HEALTH AND SOCIAL CARE

Long-term Monitoring of Health Inequalities

January 2021 report

Supplementary data tables are available in the supporting files section.

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:

- **Healthy life expectancy for females** – the gap has decreased since the start of the time series, from 23.8 years in 2013-2015 to 22.1 years in 2017-2019, and is currently at its lowest point.

- **Mental wellbeing** - the gap has decreased since its peak 2012/2013 (21 percentage points) and is currently the same as at the start of the time series in 2008/2009 (15 percentage points)

- **Coronary heart disease deaths** - the gap has reduced from a high of 390.1 per 100,000 in 1998. The current gap is less than half what it was in 1998 (172.9 per 100,000 in 2019).

- **Alcohol-related admissions** - the gap in 2019 (377.6 per 100,000) was lower than at the of the time series in 1996 (613.0 per 100,000).

- **Alcohol-specific deaths** – the gap has reduced to 85.8 per 100,00 in 2019, from its peak of 184.7 per 100,000 in 2002.

The gap in **healthy life expectancy for males** has increased since the start of the time series, from 22.5 years in 2013-2015 to 26.0 in 2017-2019, and is currently at its highest point.

The gap in **premature mortality** rates increased to its highest point since 2007 in 2019 (619.4 per 100,000 in 2019 and 656.2 per 100,000 in 2007), although the gap remains lower than at the start of the time series (648.7 per 100,000 in 1997).

Whilst the gap for **all-cause mortality (aged 15-44)** reduced to its lowest level in 2013 (159.6 per 100,000), it has increased in each of the last six years and is currently at its highest point in the time series (257.9 per 100,000 in 2019).

The gap for **low birthweight** has reduced from its widest point in 2004 (5.7 percentage points). However, the gap has increased in most years since 2013, from 3.2 percentage points to 4.8 percentage points in 2019.

The gap for **poor self-assessed health** has increased from 13 percentage points at the start of the time series in 2008/2009, to 18 percentage points in 2018/2019.

The gap for **limiting long-term conditions** has reduced since its peak in 2014/2015 (29 percentage points), however it is currently higher than at the start of the time series (23 percentage points in 2018/2019 compared to 21 percentage points in 2008/2009).

The gap for **drug-related hospital admissions** has increased in each of the last six years to its highest point in 2018/19 (608.8 per 100,000) and has almost tripled since the start of the time series in 1996/97.

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

- **Heart attack hospital admissions**
- **Cancer incidence**

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 in recent years and cancer incidence inequalities have remained relatively stable.

Amongst the two comparable **mortality indicators** (CHD deaths and alcohol-specific deaths), relative inequalities in CHD deaths have increased over the long term whilst the RII in alcohol-specific deaths have shown more year to year fluctuation. However, relative inequalities in alcohol-specific deaths remain higher than CHD deaths.

Of the other indicators in the report, the two indicators relating to mortality (premature mortality for those aged under 75 and all-cause mortality for those 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 most recently convened in 2019 to review proposed changes to some existing indicators and discuss the inclusion of a new indicator to monitor drug-related hospital admissions. This indicator was presented in the report for the first time in 2020 and is now included annually.

Indicators

The indicators monitored by this report series are:

Headline indicators of health inequalities

- Healthy life expectancy (HLE)
- 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 (CHD): first ever hospital admission for heart attack (aged under 75 years)
- Coronary heart disease (CHD): 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: 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+)
- Drugs: hospital admissions (aged under 75 years)

This year's report does not include results for cancer deaths as the production of data necessary for this report has been delayed due to the COVID-19 pandemic.

Supplementary tables showing the most up-to-date trends in relative and absolute inequalities for all indicators are available in the supporting files section.

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.

Headline indicator of Health Inequalities

Healthy Life Expectancy (HLE)

In 2017-2019, male HLE at birth was 47.0 years for those living in the most deprived areas, 26.0 years lower than those living in the least deprived areas (73.0 years).

Female HLE at birth was 49.5 years for those living in the most deprived areas, 22.1 years lower than those living in the least deprived areas (71.6 years).

The absolute gap in HLE has increased for males since the start of the time series, from 22.5 years in 2013-2015 to 26.0 in 2017-2019, and is currently at its highest point.

The absolute gap in HLE for females, however, has decreased since the start of the time series, from 23.8 years in 2013-2015 to 22.1 years in 2017-2019, and is currently at its lowest point.

Trends in HLE

HLE at birth for males increased between 2013-2015 and 2015-2017 (from 61.8 years to 62.3 years) and has since fallen to its lowest level, 61.7 years in 2017-2019. Similarly for females, HLE increased between 2013-2015 and 2014-2016 (from 62.7 years to 63.3 years) before decreasing to its lowest level in 2017-2019 (61.9 years).

Inequalities in HLE, 2017-2019

HLE is lower for those living in the most deprived areas than for those living in the least deprived areas. In 2017-2019 males in the most deprived areas were, on average, expected to live 26.0 fewer years in good health than those in the least deprived areas (47.0 years vs 73.0 years). Females in the most deprived areas were, on average, expected to live 22.1 fewer years in good health than those in the least deprived areas (49.5 years vs 71.6 years).

Figure 1.1

Healthy Life Expectancy - Males - by Income-Employment Index Scotland 2017-2019

Figure 1.2

Healthy Life Expectancy - Females - by Income-Employment Index Scotland 2017-2019

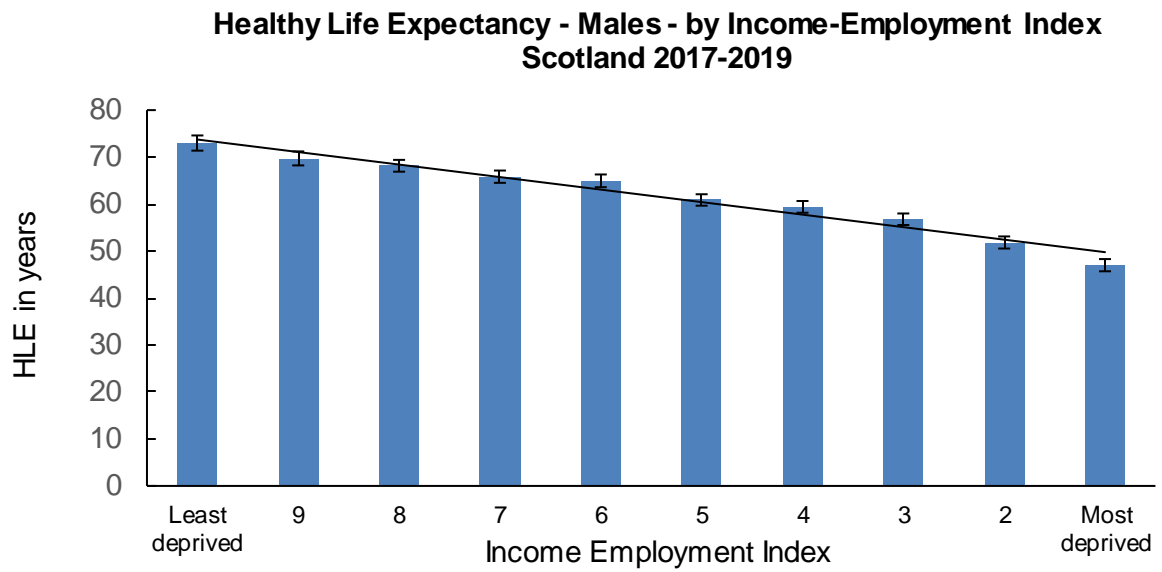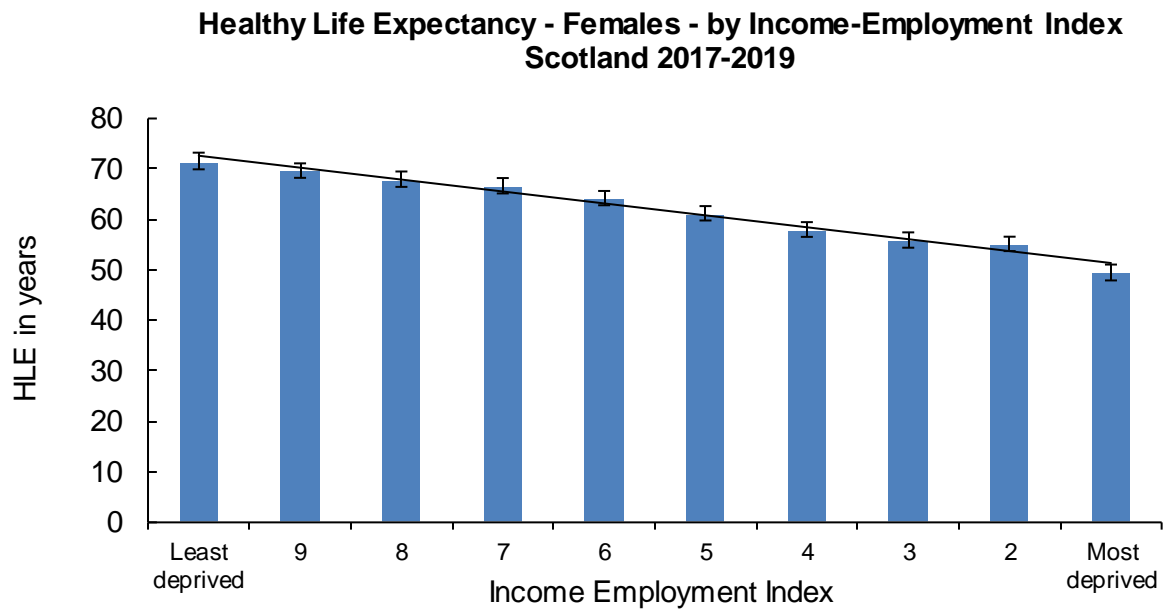## Trends in relative inequalities

The relative index of inequalities (RII) has increased for both males and females since the start of the time series, increasing from 0.38 to 0.43 for males from 0.36 to 0.38 for females between 2013-2015 and 2017-2019.

Figure 1.3

**Relative Index of Inequality (RII): Healthy Life Expectancy - Males
Scotland 2013-2015 to 2017-2019**

Figure 1.4

**Relative Index of Inequality (RII): Healthy Life Expectancy - Females
Scotland 2013-2015 to 2017-2019**

Trends in absolute inequalities

The absolute gap in HLE has increased for males since the start of the time series, from 22.5 years in 2013-2015 to 26.0 in 2017-2019, and is currently at its highest point.

The absolute gap in HLE for females, however, has decreased since the start of the time series, from 23.8 years in 2013-2015 to 22.1 years in 2017-2019, and is currently at its lowest point.

Figure 1.5

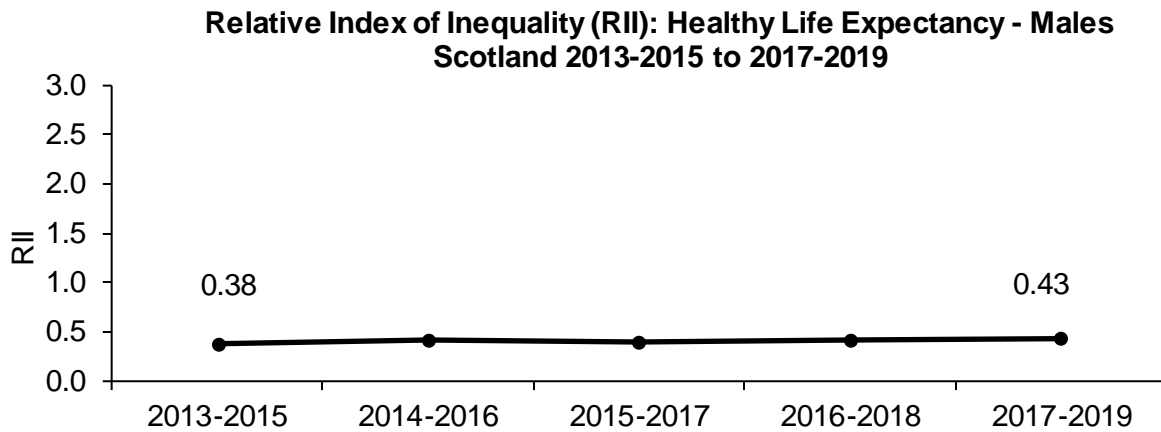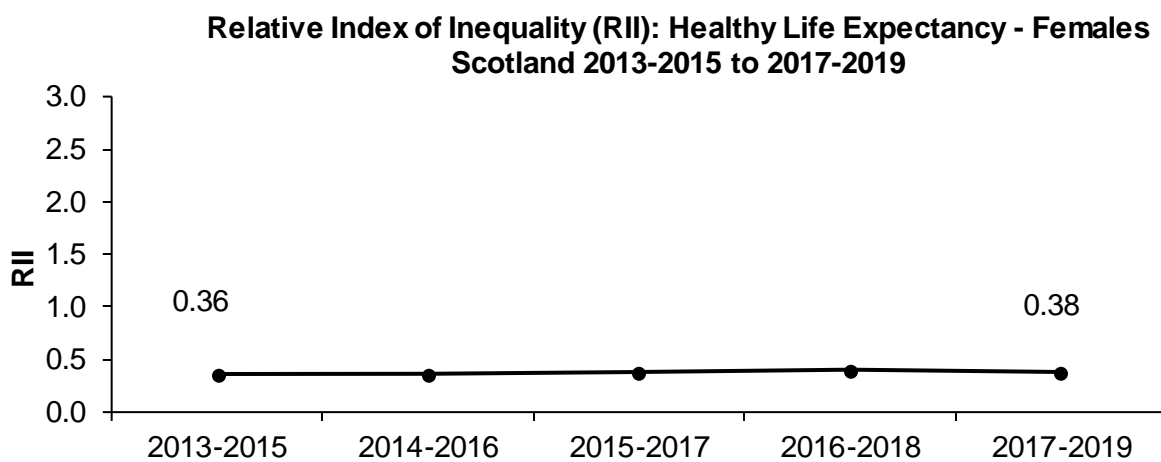**Absolute Gap: Healthy Life Expectancy - Males**
Scotland 2013-2015 to 2017-2019

Figure 1.6

Absolute Gap: Healthy Life Expectancy - Females
Scotland 2013-2015 to 2017-2019
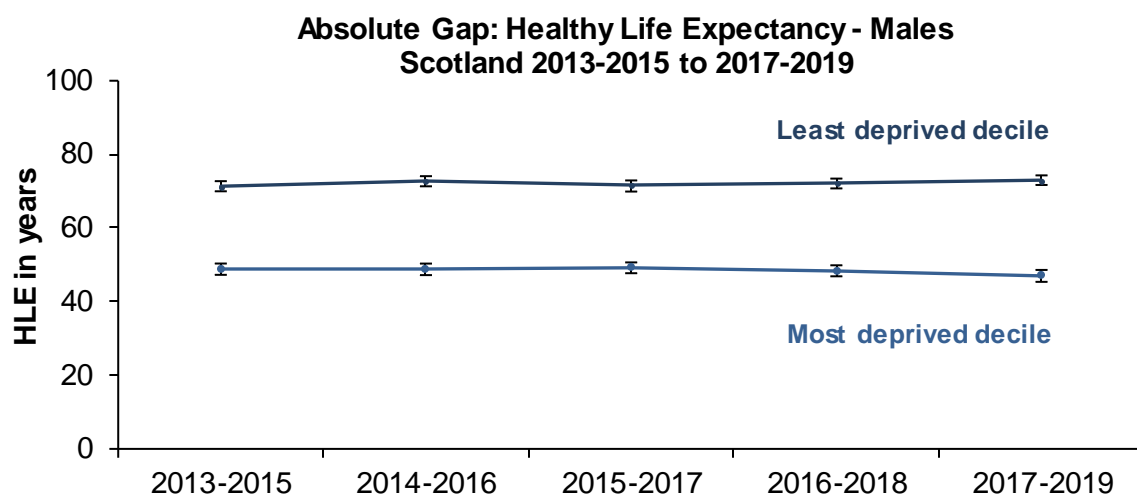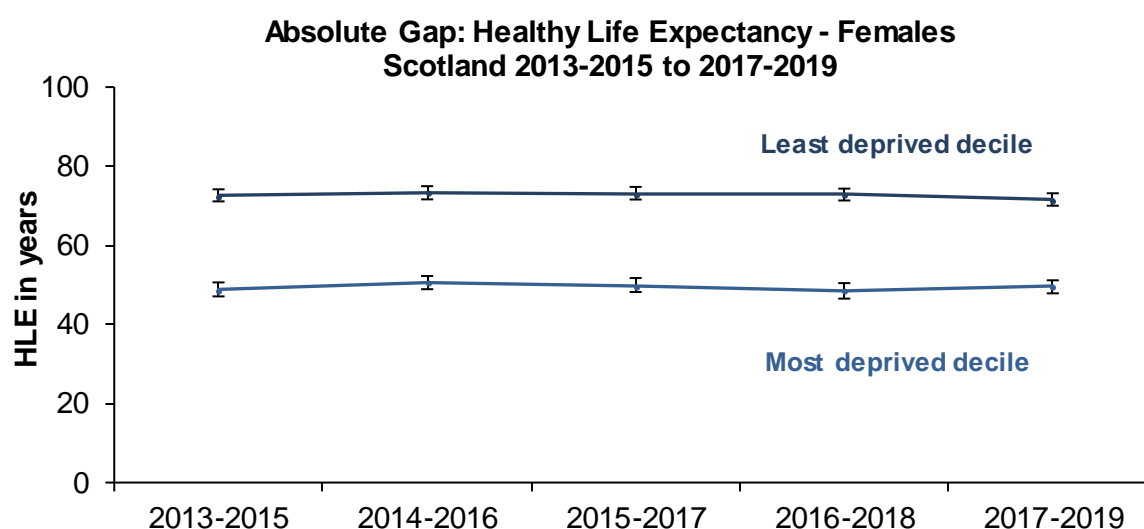
Healthy Life Expectancy and Life Expectancy, 2013-2015 to 2017-2019

Based on HLE and life expectancy (LE) we can estimate the proportion of life spent in good health. In 2017-2019 males were estimated to spend 79.9% of their life in good health, while females were estimated to spend 76.3% of their life in good health.

