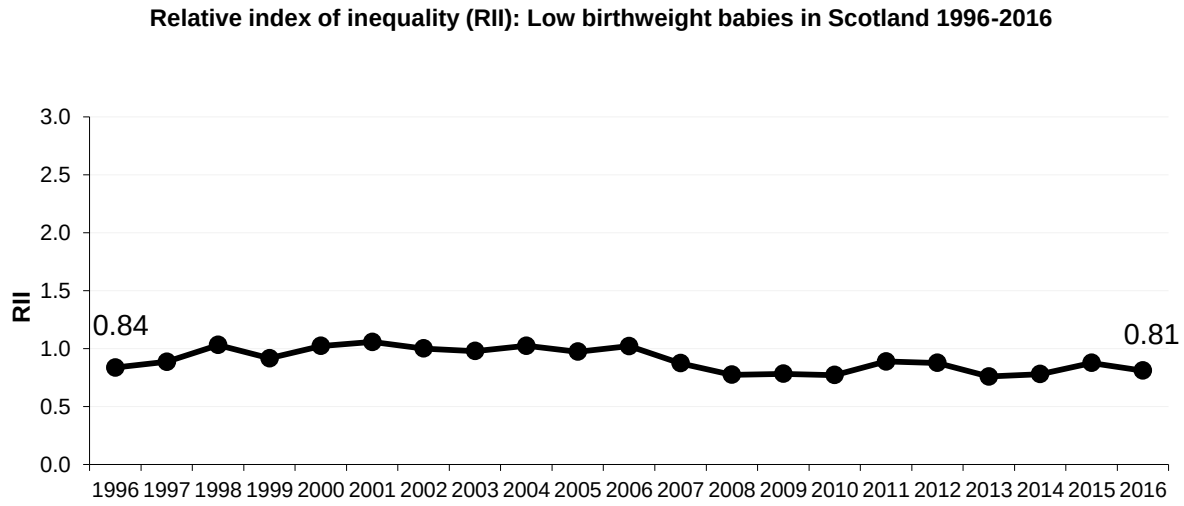
Figure 11.1



Trends in relative inequalities

Relative inequalities in low birthweight are similar in 2016 to those observed at the start of the time series (0.81 and 0.84 respectively). Recent RII values have tended to be lower than those observed the start of the time series.

Figure 11.2



Trends in absolute inequalities

Overall, the absolute gap between the most and deprived areas has reduced from its widest point in 2004 (5.7 percentage points). However, the gap has fluctuated in recent years and despite being lower in some of the intervening years, its current value (4.0 percentage points) is similar to that seen in 2007.

The narrowing and widening of the gap has tended to be driven by changes in the most deprived decile, as the least deprived decile has remained broadly stable since the beginning of the time series.