Males and females in the most deprived areas in Scotland are estimated to spend a lower proportion of their life in good health than those living in the least deprived areas. In 2017-2019 males living in the most deprived areas spent 67.5% of their life in good health, compared to 88.1% for males living in the least deprived areas. Similarly, in 2017-2019, females living in the most

deprived areas spent 65.3% of their life in good health, compared to 83.6% for females living in the least deprived areas.

Table 1.1 Trends in male healthy life expectancy and life expectancy, 2013-2015 to 2017-2019

	Male HLE in years	Confidence Intervals		Male LE in years	Confidence Intervals		Proportion of life spent in good health
		95% LL	95% UL		95% LL	95% UL	
2013-2015							
Scotland	61.8	61.4	62.2	77.1	77.0	77.2	80.2
Most deprived decile	48.8	47.3	50.3	70.2	69.9	70.6	69.5
Least deprived decile	71.3	70.0	72.7	82.5	82.2	82.8	86.5
2014-2016							
Scotland	62.2	61.8	62.6	77.1	77.0	77.2	80.7
Most deprived decile	48.8	47.2	50.3	70.0	69.7	70.3	69.7
Least deprived decile	72.7	71.3	74.1	82.5	82.2	82.8	88.1
2015-2017							
Scotland	62.3	61.9	62.7	77.0	76.9	77.1	80.9
Most deprived decile	49.2	47.7	50.6	69.9	69.6	70.2	70.4
Least deprived decile	71.4	69.9	72.9	82.6	82.3	82.9	86.5
2016-2018							
Scotland	61.9	61.5	62.3	77.1	77.0	77.2	80.3
Most deprived decile	48.4	46.9	49.9	69.7	69.4	70.0	69.4
Least deprived decile	72.1	70.7	73.4	82.7	82.4	83.0	87.2
2017-2019							
Scotland	61.7	61.3	62.1	77.2	77.2	77.1	79.9
Most deprived decile	47.0	45.4	48.6	69.6	69.3	70.0	67.5
Least deprived decile	73.0	71.7	74.3	82.9	82.6	83.1	88.1

Table 1.2: Trends in female healthy life expectancy and life expectancy, 2013-2015 to 2017-2019

	Female HLE in years	Confidence Intervals		Female LE in years	Confidence Intervals		Proportion of life spent in good health
		95% LL	95% UL		95% LL	95% UL	
2013-2015							
Scotland	62.7	62.3	63.2	81.1	81.0	81.2	77.3
Most deprived decile	48.8	47.1	50.6	76.6	76.3	76.9	63.8
Least deprived decile	72.6	71.1	74.2	84.7	84.5	85.0	85.7
2014-2016							
Scotland	63.3	62.9	63.8	81.1	81.1	81.2	78.0
Most deprived decile	50.6	48.9	52.2	76.2	75.9	76.5	66.3
Least deprived decile	73.3	71.6	74.9	84.9	84.6	85.2	86.3
2015-2017							
Scotland	62.6	62.2	63.1	81.1	81.0	81.2	77.3
Most deprived decile	49.9	48.2	51.7	75.8	75.5	76.1	65.9
Least deprived decile	73.2	71.6	74.8	85.1	84.9	85.4	85.9
2016-2018							
Scotland	62.2	61.7	62.7	81.1	81.0	81.2	76.7
Most deprived decile	48.5	46.5	50.4	75.8	75.5	76.1	63.9
Least deprived decile	72.8	71.3	74.3	85.2	84.9	85.5	85.5
2017-2019							
Scotland	61.9	61.5	62.4	81.1	81.2	81.1	76.3
Most deprived decile	49.5	47.8	51.1	75.8	75.5	76.1	65.3
Least deprived decile	71.6	70.0	73.2	85.6	85.3	85.8	83.6

Premature mortality (under 75 years)

In 2019, the gap in premature mortality rates between the most and least deprived areas increased to its highest point since 2007 (619.4 per 100,000 and 656.2 per 100,000 respectively), although the gap remains lower than at the start of the time series (648.7 per 100,000 in 1997). Relative inequalities, however, have widened over the long term and are now at the highest point in the time series (1.49).

In 1997, premature mortality rates were 3 times higher in the most deprived areas compared to the least deprived; in 2019, rates were 4 times higher in the most deprived areas.

Trends in premature mortality

Just over 21,500 people in Scotland died before the age of 75 in 2019.

Over the long term there has been a reduction in the mortality rate among under-75s. The European Age-Standardised mortality rate (EASR) among under-75s in 2019 was 425.6 per 100,000 people, a reduction of 35 per cent since 1997 (651.9 per 100,000).

Table 2.1: Trends in premature mortality (under 75 years), 1997-2019

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
2017	20,992	4,976,829	425.2
2018	21,601	4,983,364	432.0
2019	21,501	4,997,455	425.6

Inequalities in premature mortality, 2019

In 2019, the premature mortality rate in the most deprived areas was 817.6 per 100,000, four times higher than the rate in the least deprived areas (198.2 per 100,000).

Figure 2.1

**All cause mortality amongst those aged <75y by Income-Employment Index Scotland 2019
(European Age-Standardised Rates per 100,000)**
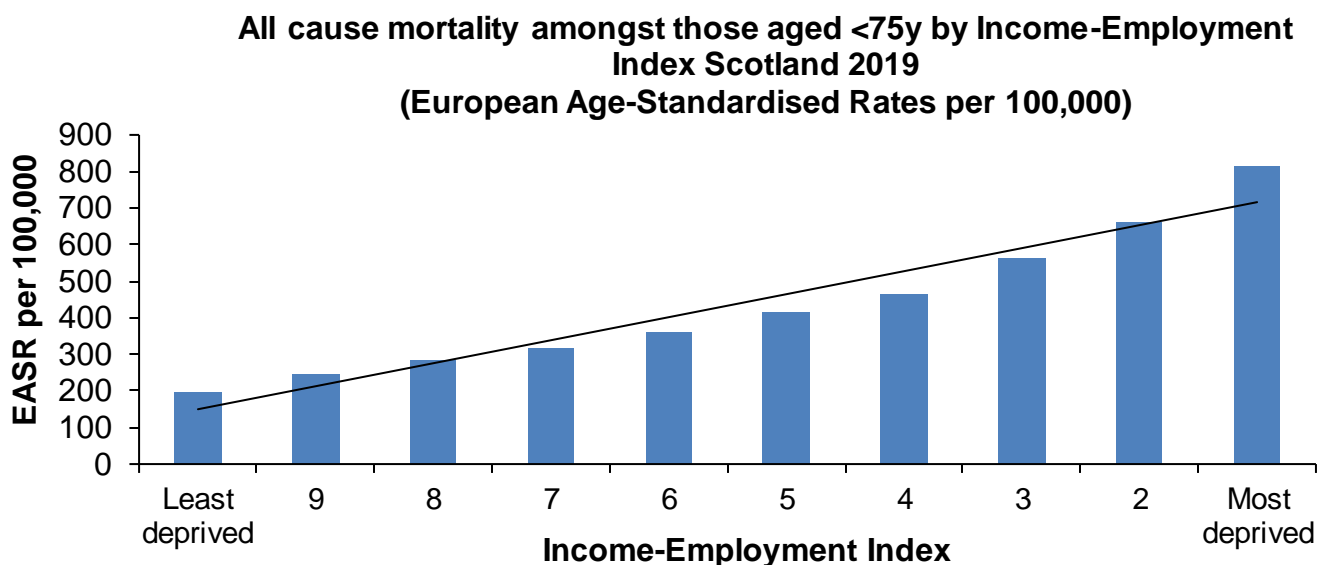
Trends in relative inequalities

Over the longer term, relative inequalities have increased. The RII for 2019 is the highest in the time series at 1.49, compared with 1.00 at the start of the time series in 1997.

Between 1997 and 2019, premature mortality rates declined by 48% in the least deprived areas, but by only 21% in the most deprived areas in Scotland.

Figure 2.2

Relative Index of Inequality (RII): All cause mortality <75y
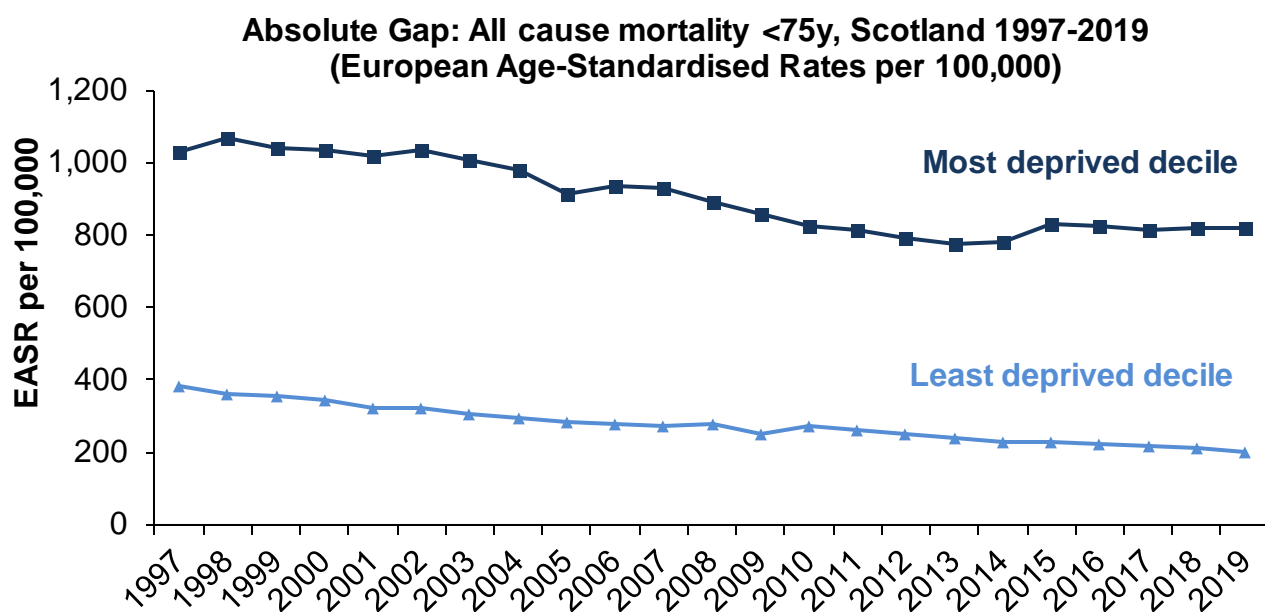**Scotland 1997-2019**
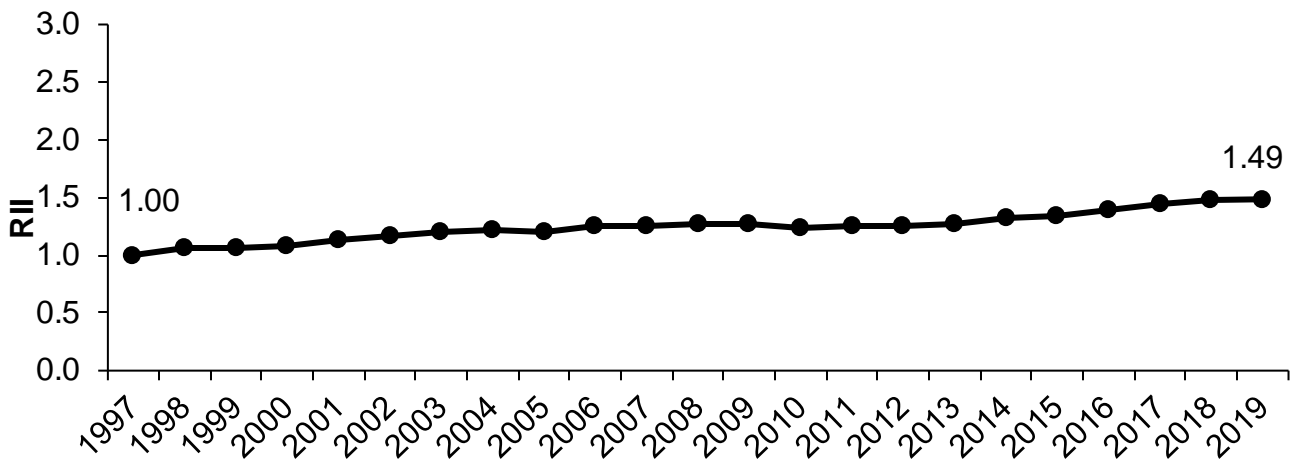
Between 1997 and 2014, premature mortality rates were three times higher in the most deprived areas compared to the least deprived; in the last five years premature mortality rates have been four times higher in the most deprived areas.

Trends in absolute inequalities

Absolute inequalities in premature mortality reached a peak in 2002 (713.4 per 100,000). 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 (from 656.2 in 2007 to 536.0 in 2013).

Since 2013 the gap has increased, and is currently at its highest point since 2007 at 619.4 per 100,000.

Figure 2.3

**Absolute Gap: All cause mortality <75y, Scotland 1997-2019
(European Age-Standardised Rates per 100,000)**

Mental wellbeing – adults aged 16+

> The gap in mental wellbeing amongst adults living in the most deprived and least deprived areas has decreased since 2012/2013. There was a difference of 15 percentage points in 2018/2019, the same as the start of the time series in 2008/2009.
>
> Adults in the most deprived areas were three times more likely to have below average wellbeing than adults in the least deprived areas at all time periods except 2012/2013, when they were five time more likely to have below average wellbeing.

Trends in mental wellbeing

The mean score on the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) was fairly static between 2008/09 and 2018/19 ranging from 49.6-49.9.

'Below average' wellbeing has been defined as WEMWBS scores of at least one standard deviation below the mean, equivalent to scores of 41 or lower in all years except 2018/2019, which was scores of 40 or lower. The proportion of adults in Scotland who have a below average WEMWBS score has remained at 15% since 2008/2009.

**Table 3.1: Trends in mental wellbeing, 2008/2009-2018/2019**

Year	Mean WEMWBS			Below average wellbeing (indicated by a WEMWBS score of 41 or lower[1])		
	Mean WEMWBS score	Lower 95% confidence limit	Upper 95% confidence limit	Proportion of adults with below average wellbeing (%)	Lower 95% confidence limit (%)	Upper 95% confidence limit (%)
2008/2009	49.8	49.6	50.0	15	14	16
2010/2011	49.9	49.7	50.1	15	14	16
2012/2013	49.9	49.7	50.2	15	14	16
2014/2015	49.9	49.7	50.2	15	14	16
2016/2017	49.8	49.6	50.1	15	14	16
2018/2019	49.6	49.4	49.9	15	14	16

1. 40 or lower in 2018/2019. 41 or lower in all other years.

Inequalities in mental wellbeing, 2018/2019

In 2018/2019, 24% of adults in the most deprived areas had below average wellbeing, indicated by a WEMWBS score of 40 or lower. This compared to 9% of adults in the least deprived areas.

Figure 3.1

Proportion of adults (16+) with a below average WEMWBS score by Income-Employment Index, Scotland 2018/2019
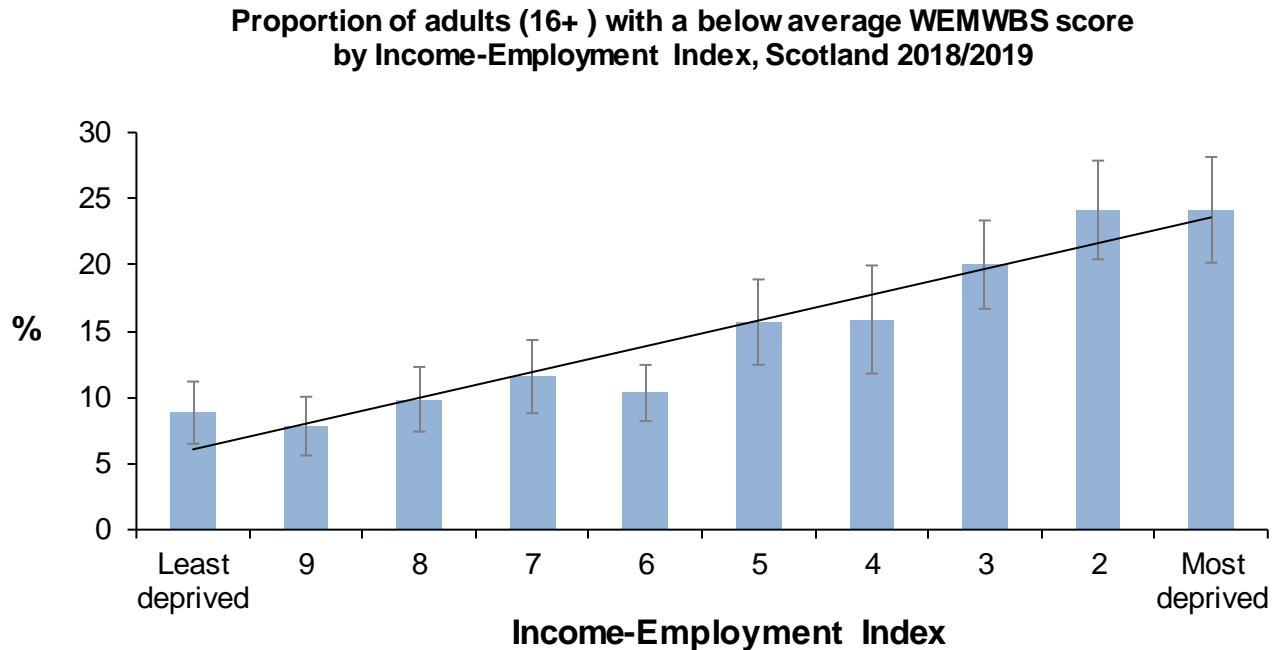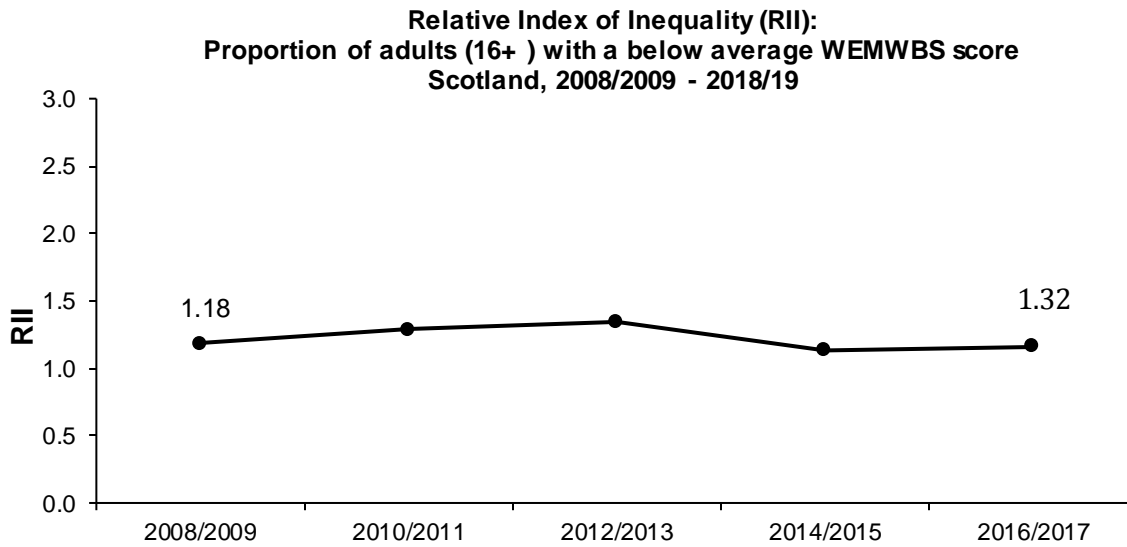

Trends in relative inequalities

The relative index of inequality (RII) in below average wellbeing increased between 2014/2015 and 2018/2019 and is higher than at the start of the time series (1.18 in 2008/2009 compared to 1.32 in 2018/2019).

Adults in the most deprived areas were approximately 3 times more likely to have below average wellbeing compared to those in the least deprived areas at all time periods except 2012/2013, when they were 5 times more likely to have below average wellbeing.

Figure 3.2

Relative Index of Inequality (RII):
Proportion of adults (16+) with a below average WEMWBS score
Scotland, 2008/2009 - 2018/19

Trends in absolute inequalities

The gap in prevalence of below average wellbeing between those in the most and least deprived areas increased from 15 percentage points in 2008/2009 to a high of 21 percentage points in 2012/2013. It has since decreased over each time period and was 15 percentage points in 2019, the same as at the start of the time series.

Figure 3.3

Absolute Gap: Proportion of adults (16+) with a below average WEMWBS score
Scotland, 2008/2009 - 2018/2019
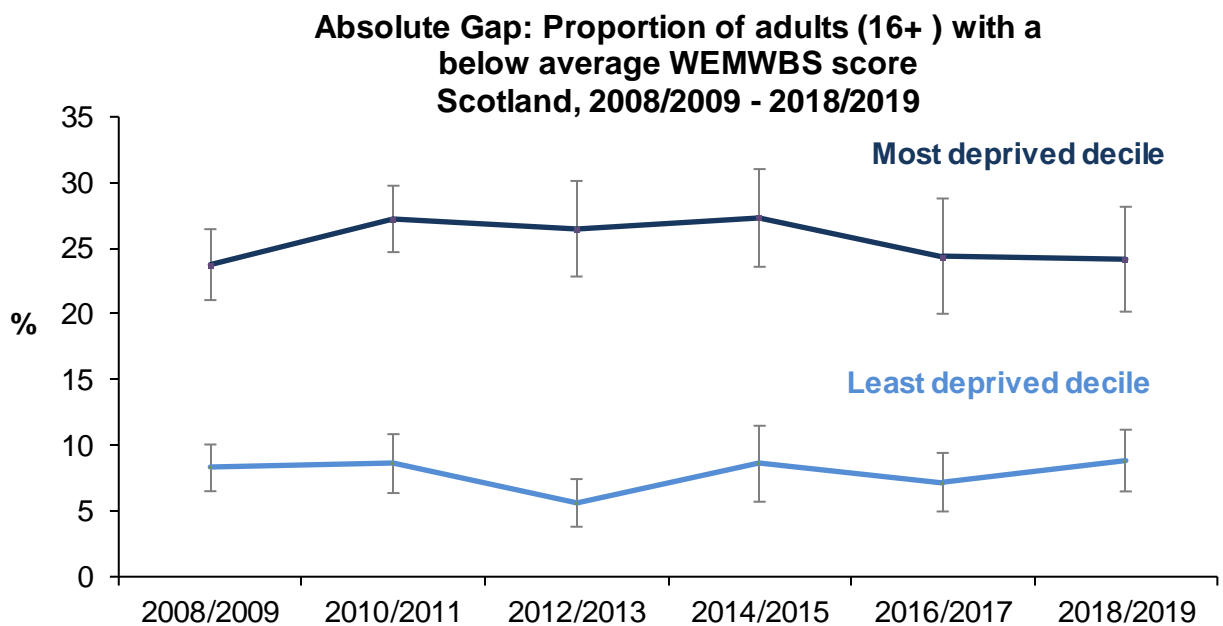
## Inequalities in morbidity and mortality indicators

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.

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 two 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 4.1

Relative Index of Inequality (RII)
Selected morbidity indicators (ages <75 years)
Scotland 1997-2019
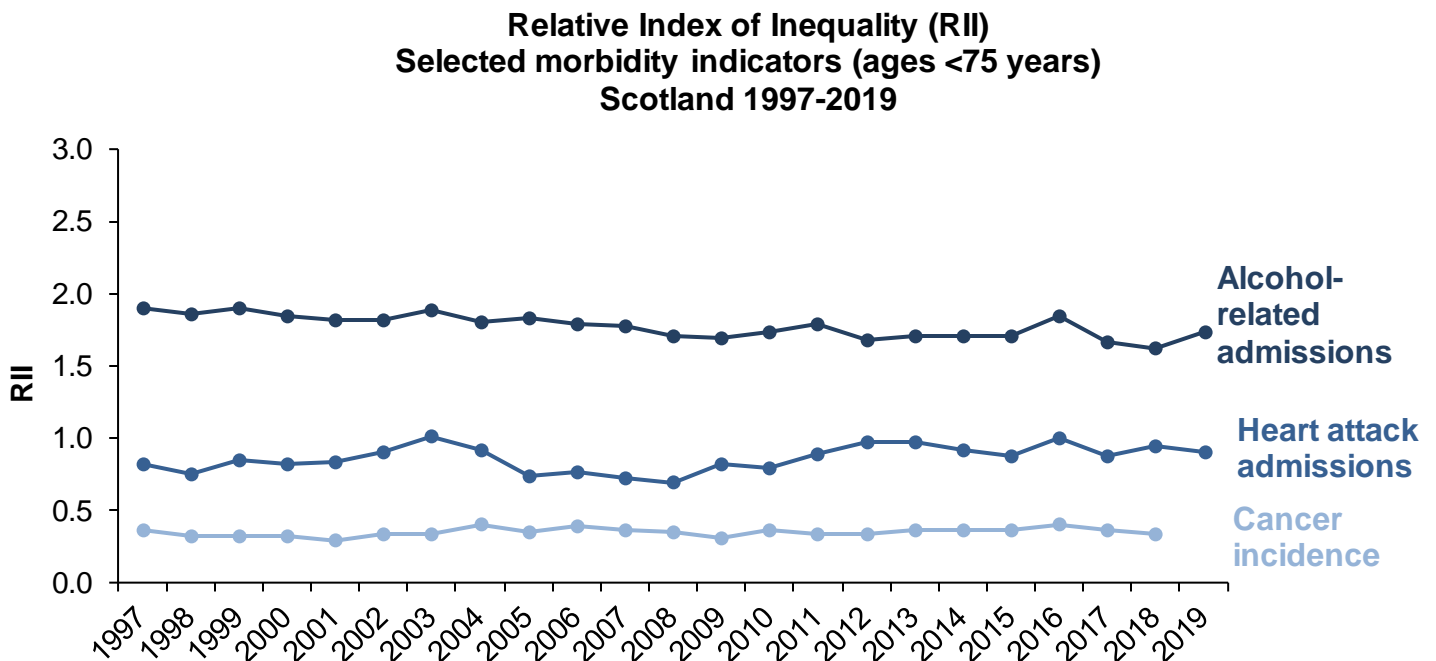
Relative inequalities in CHD deaths among adults aged 45-74 have increased over the long term. Relative inequalities for alcohol-specific deaths have shown more year on year fluctuation over the same period and are currently lower than at the start of the time series (2.02 vs 1.99).

Figure 4.2
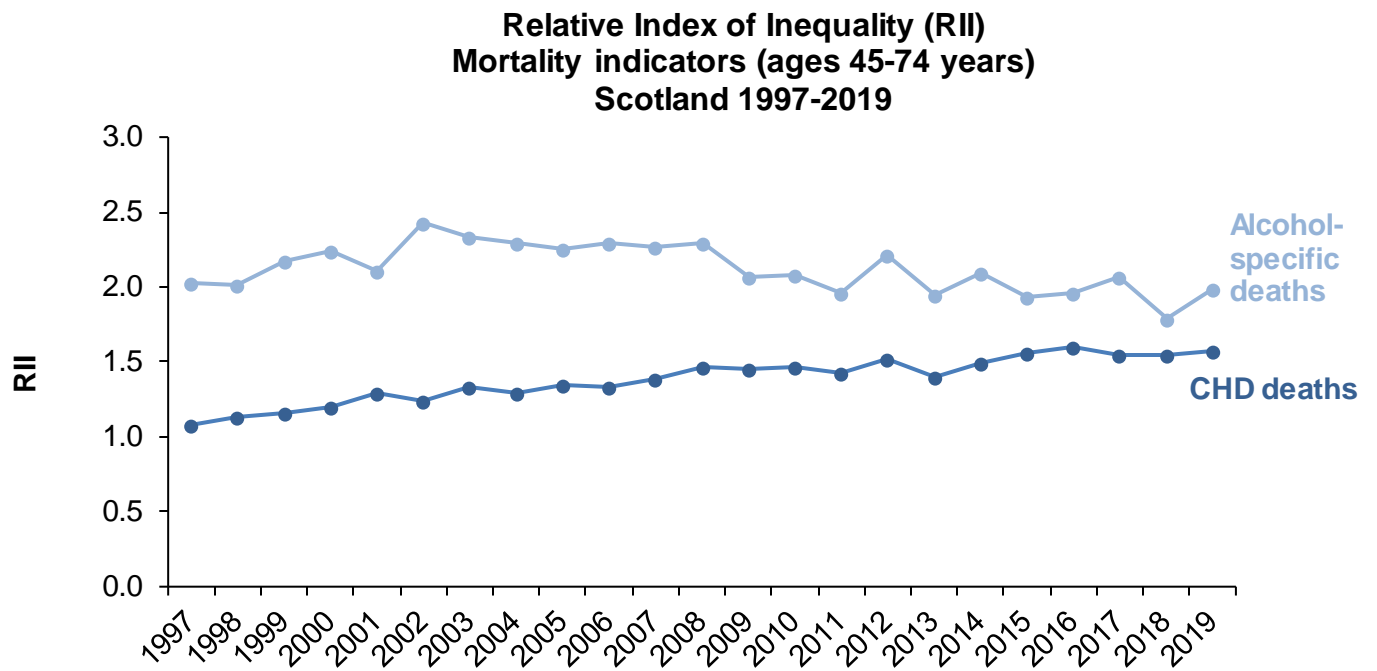
**Relative Index of Inequality (RII)
Mortality indicators (ages 45-74 years)
Scotland 1997-2019**

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

Trends in heart attack hospital admissions

In 2019, just over 5,000 new cases of heart attack (for those aged under 75 years) were recorded in Scottish hospitals.

While the rate of admissions in 2019 was 32% lower than in 1997 (98.3 and 145.1 per 100,000), it has increased by 17% since 2018 (83.9 per 100,000).
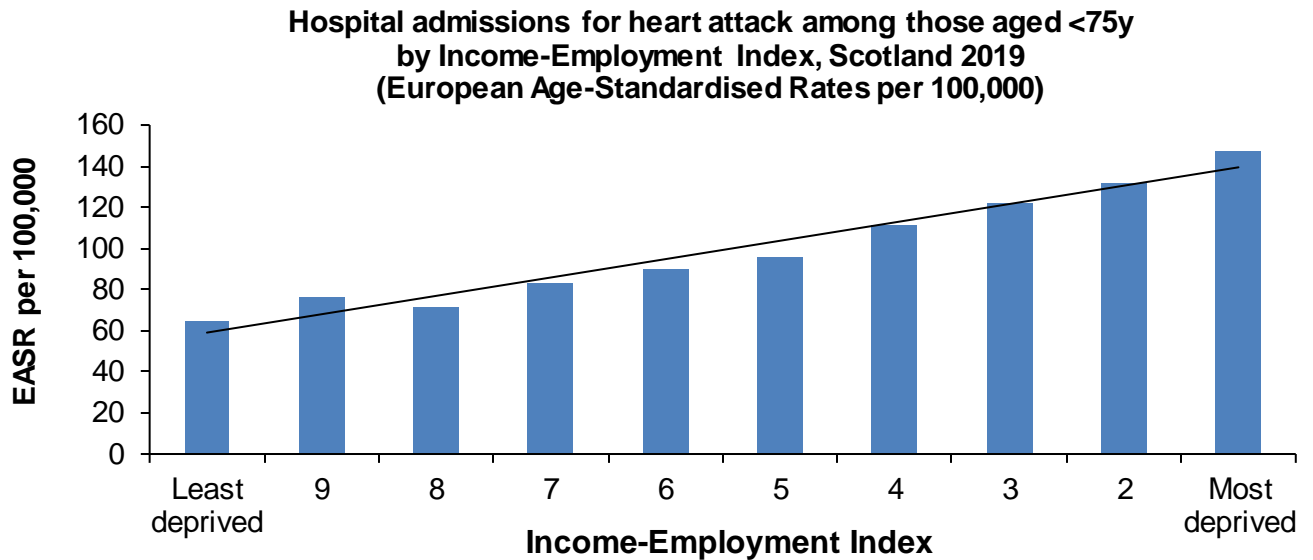
Table 4.1: Trends in heart attack hospital admissions (aged <75), 1997-2019

Year	Total admissions	Target population size	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
2017	4,738	4,976,829	94.9
2018	4,233	4,983,364	83.9
2019	5,007	4,996,827	98.3

Inequalities in hospital heart attack hospital admissions, 2019

In 2019, the admission rate in Scotland's most deprived areas was more than twice that of those living in the least deprived (147.0 cases per 100,000 compared to 64.4 per 100,000).