Figure 11.3

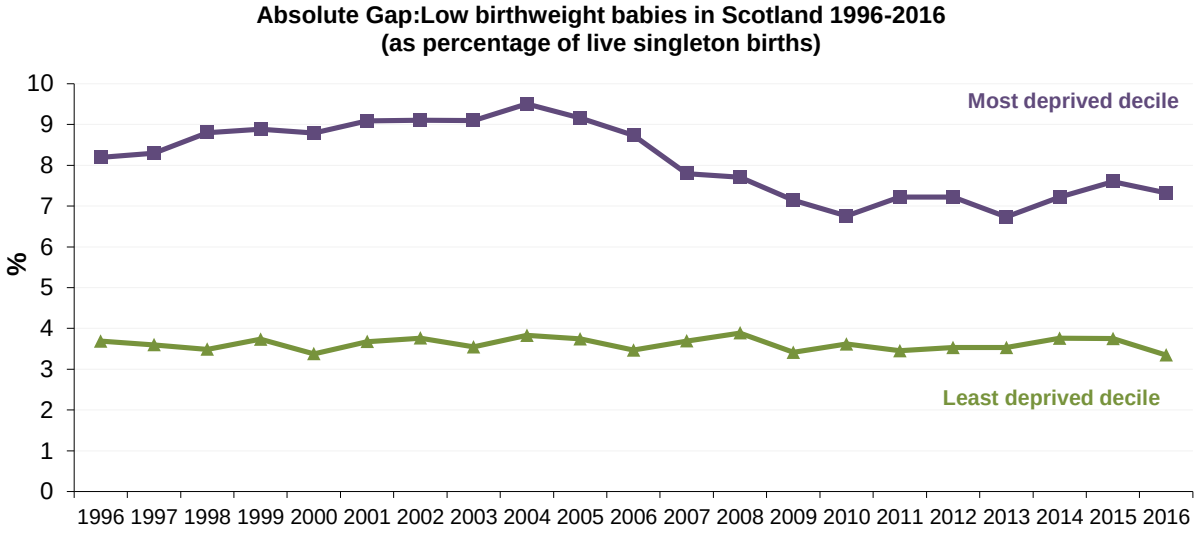


Table 11.1: Trends in low birthweight, 1996-2016

	Number of low birthweight babies	Target population size	% of live singleton births
1996	3,066	55,861	5.5
1997	3,149	56,982	5.5
1998	3,108	55,152	5.6
1999	3,098	52,726	5.9
2000	2,906	51,057	5.7
2001	2,848	49,744	5.7
2002	2,910	48,950	5.9
2003	3,026	50,069	6.0
2004	3,030	51,807	5.8
2005	3,058	51,436	5.9
2006	2,939	52,467	5.6
2007	3,095	55,271	5.6
2008	3,134	56,925	5.5
2009	2,893	56,107	5.2
2010	2,816	56,123	5.0
2011	2,946	56,037	5.3
2012	2,775	55,369	5.0
2013	2,684	53,219	5.0
2014	2,770	54,315	5.1
2015	2,819	52,796	5.3
2016	2,751	52,348	5.3

Healthy Birthweight

Trends in healthy birthweight babies

In each year of the time series, either 89% or 90% of babies have been of healthy birthweight. For the past five years the value has been 90%.

Inequalities in healthy birthweight babies 2016

In 2016, there was only a marginal difference between the least and the most deprived areas in terms of the proportion of healthy births (90.4% versus 90.3%)

Figure 12.1

Trends in relative inequalities

Relative inequalities have been consistently low over the times series. The RII for 2016 is at 0.00, suggesting that there is no relative inequality for this indicator.