Figure 5.1

Hospital admissions for heart attack among those aged <75y by Income-Employment Index, Scotland 2019 (European Age-Standardised Rates per 100,000)
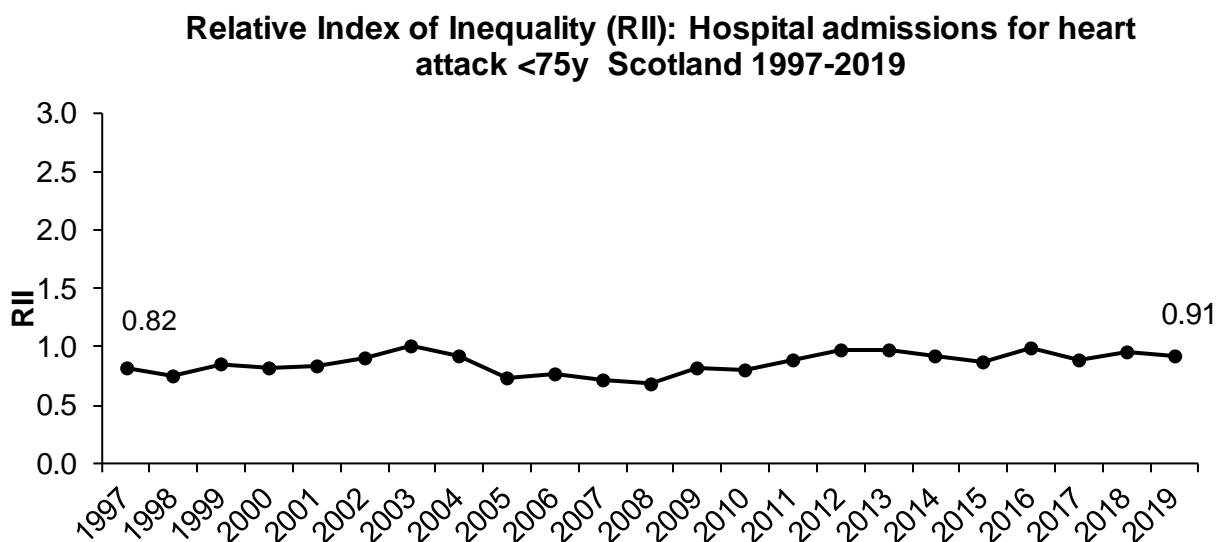

Trends in relative inequalities

Relative inequality levels for heart attack hospital admissions have fluctuated over time, ranging from 0.69-1.01. The RII for 2019 (0.91) is higher than that at the start of the time series (0.82).

Figure 5.2

Relative Index of Inequality (RII): Hospital admissions for heart attack <75y Scotland 1997-2019
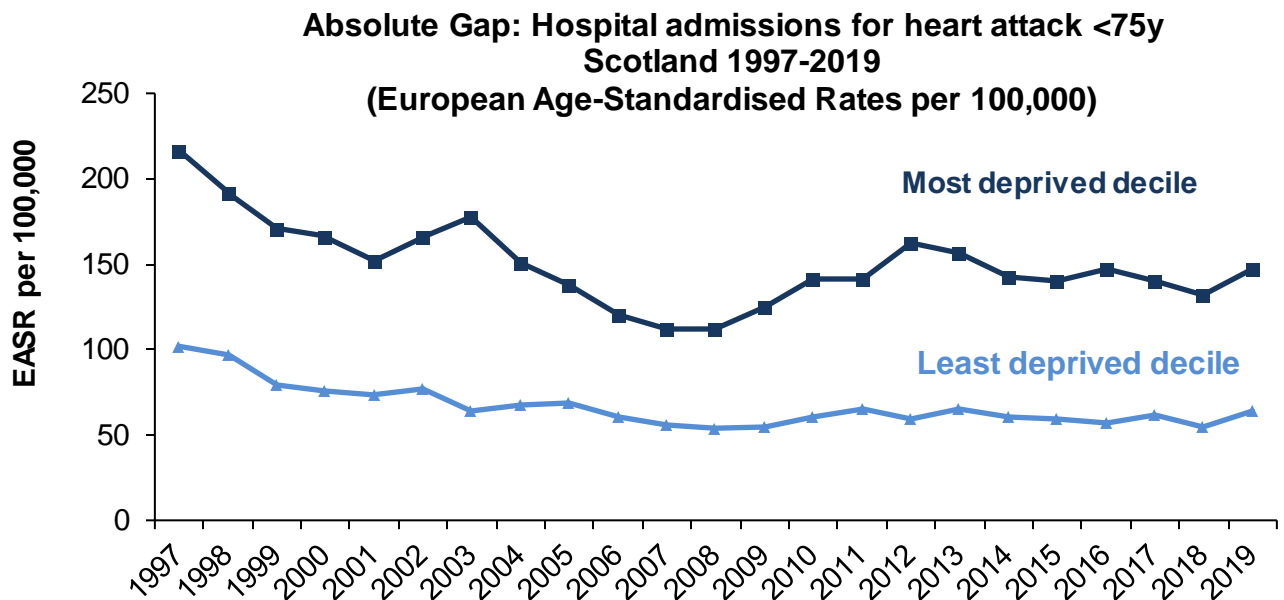
Heart attack hospital admission rates (aged <75) have been 2-3 times higher in the most deprived areas compared to the least deprived areas across the time series.

Trends in absolute inequalities

The absolute gap in hospital admissions between those living in the most and least deprived areas was 82.6 per 100,000 in 2019, lower than at the start of the times series in 1997 when the gap was at its largest (114.6 per 100,000).

However, absolute inequalities have fluctuated over that time, with the gap at its narrowest between 2006 and 2008.

Figure 5.3

Absolute Gap: Hospital admissions for heart attack <75y
Scotland 1997-2019
(European Age-Standardised Rates per 100,000)

26

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

Trends in CHD deaths

In 2019, over 2,300 deaths amongst those aged 45-74 years were attributed to CHD.

Since 1997, there has been a considerable decrease in CHD deaths amongst the population aged 45-74 years. In 2019, the death rate for this age group was 112.1 per 100,000, less than one third what it was in 1997 and the lowest figure on record.
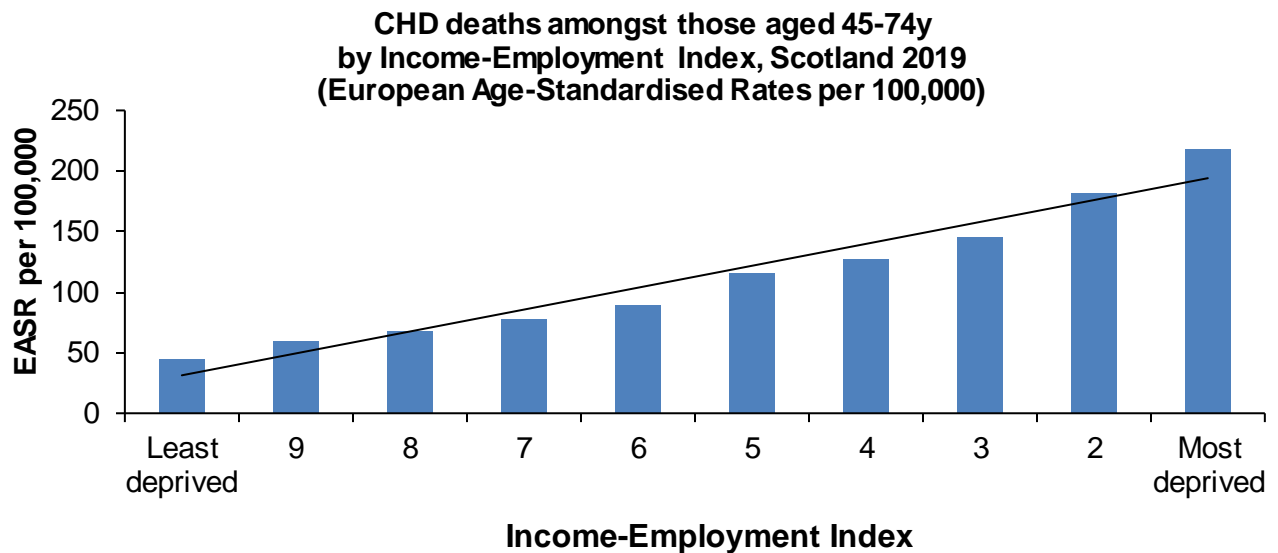
Table 5.1: Trends in CHD deaths (aged 45-74), 1997-2019

Year	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
2017	2,476	2,064,612	122.2
2018	2,416	2,073,318	117.6
2019	2,333	2,078,411	112.1

Inequalities in CHD deaths, 2019

In 2019, the CHD mortality rate was five times greater in Scotland's most deprived areas compared to the least deprived (217.6 compared to 44.7 deaths per 100,000 population).

Figure 6.1

CHD deaths amongst those aged 45-74y by Income-Employment Index, Scotland 2019 (European Age-Standardised Rates per 100,000)

Trends in relative inequalities

Relative inequalities in CHD deaths have increased over the longer term. The RII figures for the last five years have been the highest in the time series, ranging from 1.54-1.60.

Figure 6.2

Relative Index of Inequality (RII): CHD deaths 45-74y Scotland 1997-2019
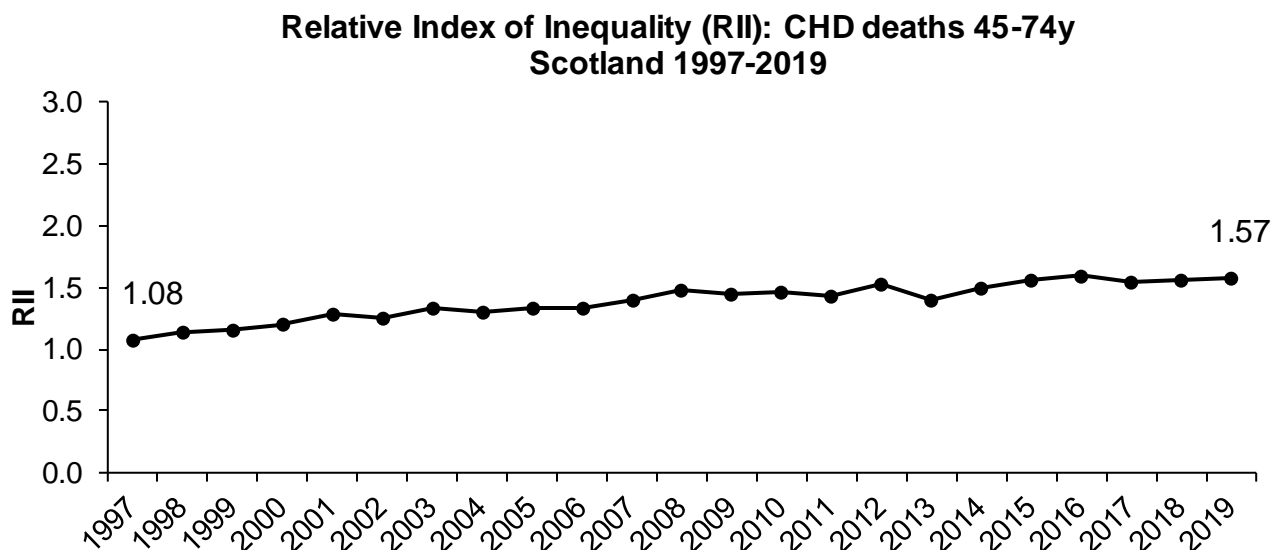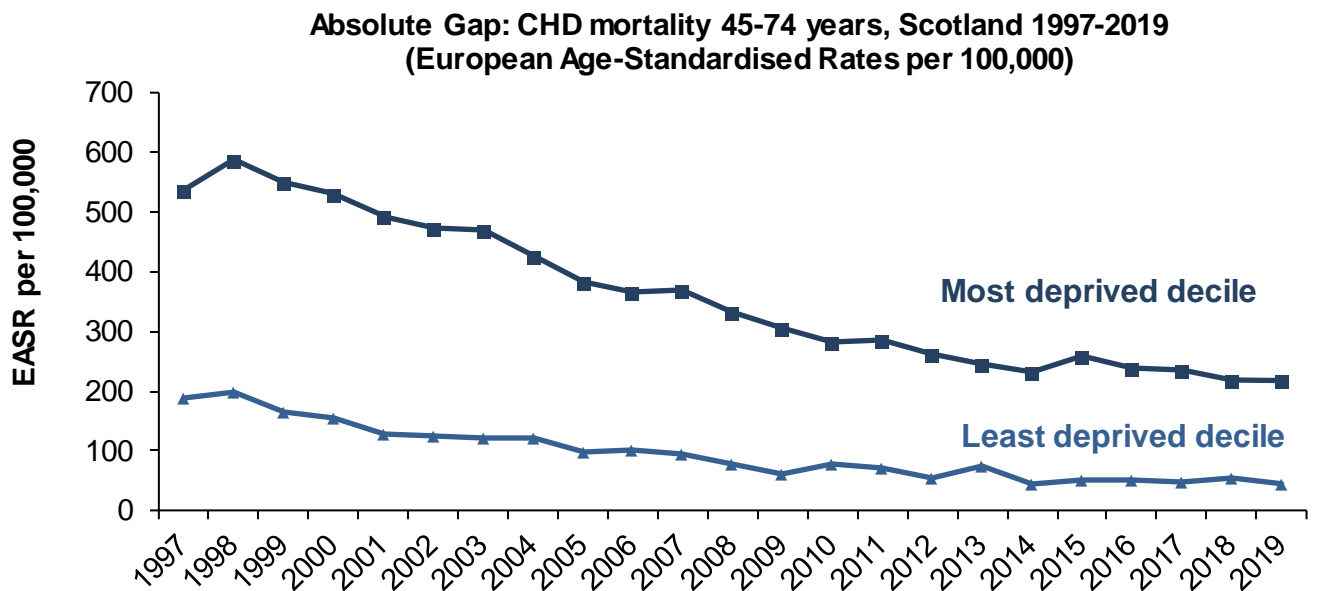
In the last ten years, CHD mortality rates have typically been 4-5 times higher in the most deprived areas compared to the least deprived areas. This is higher than at the start of the times series when CHD mortality rates were typically 3-4 times higher.

Trends in absolute inequalities

In contrast to relative inequalities, absolute inequality between those living in the most deprived areas and those living in the least deprived areas has reduced over the longer term from a high of 390.1 per 100,000 in 1998. The current gap is less than half what it was in 1998 (172.9 per 100,000 in 2019).

Figure 6.3

**Absolute Gap: CHD mortality 45-74 years, Scotland 1997-2019
(European Age-Standardised Rates per 100,000)**

Cancer incidence rate aged under 75 years

Trends in cancer incidence

In 2018, there were over 22,500 new cases of cancer among people aged under 75.

Cancer incidence among people aged under 75 has fluctuated over the time series. It showed a general decrease from a high of 452.7 per 100,000 in 1996 to a low of 417.5 per 100,000 in 1999, before showing an overall increase until 2009 (446.6 per 100,000). Since 2009 cancer incidence rates decreased overall until 2017, before peaking in 2018 to a similar level to 1997 (449.1 per 100,000).
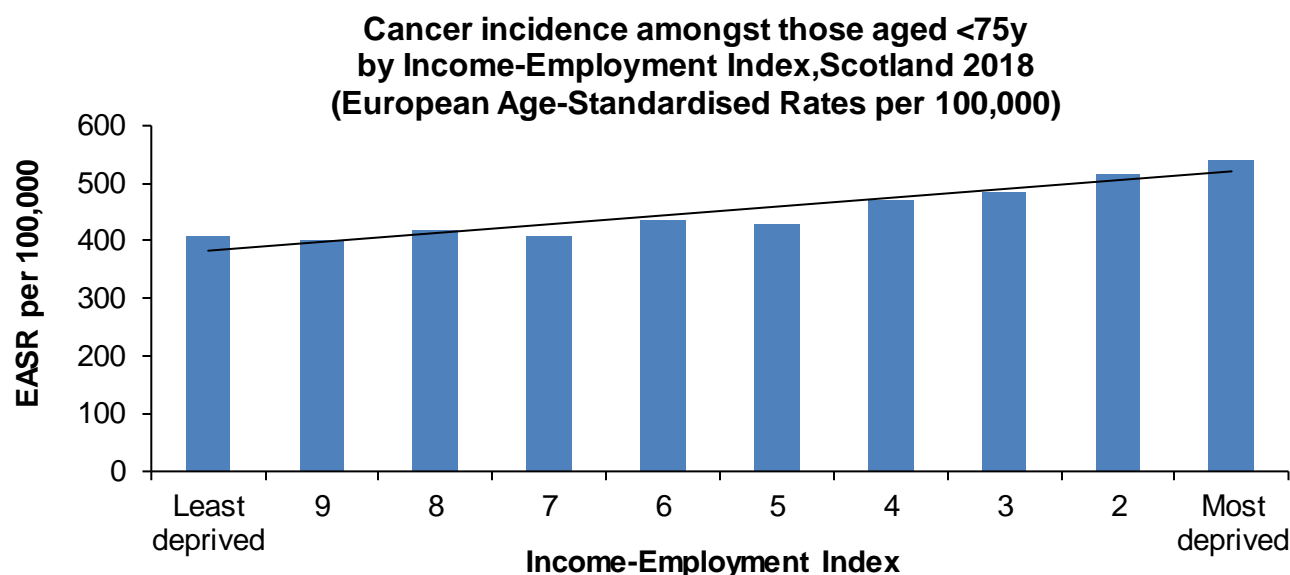
Table 6.1: Trends in cancer incidence (aged < 75), 1996-2018

Year	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
2016	20,980	4,962,391	429.2
2017	21,197	4,976,829	426.5
2018	22,549	4,983,364	449.1

Inequalities in cancer incidence, 2018

In 2018, there were 541.6 cases of cancer per 100,000 people in the most deprived areas, compared to 408.9 cases per 100,000 in the least deprived areas.

Figure 7.1

**Cancer incidence amongst those aged <75y
by Income-Employment Index,Scotland 2018
(European Age-Standardised Rates per 100,000)**

Cancer incidence is more common in the most deprived areas of Scotland. However, this is not the case for all types of cancer.[1] 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 in previous years, 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 (2018 rates were 120.9 and 32.9 per 100,000 population in the most and least deprived areas respectively).

Trends in relative inequalities

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

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

Figure 7.2

Relative Index of Inequality (RII): Cancer incidence <75y Scotland 1996-2018
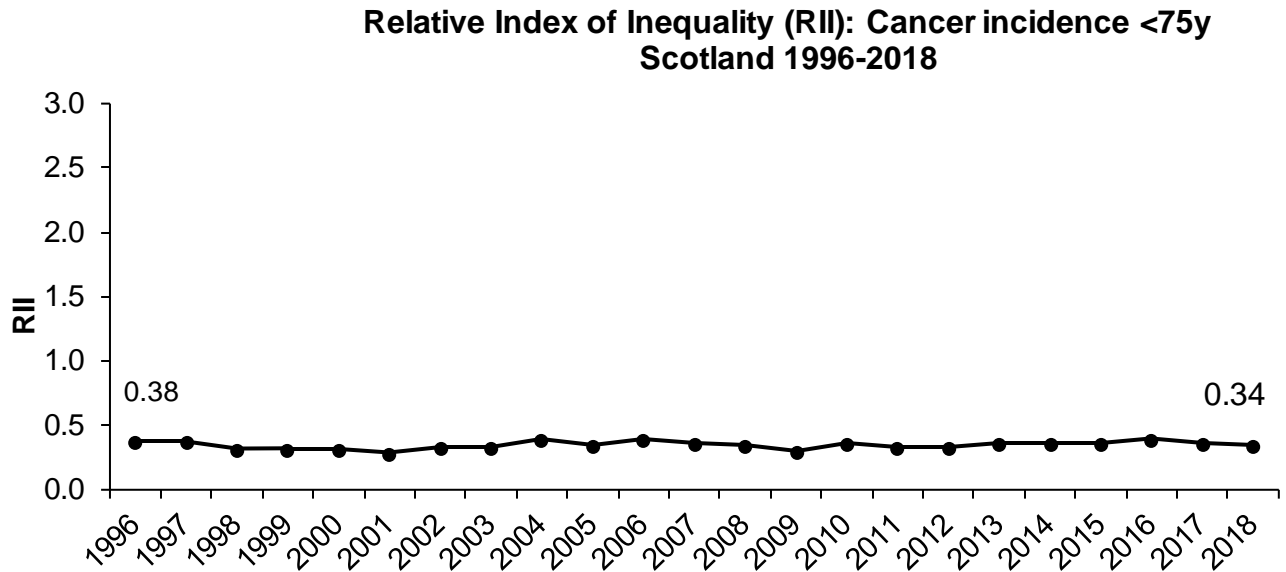
Trends in absolute inequalities

Absolute inequality levels in cancer incidence have fluctuated over time, ranging from 122.1 to 178.2. Rates in both the least and most deprived areas of Scotland have shown no clear pattern.

Figure 7.3

Absolute Gap: Cancer incidence <75y, Scotland 1996-2018 (European Age-Standardised Rates per 100,000)
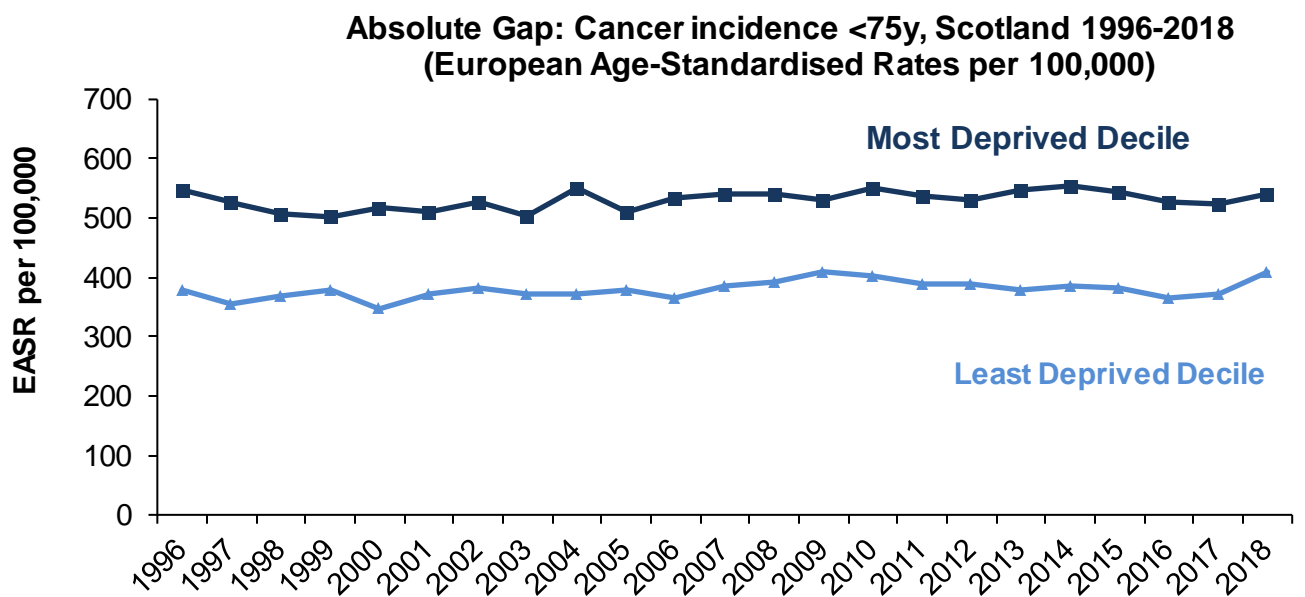
The gap between the most and least deprived decile in 2018 (132.7 per 100,000) was the lowest it's been since 2009 (122.1 per 100,000). However, this reduction has been driven by an increase in rates in the least deprived decile.

32

Alcohol-related hospital admissions aged under 75 years

Trends in alcohol-related admissions

The hospital admission rate for alcohol-related conditions amongst those aged under 75 years has fluctuated over time and was lower in 2019 than at the start of the time series (224.6 cases per 100,000 in 2019, compared to 289.8 in 1996).
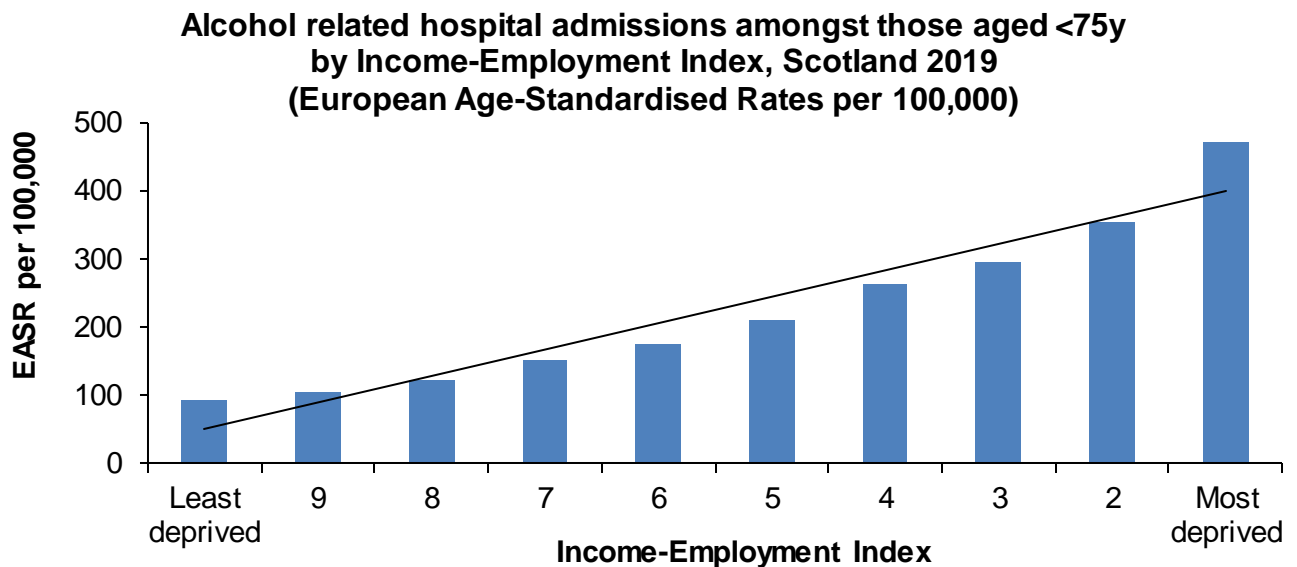
Table 7.1: Trends in alcohol-related hospital admissions (aged < 75), 1996-2019

Year	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	10,779	4,914,362	223.6
2015	10,467	4,935,283	216.2
2016	10,770	4,962,391	219.4
2017	10,644	4,976,829	218.1
2018	10,662	4,983,364	217.6
2019	11,115	4,997,455	224.6

Inequalities in alcohol-related hospital admissions, 2019

In 2019, alcohol-related admissions were 5 times higher in the most deprived areas of Scotland compared to the least (471.5 compared to 93.9 cases per 100,000).

Figure 8.1

Alcohol related hospital admissions amongst those aged <75y by Income-Employment Index, Scotland 2019 (European Age-Standardised Rates per 100,000)
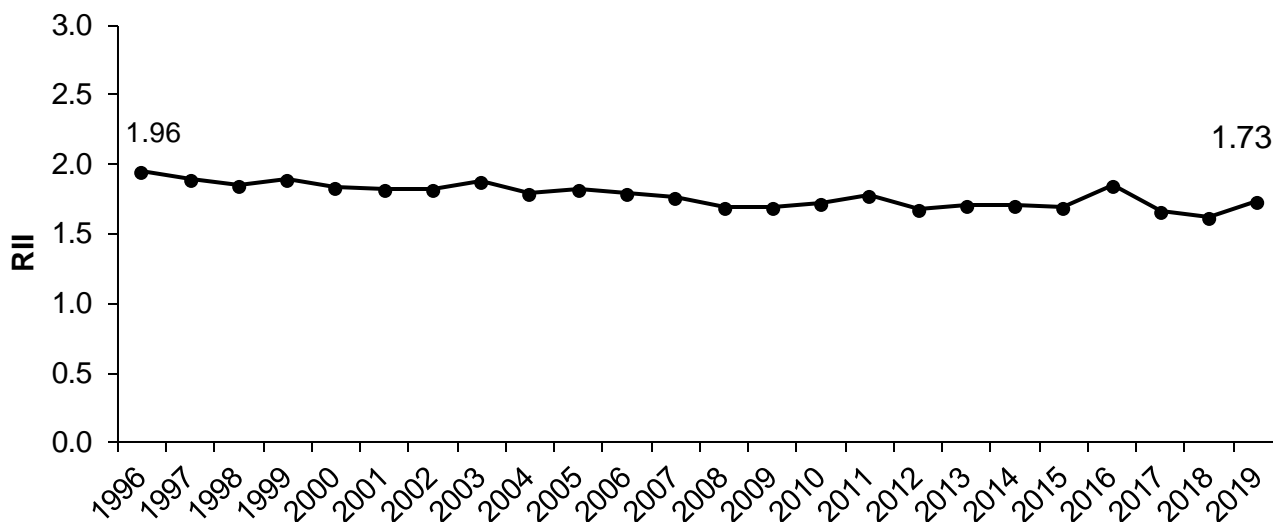

Trends in relative inequalities

There has been a general downward trend observed in relative inequalities for alcohol-related hospital admissions since 1996. However, there has been some fluctuation including an increase in 2016 when the RII was 1.85, the highest rate since 2003. The figure for 2019 was 1.73.

Figure 8.2

Relative Index of Inequality (RII): Alcohol related hospital admissions <75y
**Scotland 1996-2019**

In 1996, alcohol-related admission rates were 7 times higher in the most deprived areas compared to the least deprived. These rates have ranged between 4 and 6 times higher since 2003.

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. The gap was widest at the start of the time series in 1996 (613.0 per 100,000) and reduced to its lowest level in 2018 (328.3 per 100,000). It increased slightly in 2019 to 377.6 per 100,000.

Figure 8.3

**Absolute Gap: Alcohol related hospital admissions <75y
Scotland 1996-2019
(European Age-Standardised Rates per 100,000)**
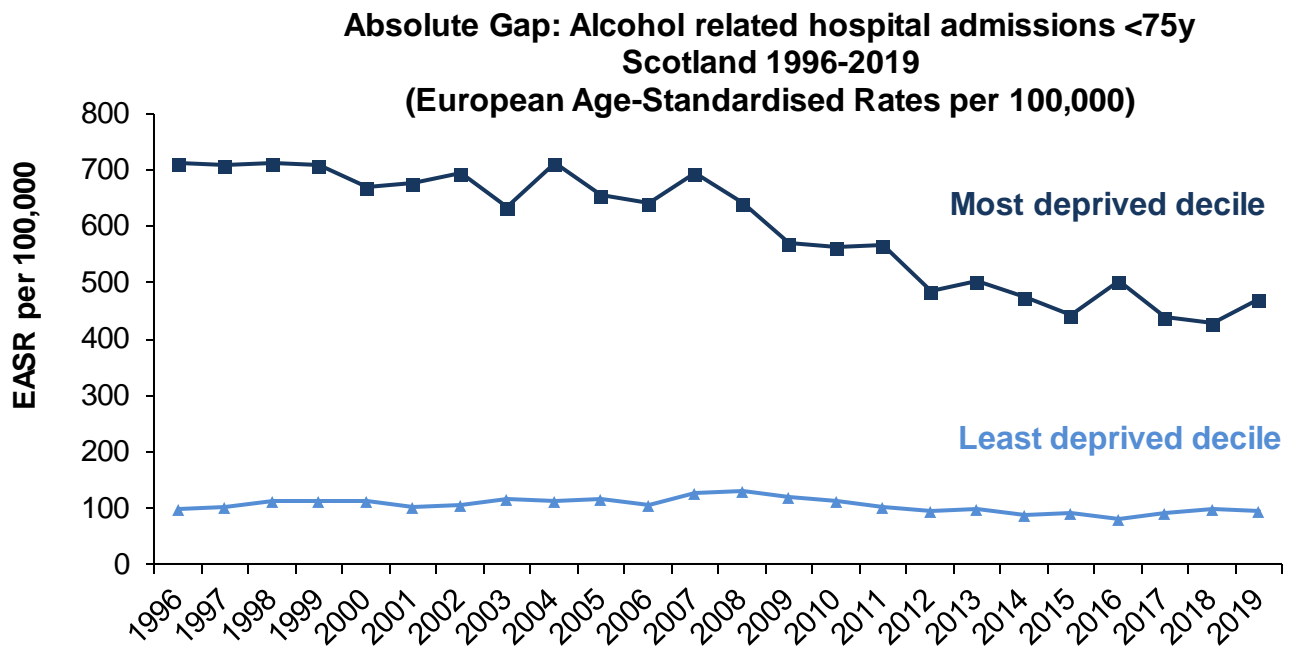
Alcohol-specific deaths aged 45-74 years

Trends in alcohol-specific deaths

The alcohol-specific death rate among those aged 45-74 years has fluctuated over the time series. There was an overall increase between 1997 and 2006 (increasing from 38.5 per 100,000 to 61.3 per 100,000) followed by a general downward trend until 2013 (38.6 per 100,000) when the rate was similar to the start of the time series. Since 2013, the alcohol-specific mortality rate has increased slightly, ranging from 38.4-44.0 per 100,000. The rate in 2019 was 38.4 per 100,000, similar to the rate at the start of the time series.
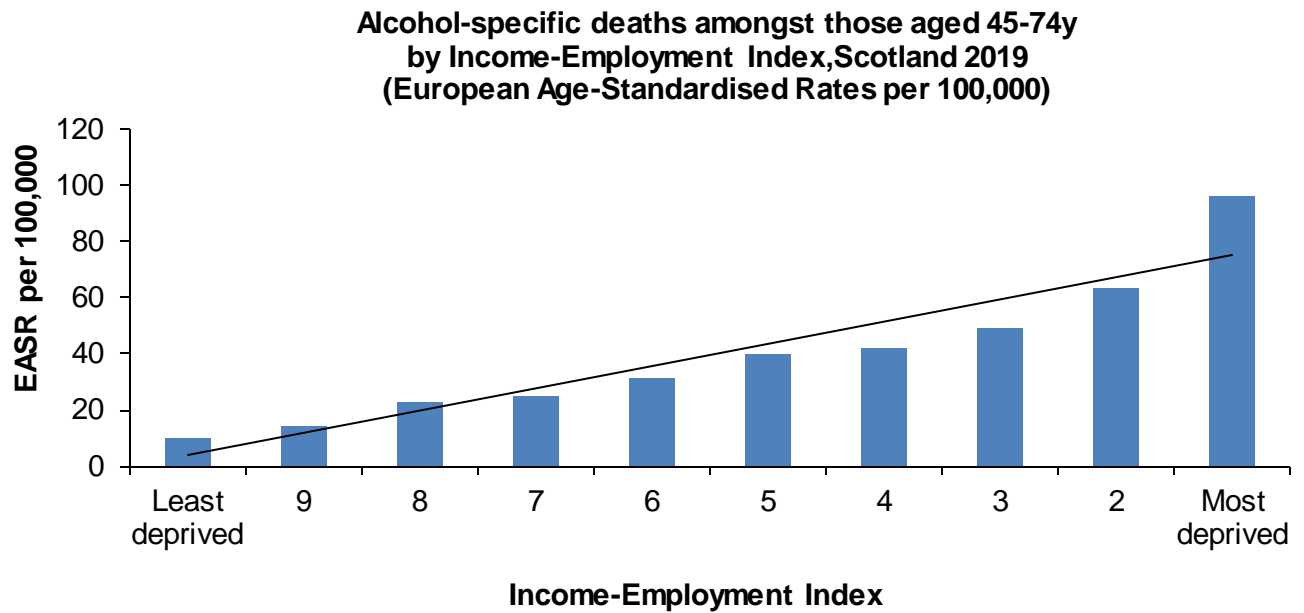
Table 8.1: Trends in alcohol-specific deaths (aged 45-74), 1997-2019

Year	Number of deaths	Target population size	Rate per 100,000 (EASR)
1997	636	1,635,590	38.5
1998	695	1,646,711	41.9
1999	761	1,658,124	45.2
2000	873	1,670,660	52.1
2001	957	1,687,422	56.7
2002	1,049	1,706,141	61.3
2003	1,053	1,727,112	60.9
2004	1,015	1,751,037	57.6
2005	1,056	1,774,865	59.3
2006	1,105	1,799,382	61.3
2007	1,002	1,827,320	54.6
2008	1,019	1,856,874	54.8
2009	905	1,885,693	47.9
2010	927	1,914,226	48.3
2011	871	1,941,253	45.1
2012	752	1,964,203	38.2
2013	769	1,986,202	38.6
2014	808	2,007,988	40.2
2015	840	2,026,210	41.4
2016	898	2,047,858	43.7
2017	910	2,064,612	44.0
2018	898	2,073,318	43.2
2019	801	2,078,664	38.4

Inequalities in alcohol-specific deaths, 2019

The alcohol-specific death rate (for those aged 45-74 years) in Scotland's most deprived areas is 9 times higher than that observed in the least deprived areas (96.0 compared to 10.2 per 100,000 population).