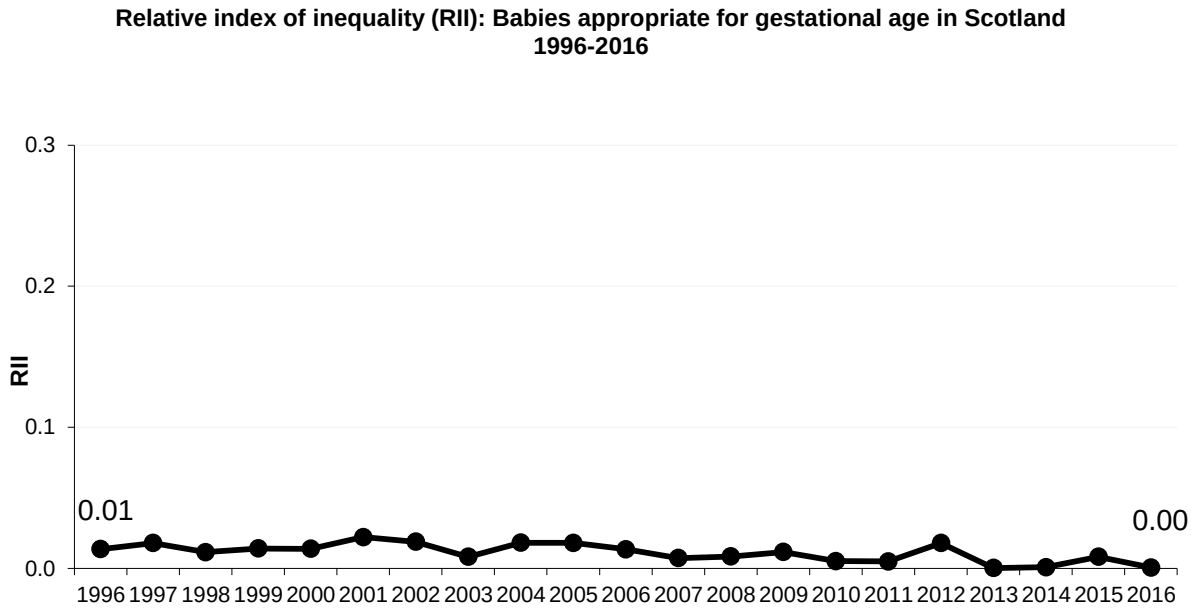


Figure 12.2

Trends in absolute inequalities

The absolute gap between the percentage of healthy birthweight babies in the most and least deprived deciles has been consistently low across the full time series.

Figure 12.3

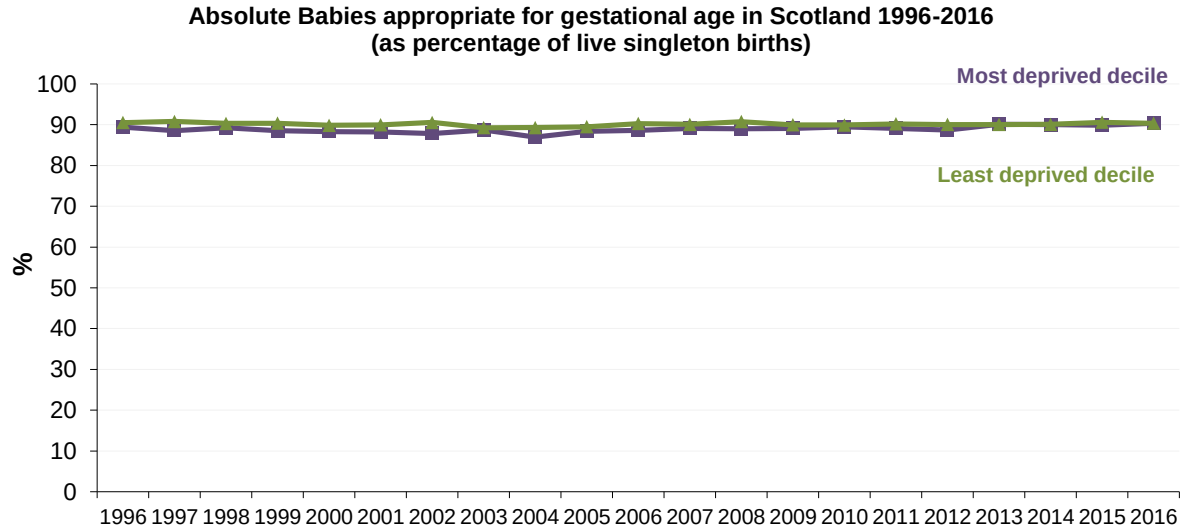


Table 12.1: Trends in healthy birthweight, 1996-2016

	Number appropriate for gestational age	Target population size	% of live singleton births
1996	49,989	55,759	89.7
1997	51,113	56,895	89.8
1998	49,303	55,075	89.5
1999	47,048	52,655	89.4
2000	45,292	50,978	88.8
2001	44,355	49,666	89.3
2002	43,571	48,853	89.2
2003	44,539	49,956	89.2
2004	45,842	51,694	88.7
2005	45,592	51,303	88.9
2006	46,678	52,330	89.2
2007	49,059	55,080	89.1
2008	50,658	56,733	89.3
2009	49,880	55,907	89.2
2010	50,236	56,027	89.7
2011	49,997	55,958	89.3
2012	49,454	55,249	89.5
2013	47,650	53,032	89.9
2014	48,598	53,964	90.1
2015	47,246	52,480	90.0
2016	46,635	51,799	90.0

Annex 1: Technical Notes

Measurement of Inequalities

Different measures can give information about different aspects of inequalities. Some measures concentrate on the extremes of deprivation, whilst others include inequalities across the scale, taking into account the whole population. Absolute and relative measures can give quite different interpretations of inequalities. In addition to this, measures based on rates alone will not give insight into the scale of the problem.