Figure 9.1

**Alcohol-specific deaths amongst those aged 45-74y
by Income-Employment Index,Scotland 2019
(European Age-Standardised Rates per 100,000)**

Trends in relative inequalities

Relative inequalities in alcohol-specific deaths have fluctuated across the time series, ranging from 1.79 to 2.43. The RII in 2019 was similar to the start of the times series in 1997 (1.99 and 2.02 respectively).

Figure 9.2

**Relative Index of Inequality (RII): Alcohol-specific deaths 45-74y
Scotland 1997-2019**
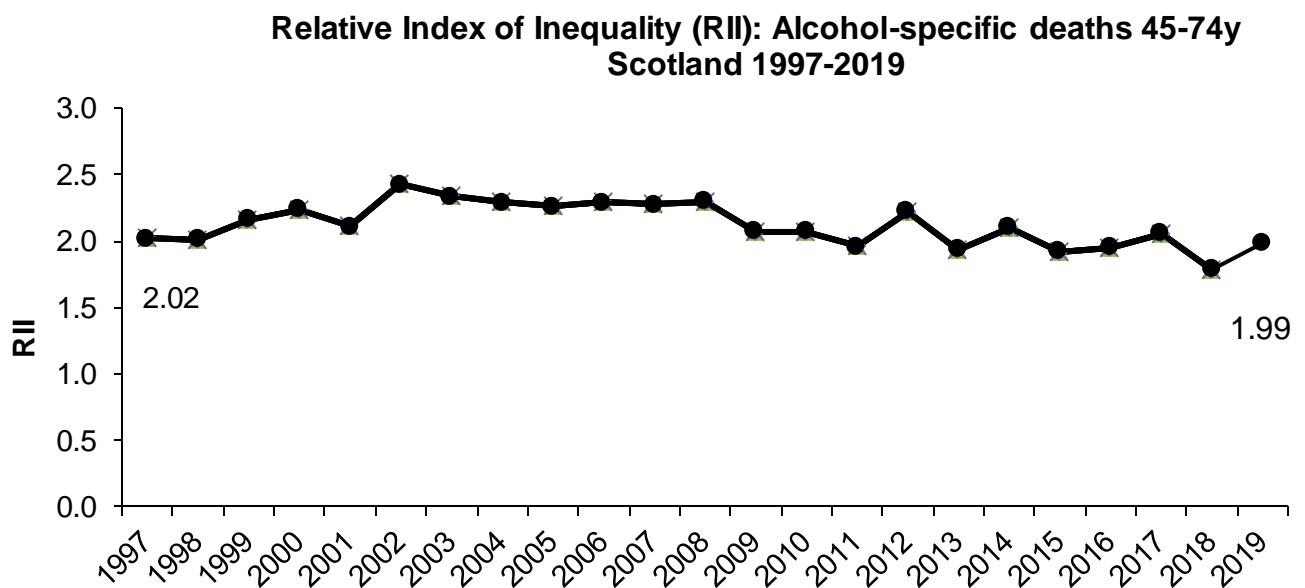
Over time the relative range in death rates between the most and least deprived areas has fluctuated ranging from 5 to 14 times higher in the most deprived areas.

Trends in absolute inequalities

Although the rate of alcohol-specific deaths in the least deprived areas has remained reasonably static since 1997, there has been considerable change in the rate in the most deprived areas. This has largely driven changes in the absolute gap.

Following an increase in the gap between the alcohol-specific mortality rate in the most and least deprived areas of Scotland, from 93.7 to 184.7 per 100,000 between 1997 and 2002, there has been general downward trend, with a rate of 85.8 per 100,000 in 2019.

Figure 9.3

Absolute Gap: Alcohol specific deaths 45-74y
Scotland 1997-2019
(European Age-Standardised Rates per 100,000)
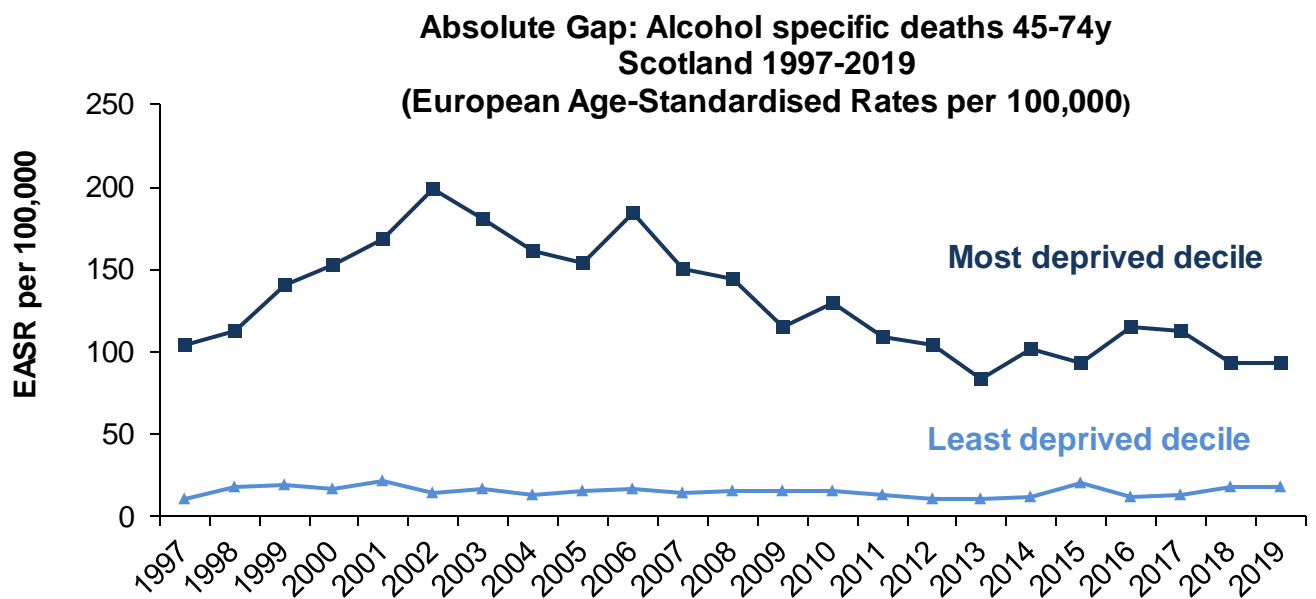
All-cause mortality aged 15-44 years

Trends in all-cause mortality aged 15-44

There were over 2,300 deaths of people aged 15-44 in Scotland in 2019.

There was an overall decrease in the mortality rate from the start of the time series to 2014, when rates reached a low of 96.8 per 100,000. Since then, the mortality rate of those aged 15-44 has risen and in 2019 it was similar to the rate in 1997 (119.8 per 100,000 and 116.3 per 100,000 respectively).

Table 9.1: Trends in all-cause mortality (aged 15-44), 1997-2019

Year	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
2017	2,068	2,048,063	107.1
2018	2,220	2,044,305	114.5
2019	2,331	2,053,086	119.8

The deaths of those age 15-44 in 2019 included: 404 probable suicides, 29 deaths from assault and 753 drug-related deaths. While the rates of probable suicide in this age group had generally been declining in recent years there was an increase in both 2018 and 2019, to 19.7 per 100,00 in 2019, the highest figure since 2011 (20.5 per 100,000). Rates of death from assault have increased slightly from a low of 1.0 per 100,000 in 2014, but have generally been lower in the last decade that at the start of the series. Drug-related deaths have shown large increases since the beginning of the time series in 1997. In 2019, the drug-related death rate was 38.4 per 100,000, this compares with 8.9 per 100,000 in 1997.
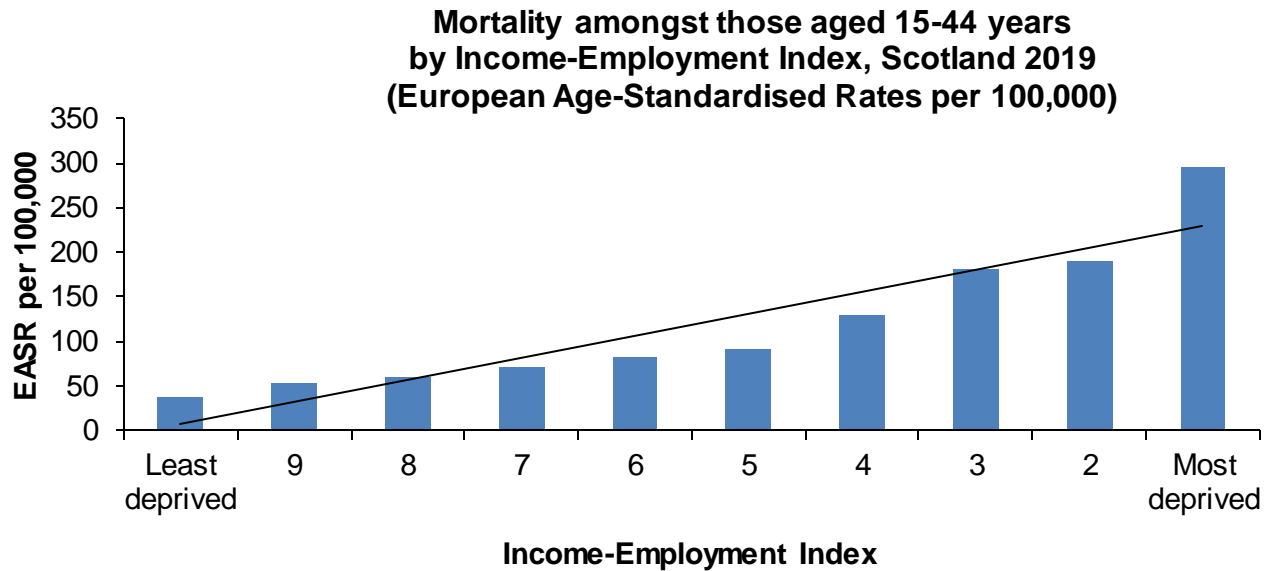
Table 9.2: Trends in deaths from assault, drugs and suicide (aged 15-44), 1997-2019

Year	Deaths from assault		Drug related deaths		Suicides	
	Number	EASR per 100,000	Number	EASR per 100,000	Number	EASR per 100,000
1997	56	2.6	196	8.9	518	23.9
1998	65	3.0	227	10.6	526	24.4
1999	86	4.0	274	12.9	529	24.7
2000	60	2.9	268	12.7	541	25.6
2001	63	3.0	289	13.8	531	25.3
2002	76	3.6	345	16.7	539	25.7
2003	71	3.4	282	13.6	456	21.8
2004	78	3.8	311	15.2	475	22.7
2005	50	2.3	277	13.4	436	21.0
2006	83	4.0	350	17.1	435	20.9
2007	54	2.6	392	19.1	453	21.8
2008	53	2.5	477	23.3	480	23.4
2009	47	2.3	436	21.3	432	20.8
2010	54	2.6	384	18.9	423	20.5
2011	53	2.6	454	22.5	420	20.5
2012	37	1.9	416	20.8	375	18.3
2013	35	1.7	354	17.9	356	17.7
2014	22	1.0	416	21.1	309	15.4
2015	28	1.4	442	22.8	306	15.3
2016	34	1.7	568	29.2	329	16.2
2017	40	2.0	581	30.1	305	15.1
2018	28	1.4	723	37.3	370	18.3
2019	29	1.4	753	38.4	404	19.7

Inequalities in all-cause mortality aged 15-44, 2019

The mortality rate amongst people aged 15-44 years was 8 times higher in the most deprived areas (295.9 per 100,000) compared to the least deprived (38.0 per 100,000) in 2019.

Figure 10.1

Mortality amongst those aged 15-44 years by Income-Employment Index, Scotland 2019 (European Age-Standardised Rates per 100,000)

Trends in relative inequalities

There has been an overall increase in relative inequalities over time and they are currently at their highest point in the time series (2.11).

Figure 10.2

**Relative Index of Inequality (RII): mortality aged 15-44y Scotland 1997-2019**
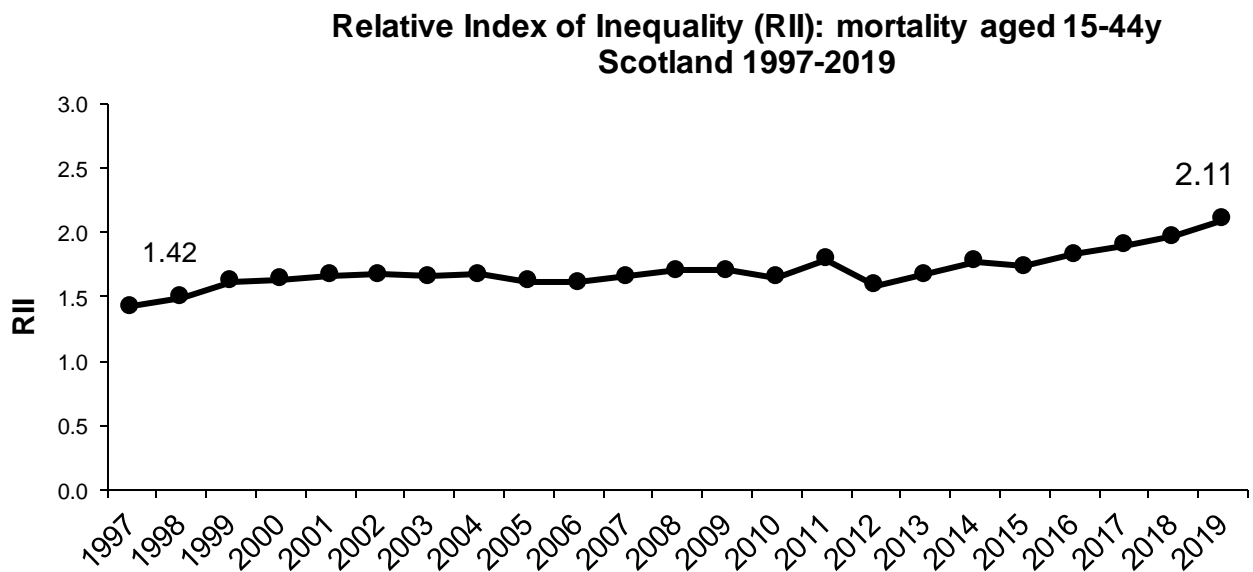
Between 1997 and 2017, death rates ranged from 4-7 times higher in the most deprived areas compared to the least deprived. In 2018 and 2019 deaths for those aged 15-44 years were 8 times higher in the most deprived areas compared to the least deprived areas.

Trends in absolute inequalities

The absolute gap between those living in the most and least deprived areas in all-cause mortality reached its lowest level in 2013 (a gap of 159.6 per 100,000). The gap has increased in each year since 2013 and is currently at its highest point in the time series at 257.9 per 100,000 in 2019.

Figure 10.3

Absolute Gap: Mortality 15-44y, Scotland 1997-2019
(European Age-Standardised Rates per 100,000)
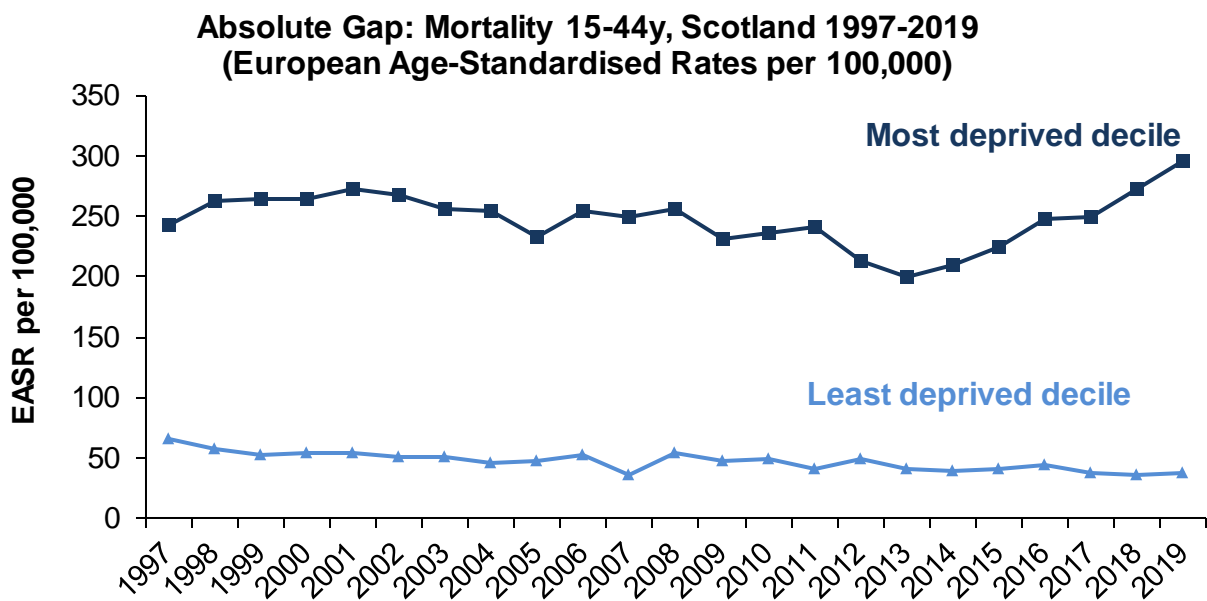
Low Birthweight

Trends in low birthweight

Over 2,600 low birthweight babies were born in Scotland in 2019.

The percentage of babies born with a low birthweight remained fairly stable across the time series, ranging from 5.0 – 6.0%
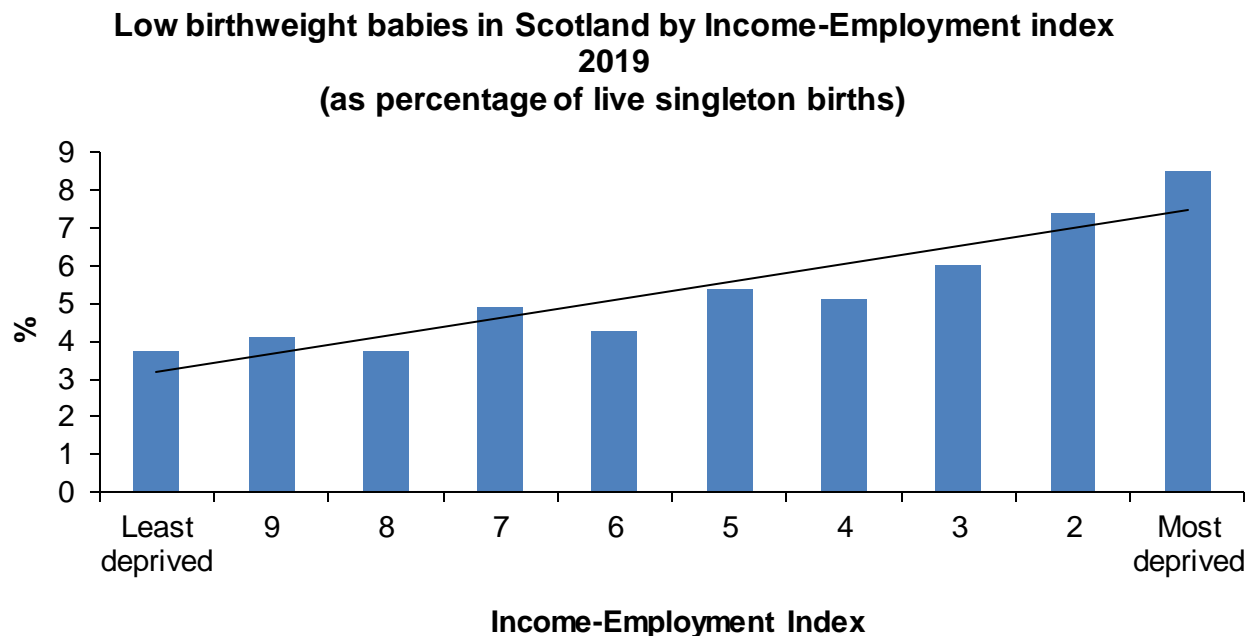
Table 10.1: Trends in low birthweight, 1996-2019

Year	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	2,773	54,396	5.1
2015	2,819	52,845	5.3
2016	2,762	52,424	5.3
2017	2,840	50,830	5.6
2018	2,690	49,259	5.5
2019	2,622	47,258	5.5

Inequalities in low birthweight 2019

In 2019, 8.5% 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 (3.8%).

Figure 11.1

Low birthweight babies in Scotland by Income-Employment index 2019 (as percentage of live singleton births)

Income-Employment Index

Trends in relative inequalities

Relative inequalities in low birthweight were higher in 2019 than those observed at the start of the time series (0.93 and 0.84 respectively). The RII values between 1997 and 2006 tended to be higher than those observed in the last decade.

Figure 11.2

### Relative index of inequality (RII): Low birthweight babies in Scotland 1996-2019
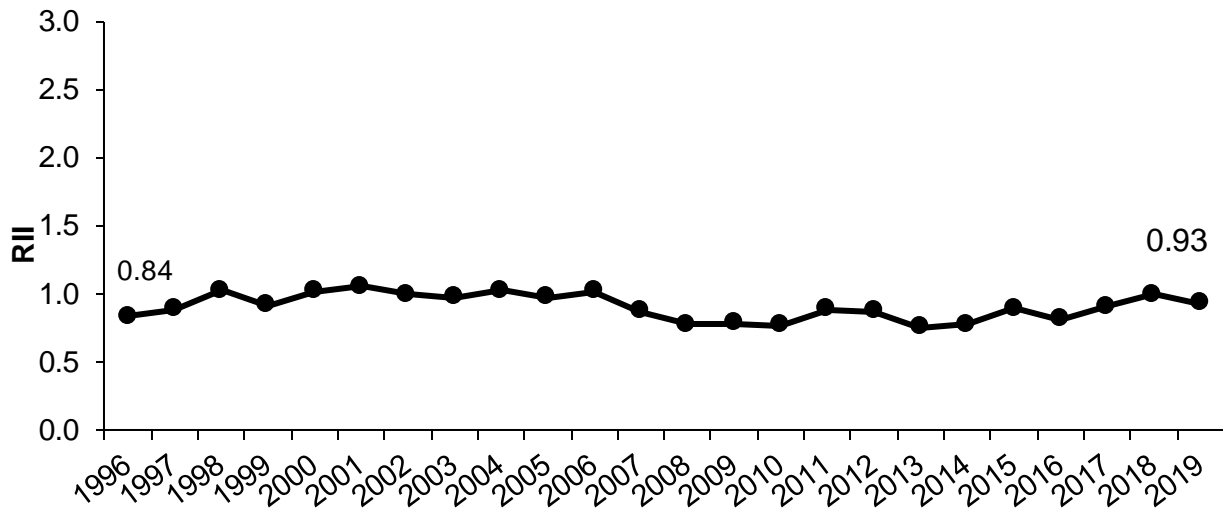
Trends in absolute inequalities

Overall, the absolute gap between the most and least deprived areas has reduced from its widest point in 2004 (5.7 percentage points). However, the gap has increased in most years since 2013 from 3.2 percentage points to 4.8 percentage points in 2019.

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

**Absolute Gap: Low birthweight babies in Scotland 1996-2019
(as percentage of live singleton births)**
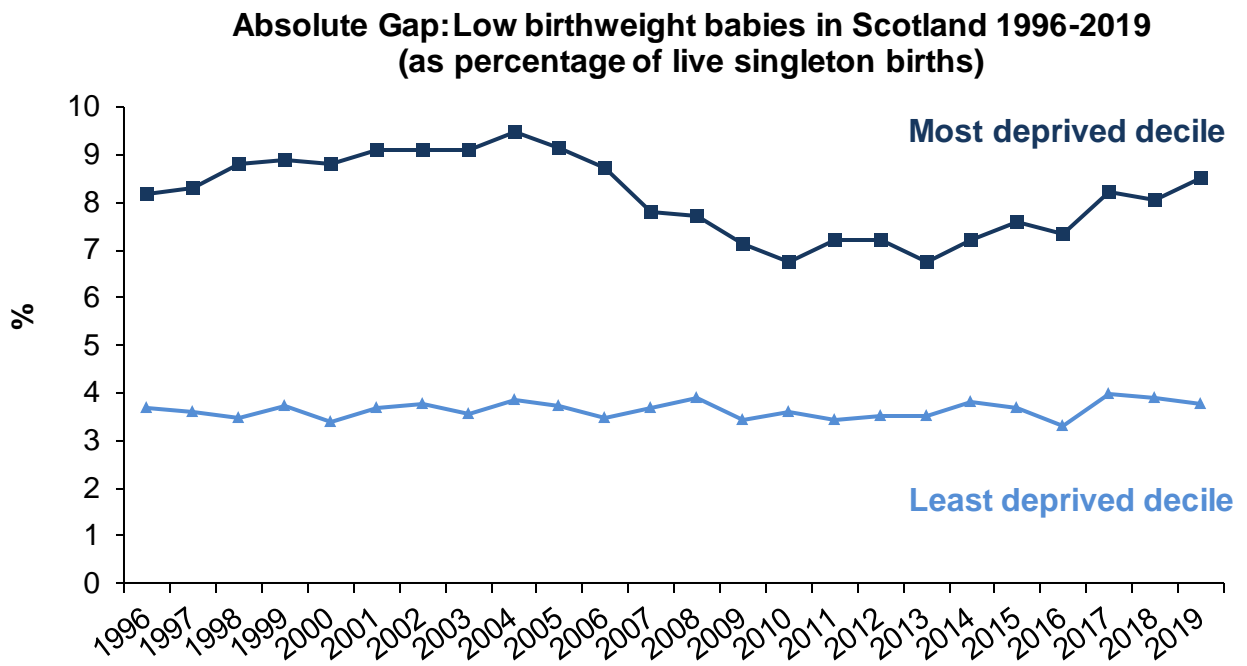
Healthy Birthweight

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 eight years the value has been 90%.

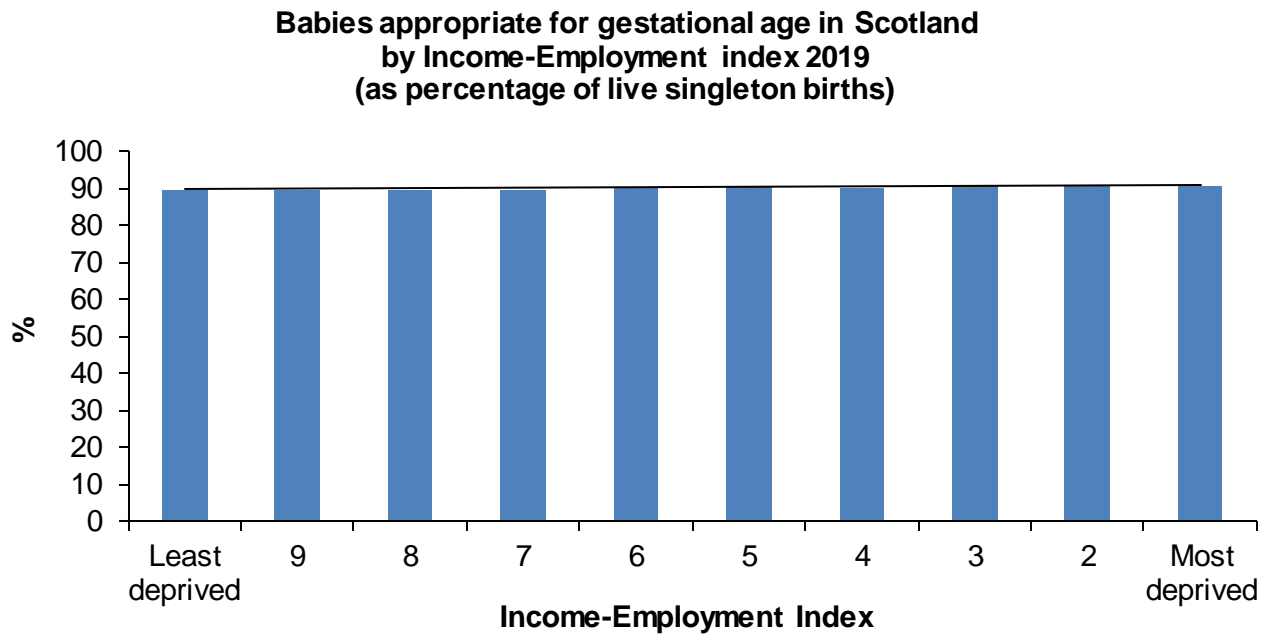### Table 11.1: Trends in healthy birthweight, 1996-2019

Year	Number appropriate for gestational age[1]	Target population size[1]	% 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	48,673	54,044	90.1
2015	47,285	52,528	90.0
2016	46,694	51,870	90.0
2017	45,228	50,252	90.0
2018	44,308	49,011	90.4
2019	42,568	47,169	90.2

1. This table includes records that could not be assigned an income employment decile and are therefore not included in the rest of the analysis

Inequalities in healthy birthweight babies 2019

In 2019, there was a marginal difference between the least and the most deprived areas in terms of the proportion of healthy births (89.8% versus 90.5% respectively).
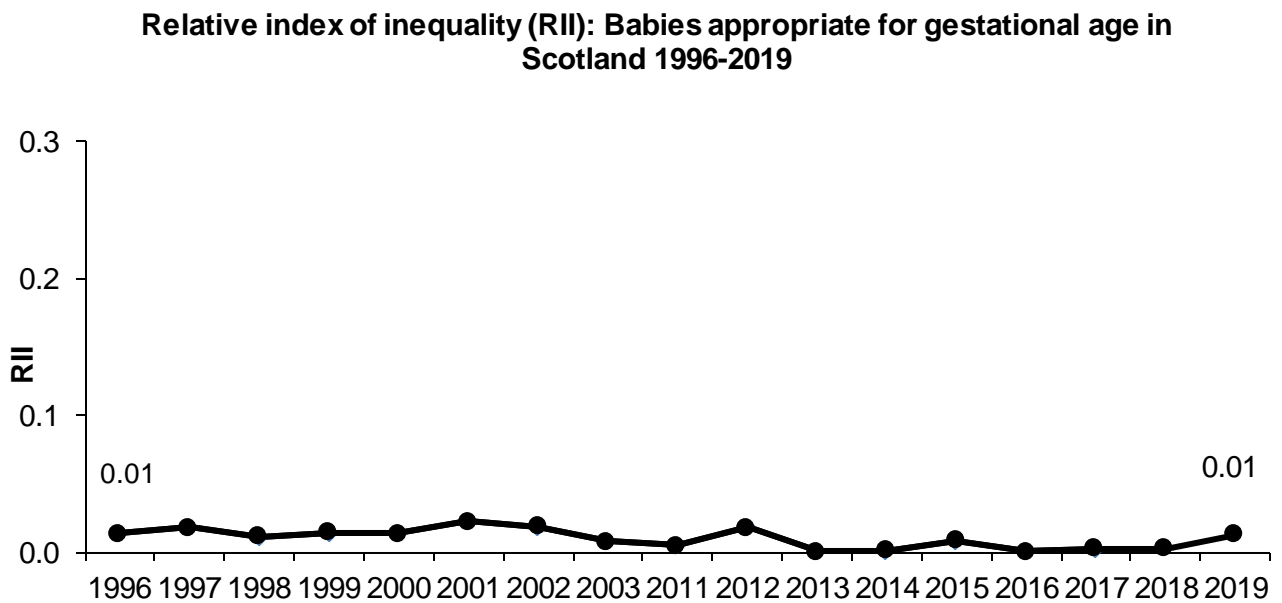
Figure 12.1

Babies appropriate for gestational age in Scotland by Income-Employment index 2019 (as percentage of live singleton births)

Trends in relative inequalities

Relative inequalities have been consistently low over the times series. The RII for 2019 is at 0.01, suggesting that there is no relative inequality for this indicator.
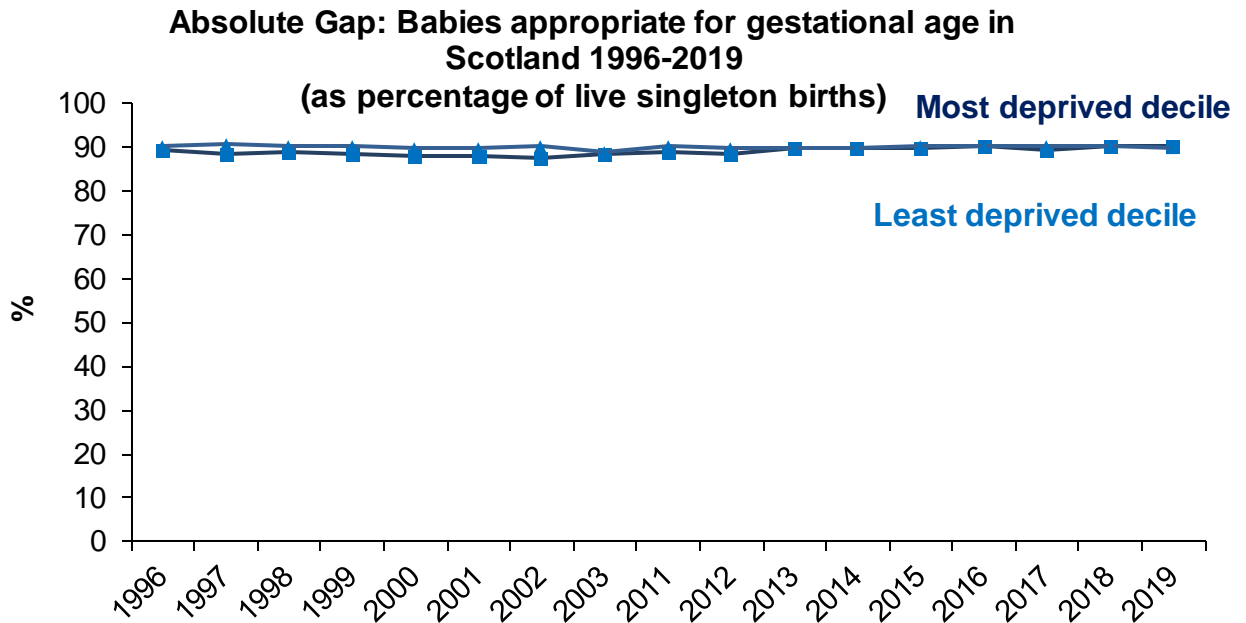
Figure 12.2

Relative index of inequality (RII): Babies appropriate for gestational age in Scotland 1996-2019

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 (0.8 percentage points in 2019).