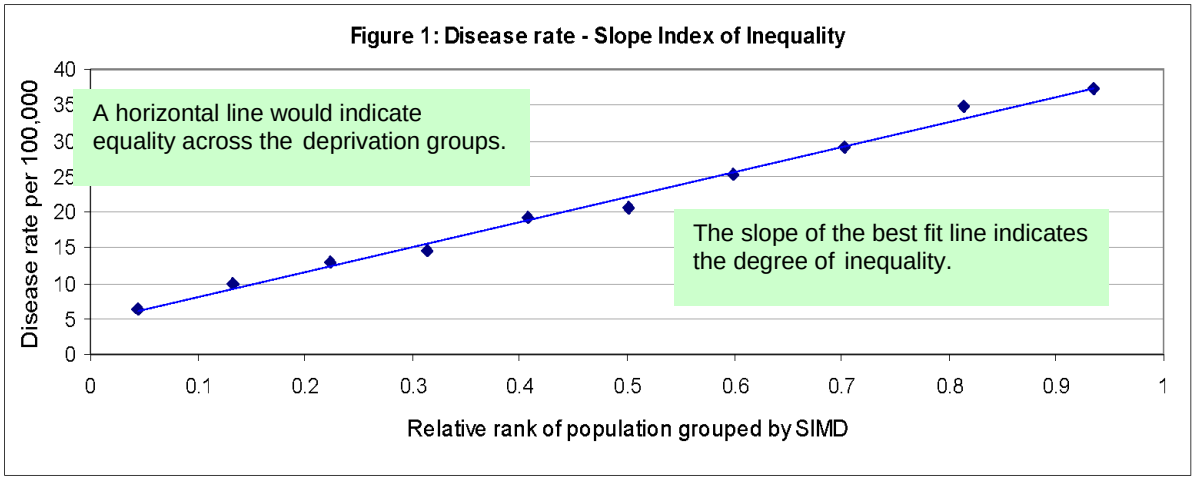
Information about different measures of inequality and their calculation was based on work done by the Scottish Public Health Observatory, available at: http://www.scotpho.org.uk/downloads/scotphoreports/scotpho071009_measuringinequalities_rep.pdf

The approach recommended by the expert group and adopted in this report uses a combination of measures, with the aim of giving a fuller understanding of the inequalities concerned.

Relative Index of Inequalities (RII): How steep is the inequalities gradient?

The RII describes the gradient of health observed across the deprivation scale, relative to the mean health of the whole population.

The RII is the slope index of inequality (SII) divided by the population mean rate. The SII is defined as the slope of the "best fit" regression line showing the relationship between the health status of a particular group and that group's relative rank on the deprivation scale. An equal rate across the deprivation categories would give a horizontal line with a slope of zero (SII=0), indicating no inequalities. The larger the absolute value of SII, the greater the inequalities observed (see Figure 1).



The SII and RII have the advantage that they are based on data about the whole population, rather than just the extremes, and so take into account inequalities

across the scale. They do, however, require a reasonably linear relationship between the health indicator and deprivation (or income). Another disadvantage is that the SII and RII are relatively difficult to interpret for a non-statistical audience.

The technical expert group concluded in 2012 and re-iterated in 2015 that, while there was evidence of non-linearity in some years for some indicators, linear methodology should be retained due to the complexity of non-linear methods, and the need of consistent reporting and general understanding.

Absolute range: How big is the gap?

This measure describes the absolute difference between the extremes of deprivation.

This measure has the advantage that it is intuitive and straightforward to explain. It has the disadvantage that, because it focuses only on the extremes of deprivation, it does not take account of patterns of inequalities observed across the intermediate groups.

Scale: How big is the problem?

The aim of this measure is to give insight into the underlying scale of the problem and to put it in context, for example by presenting numbers involved and past trends at Scotland level.

Income-Employment Index

The Short Life Technical Advisory Group also addressed the precise way in which deprivation should be defined for this work. The group agreed that the ideal would be to use individually linked records of health and socio-economic indicators, but acknowledged that these are not yet available. The preferred interim approach was to use the latest available versions of the Scottish Index of Multiple Deprivation income and employment domains. The reasoning behind this was that income / poverty / employment are felt to be the best indicators of deprivation for health inequalities analysis and because the possibility of being able to update these domains on a regular basis.

In order to combine the SIMD income and employment domains, each domain was exponentially transformed to reduce averaging effects. Exponential transformation gives greater weighting to the most deprived ranking, so combining a datazone ranked most deprived with a datazone ranked least deprived would give a combined ranking skewed towards the deprived end of the scale. This is the method used to create the SIMD.

The income and employment domains have been given equal weighting when combined in the income-employment Index.

In line with the recommendations of the Short Life Technical Advisory Group, the income-employment Index deciles are population based. Datazone based deciles are produced by ranking the datazones in Scotland according to their deprivation

score and then dividing them into deciles based on number of datazones. Population-basing the deciles uses the same approach but also takes into account the population sizes involved. The datazones are ranked according to their deprivation score alongside a cumulative total of datazone populations. The cut-off for decile 1 is the point at which 10% of the population has been included, rounded to the nearest whole datazone. Population-basing ensures the deciles contain equally sized populations, which is the best proxy to individual level indicators of deprivation available when using an area-based measure. Equally sized populations in the deciles are considered to be important for the types of inequalities analyses presented in this report.

European age-standardised rates

Rates are age-standardised in order to show patterns over time on a consistent basis, taking account of changes in the age distribution of the Scottish population, therefore more clearly showing any underlying trend. Similar, age-standardisation allows comparisons of rates for different countries, by taking account of differences in the age distributions in the populations of each country.

The 2013 European Standard Population (ESP) has been used to calculate European age-standardised rates included in this publication.

Equivalised household income

Equivalised household income is a measure of household income that takes account of the number of people in the household.

The method used in last year's report to derive deciles for the self-assessed health and limiting long-term conditions indicators is as below. It relates to households participating in the Scottish Health Survey and utilises the widely used McClements scoring system.[4]

1. A score was allocated to each household member, and these were added together to produce an overall household McClements score. Household members were given scores as follows:

First adult	0.61
Spouse/partner of first adult	0.39

[4] McClements, D. (1977). Equivalence scales for children. Journal of Public Economics. 8: 191-210.

Other second adult	0.46
Third adult	0.42
Subsequent adults	0.36
Dependant aged 0-1	0.09
Dependant aged 2-4	0.18
Dependant aged 5-7	0.21
Dependant aged 8-10	0.23
Dependant aged 11-12	0.25
Dependant aged 13-15	0.27
Dependant aged 16+	0.36

2. The equivalised income was derived as the annual household income (estimated by first adult) divided by the McClements score.

3. This equivalised annual household income was attributed to all members of the household, including children.

4. Households were ranked by equivalised income, and deciles were identified. Because income was obtained in banded form, there were clumps of households with the same income spanning the quintiles. It was decided not to split clumps but to define the quintiles as 'households with equivalised income up to decile 1' and so on.

5. All individuals in each household were allocated to the equivalised household income decile to which their household had been allocated.

Annex 2: Data sources and quality

Data quality

Except where the source data is held by Scottish Government (i.e. the mental wellbeing indicator), aggregate data is provided by National Records of Scotland for the all-cause mortality and alcohol mortality indicators, and by ISD Scotland for all other indicators in this report. Scottish Government statisticians carry out quality assurance checks on the aggregate data, comparing it with past trends and against other published data, such as national level data published by NRS or ISD. For the mental wellbeing indicator, Scottish Government statisticians quality assure the aggregate data in the same way but take the additional step of double checking the programming methods used to derive the figures within the responsible team.

ISD Scotland and NRS are responsible for the quality assurance of their own datasets. Detailed information on the quality control of the relevant ISD datasets is available online[5]. National Records of Scotland have published detailed information on the quality of data on deaths[6]. Analysts at both ISD and NRS are provided with income-employment decile-datazone lookups and population estimates before a request for aggregate data is submitted.

Revisions and timeliness of report

Our general approach to revisions and release schedules is described at the following web address:
http://www.scotland.gov.uk/Topics/Statistics/Browse/Health/TrendHealthOutcome/Results

[5] http://www.isdscotland.org/Products-and-Services/Hospital-Records-Data-Monitoring/http://www.isdscotland.org/Health-Topics/Cancer/Scottish-Cancer-Registry/Quality-Assurance/

[6] http://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths/deaths-background-information/quality-of-nrs-data-on-deaths

Pre-release access

In accordance with the Pre-release Access to Official Statistics (Scotland) Order 2008, pre-release access to these statistics was provided to Scottish Government policy and communications officials 5 working days before release for the purposes of briefing ministers. NHS Health Scotland colleagues were also provided pre-release access from 5 working days before release for the purposes of making a statement or issuing a press release at the time of, or shortly after, publication.

Indicators

Healthy Life Expectancy

Source: ScotPHO (using raw deaths data from the National Register of Scotland); Scottish Household Survey data on self-assessed health for adults aged 16+ years, Scottish Health Survey data for self-assessed health for those aged <16 years.

Definition: Healthy life expectancy (HLE) is defined as the number of years people can expect to live in good health. The difference between healthy and total life expectancy (LE) therefore indicates the length of time people can expect to spend not in good health.

HLE is calculated through a combination of life expectancy data and survey data on people's self-assessed health. The method used to calculated the Life Expectancy estimates is based on Chiang (II) methodology; the HLE calculation is based on the Sullivan method. The uncertainty around estimates of HLE are larger than those around life expectancy because relatively small samples are involved in the age and sex specific breakdowns of survey data required to calculate HLE.

In 2009, the format of the self-assessed health question (on which the life expectancy data is based) was changed to align with the European Union. The options for response changed from a three-point scale (Good, Fairly good, Not good) to a five point scale (Very good, Good, Fair, Bad, Very bad). Under the three-point scale, 'Good' and 'Fairly good' were categorised as 'healthy'. Under the five point scale only 'Very good' and 'Good' are categorised as 'healthy'. This has led to a major discontinuity in the series. For both men and women, there is a markedly lower estimate of HLE at birth from 2009 than previous years.

Premature Mortality (from all causes, aged under 75 years)

Source: National Records of Scotland**.**
Definition: European age-standardised rates of deaths from any cause amongst those aged under 75 years.

Coronary Heart Disease - first ever hospital admission for heart attack aged under 75 years

Source: NHS Information Services Division (ISD); SMR1/01 records (all inpatient and daycase discharges).
Definition: European age-standardised rates of first ever hospital admission for acute myocardial infarction (heart attack) amongst those aged under 75 years. The following World Health Organisation International Classification of Disease coding was used: ICD10 'I21-I22'; ICD9 '410'.

Coronary Heart Disease - deaths aged 45-74 years

Source: NHS Information Services Division (ISD); using deaths data from National Records of Scotland.
Definition: European age-standardised rates death from coronary heart disease amongst those aged 45-74 years. The following World Health Organisation International Classification of Disease coding was used: ICD10 'I20-I25'; ICD9 '410-414'. Because of the dynamic nature of the linked database, previous years' data are sometimes updated in subsequent publications.

Cancer - incidence rate aged under 75 years

Source: NHS Information Services Division (ISD); Scottish Cancer Registry.
Definition: European age-standardised rates of new cases of cancer amongst those aged under 75 years.

All Cancers- cancer defined as all malignant neoplasms excluding non-melanoma skin cancer. The following World Health Organisation International Classification of Disease coding was used: ICD10 'C00-C96' excluding 'C44' (the Scottish Cancer Registry does not use code 'C97').
Prostate cancer (males only)- ICD-10 C61
Breast cancer (females only)- ICD-10 C50
Cancer of the trachea, bronchus and lung- ICD-10 C33-C34
Colorectal cancer- ICD-10 C18-C20

Cancer - deaths aged 45-74 years

Source: NHS Information Services Division (ISD); Scottish Cancer Registry.
Definition: European age-standardised rates of deaths from cancer amongst those aged under 45-74 years.
All cancers- cancer defined as all malignant neoplasms excluding non-melanoma skin cancer. The following World Health Organisation International Classification of Disease coding was used: ICD10 (2000 onwards) 'C00-C97' excluding 'C44'.
Prostate cancer (males only) - ICD-10 C61
Breast cancer (females only) - ICD-10 C50
Cancer of the trachea, bronchus and lung- ICD-10 C33-C34
Colorectal cancer- ICD-10 C18-C20

Alcohol - first hospital admission aged under 75 years

Source: NHS Information Services Division (ISD).
Definition: European age-standardised rates of first hospital admission for alcohol related conditions amongst those aged under 75 years. These rates include hospitals discharges where alcohol-related problems are recorded as either primary or secondary reasons for admission to hospital and will cover first admission in the

last ten years. These figures exclude private hospitals, mental illness hospitals, psychiatric units and maternity hospitals and include Scottish residents only. Caution is necessary when interpreting these figures. The recording of alcohol misuse may vary from hospital to hospital. Where alcohol misuse is suspected but unconfirmed it may not be recorded by the hospital. The following revised World Health Organisation International Classification of Disease coding was used: ICD10: F10, K70, X45, X65, Y15, Y90, Y91, E244, E512, G312, G621, G721, I426, K292, K860, O354, P043, Q860, T510, T511, T519, Y573, R780, Z502, Z714, Z721.

Alcohol - deaths aged 45-74 years

Source: National Records of Scotland.
Definition: European age-standardised rates of death from alcohol related conditions amongst those aged 45-74 years. The definition of alcohol related deaths includes deaths where there was any mention of alcohol related conditions on the death certificate, rather than just as the main cause of death. The following World Health Organisation International Classification of Disease coding was used: ICD10 F10, G31.2, G62.1, I42.6, K29.2, K70, K73, K74.0, K74.1, K74.2, K74.6, K86.0, X45, X65, Y15; ICD9 291, 303, 305.0, 425.5, 571.0, 571.1, 571.2, 571.3, 571.4, 571.5, 571.8, 571.9, E860.

All-cause mortality aged 15-44 years

Source: National Records of Scotland.
Definition: European age-standardised rates of deaths from any cause amongst those aged 15-44 years. Specific breakdowns for deaths from assault, drug related deaths and suicide are also provided, as the major causes of death for which there are large inequalities amongst young people. There may be some double counting in these breakdowns. The following World Health Organisation International Classification of Disease coding was used: Assault ICD10 ‘X85-Y09’, ‘Y87.1’ ICD9 ‘E960-969’; Drug-related ICD10 ‘F11-16’, ‘F19’, ‘X40-44’, ‘X60-64’, ‘X85’, ‘Y10-Y14’; Suicide (intentional self-harm + undetermined intent) ICD10 ‘X60-84’, ‘Y87.0’ ICD9 ‘E950-959’, ‘E980-989’.

Low Birthweight

Source: NHS Information Services Division (ISD); SMR02 maternity dataset.
Definition: The figures are presented as a percentage of all live singleton births (not including home births or births in non-NHS hospitals). Low birthweight is defined as <2,500g - the standard World Health Organisation definition.

Healthy Birthweight

Source: NHS Information Services Division (ISD); SMR02 maternity dataset.
Definition: A baby is considered to be of healthy birthweight (a weight appropriate for its gestational age) when it lies between the 5th and 95th centile for weight at its gestational age. Gestational age is a way of expressing the age or development of a baby. It is typically based on an antenatal ultrasound scan. However, it may also be estimated from the number of weeks since the mother's last normal menstrual period.

Note: In previous publications, data on appropriate birthweight for gestational age were produced using standard tables derived from Scottish data on all births from the years 1998-2003 by Sandra Bonnellie (Napier University) and Jim Chalmers (ISD).

Details of the way in which the standards were derived are available here: http://www.biomedcentral.com/1471-2393/8/5.

ISD recently updated their methodology and data on appropriate birthweight for gestational age are now produced using tables based on the UK-WHO child growth standards developed by the Royal College of Paediatrics and Child Health, see: http://www.rcpch.ac.uk/child-health/research-projects/uk-who-growth-charts

Figures presented in this publication are calculated using the new methodology.

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ISBN 978-1-78851-531-3

APS Group Scotland, 21 Tennant Street, Edinburgh EH6 5NA
PPDAS343146 (12/17)