Figure 12.3

Absolute Gap: Babies appropriate for gestational age in Scotland 1996-2019 (as percentage of live singleton births)

Self-assessed health

Trends in self-assessed health (adults aged 16+)

In 2018/2019 9% of adults rated their health as 'bad' or 'very bad', the same proportion as in 2016/2017. This is a significant increase from the start of the time series in 2008/2009 (7%).

Table 12.1

Year	Proportion of adults rating general health as bad/very bad	Lower 95% confidence limit (%)	Upper 95% confidence limit (%)
2008/2009	7	7	8
2010/2011	8	7	8
2012/2013	9	8	9
2014/2015	8	8	9
2016/2017	9	8	9
2018/2019	9	8	9

Inequalities in self-assessed health 2018/2019

In 2018/2019, adults in the most deprived areas were seven times more likely to report poor health than those in the least deprived areas (21% versus 3%).
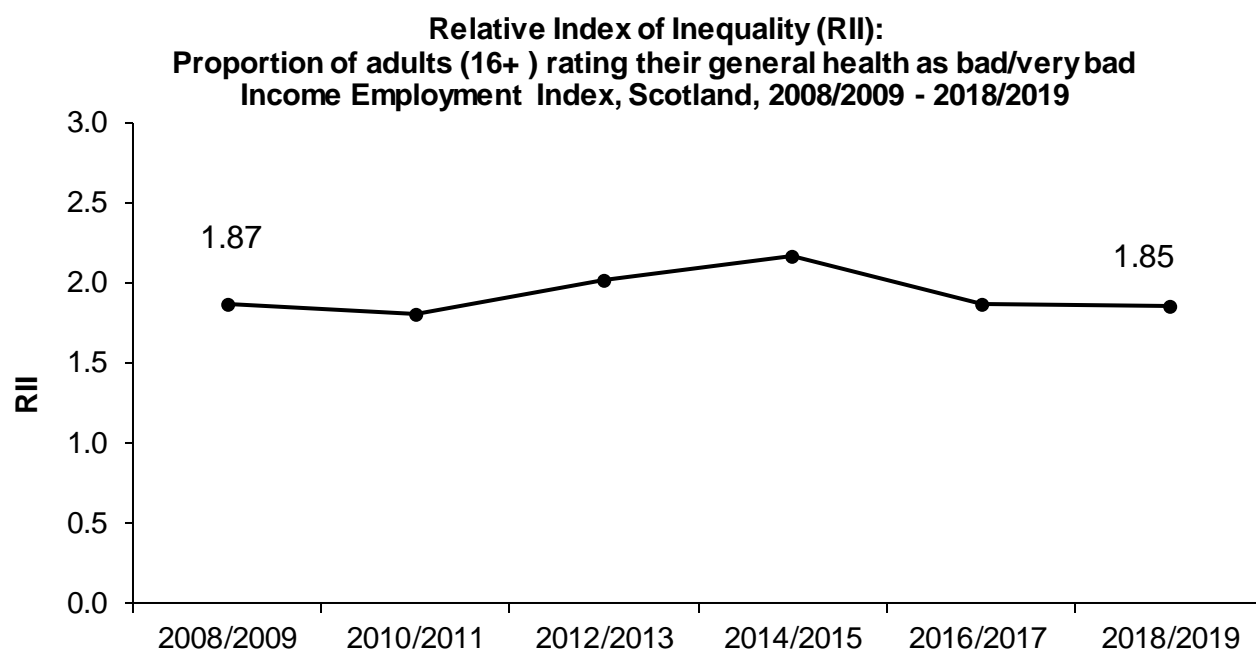
Figure 13.1

Proportion of adults (16+) rating their general health as bad/very bad by Income-Employment Index, Scotland 2018/2019

Trends in relative inequalities

Relative inequalities have fluctuated over the time series, peaking in 2014/2015 at 2.14. They have since fallen to 1.85 in 2018/2019, slightly lower than at the start of the time series (1.87 in 2008/2009).
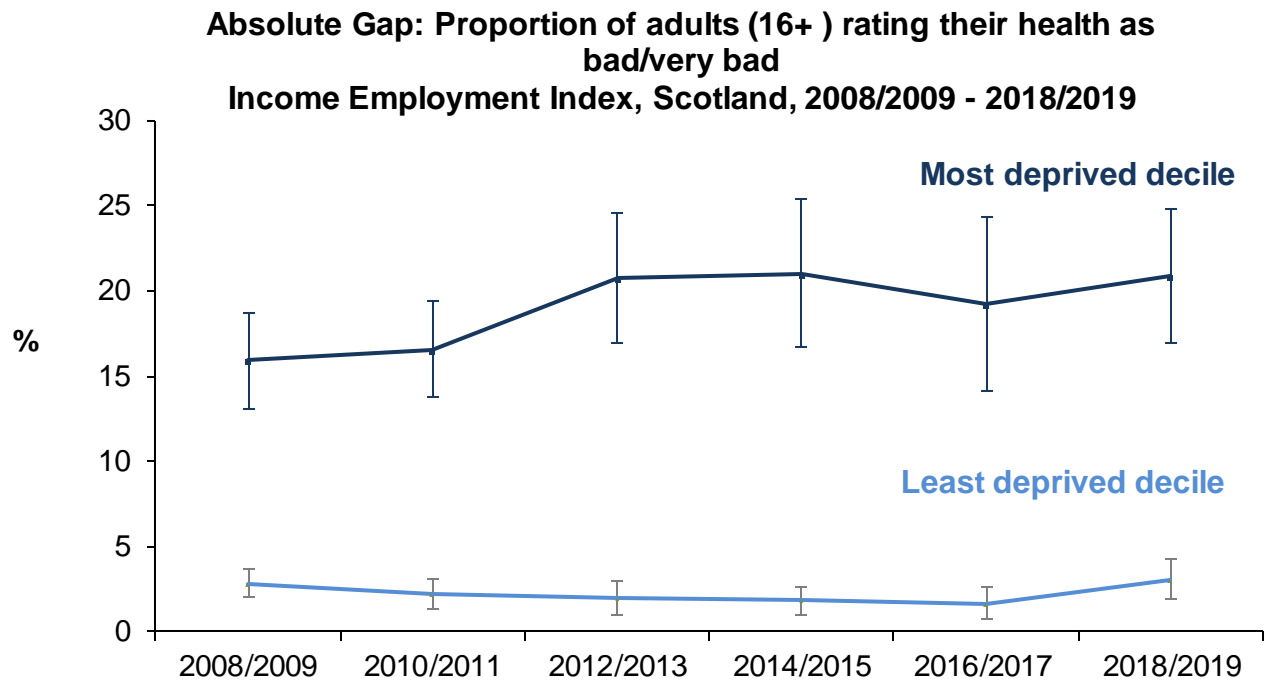
Figure 13.2

Relative Index of Inequality (RII):
Proportion of adults (16+) rating their general health as bad/very bad
Income Employment Index, Scotland, 2008/2009 - 2018/2019

Trends in absolute inequalities

The absolute gap in the percentage of adults reporting poor health increased steadily between those living in the most and least deprived areas between 2008/2009 and 2014/2015 (from 13 percentage points to 19 percentage points). However, it decreased to 18 percentage points in 2016/2017 and 2018/2019.

Figure 13.3

Absolute Gap: Proportion of adults (16+) rating their health as bad/very bad
Income Employment Index, Scotland, 2008/2009 - 2018/2019

Limiting long term conditions

Trends in limiting long-term conditions (adults aged 16+)

A limiting long-term condition is defined as a physical or mental health condition or illness lasting 12 months or more that reduces an individual's ability to carry-out day-to-day activities.

In 2018/2019 34% of adults reported a limiting long-term condition. This is a significant increase from the start of the time series in 2008/2009 (26%).

Table 13.1

Year	Proportion of adults with a limiting long-term condition	Lower 95% confidence limit	Upper 95% confidence limit
2008/2009	26	25	27
2010/2011	28	27	29
2012/2013	32	30	33
2014/2015	32	30	33
2016/2017	32	30	33
2018/2019	34	33	35

Inequalities in limiting long-term conditions 2018/2019

In 2018/2019, adults in the most deprived areas were nearly twice as likely to report a limiting long-term condition than those in the least deprived areas (47% versus 24%).
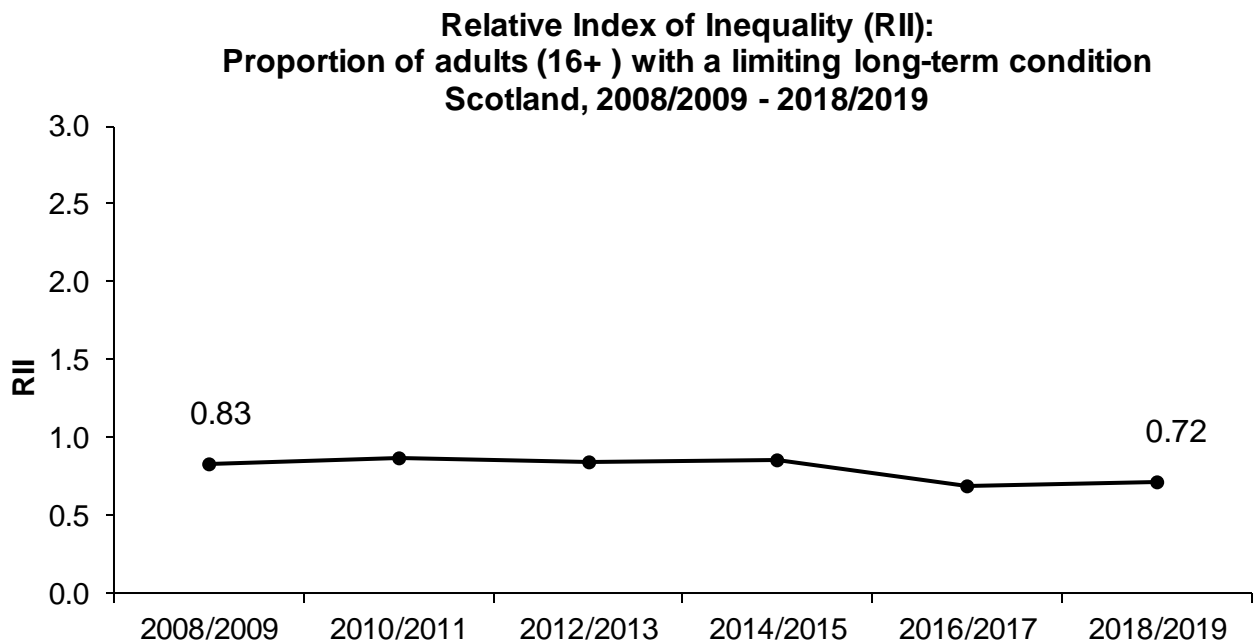
Figure 14.1

Proportion of adults (16+) with a limiting long term condition by Income-Employment Index, Scotland 2018/2019

Trends in relative inequalities

Relative inequalities in limiting long-term conditions decreased between 2008/2009 and 2018/2019 from 0.83 to 0.72.

Figure 14.2

Relative Index of Inequality (RII): Proportion of adults (16+) with a limiting long-term condition Scotland, 2008/2009 - 2018/2019

Trends in absolute inequalities

The absolute gap in the prevalence of limiting long-term conditions between the most and least deprived areas increased steadily between 2008/2009 and 2014/2015 (from 21 to 29 percentage points) before decreasing in 2016/2017 to levels similar to those seen at the start of the time series. It has since increased in 2018/2019 to 23 percentage points.

Figure 14.3

Absolute Gap:
Proportion of adults (16+) with a limiting long-term condition
Scotland, 2008/2009 - 2018/2019
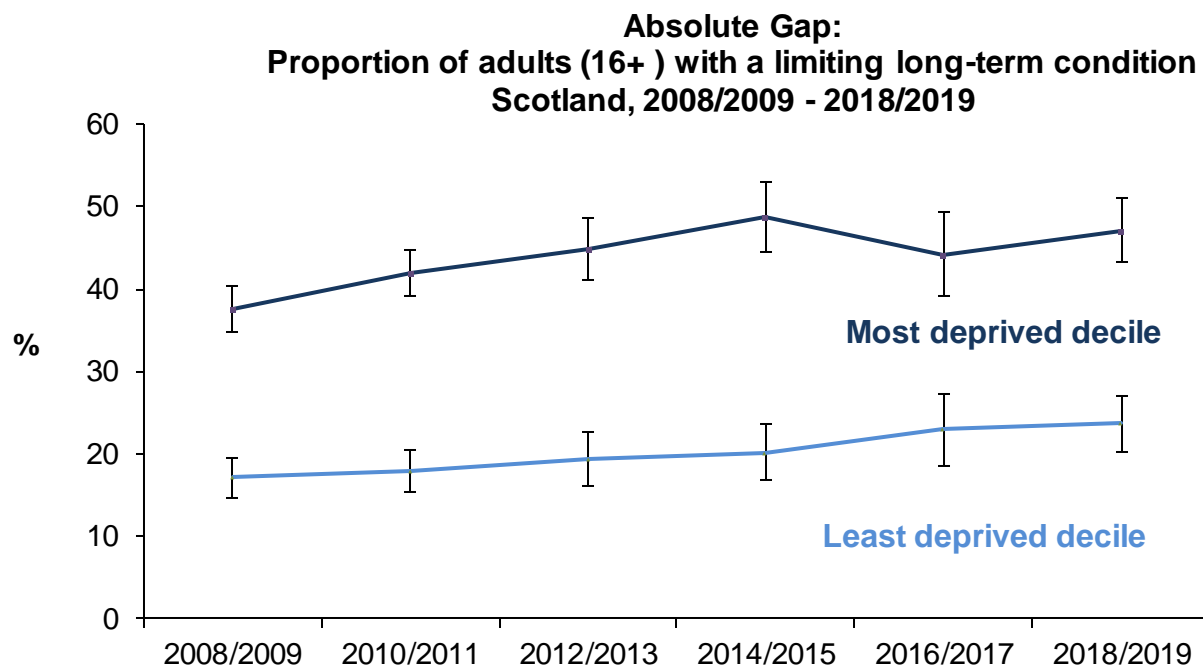
Drug-related hospital admissions aged under 75 years

Trends in drug-related hospital admissions

In 2018/19, over 10,000 individuals under the age of 75 were admitted to hospital for drug-related issues.

The rate of drug-related hospital admissions, which is based on the number of patients admitted to general acute and psychiatric specialties for drug misuse in each financial year, has shown a general upward trend since 1996/97 and is currently the highest it has been in the time series with 207.6 admissions per 100,000 population, compared to 64.0 admission per 100,000 in 1996/97.

Table 14.1: Trends in drug-related hospital admissions (aged <75), 1996/97-2018/19

Year	Total admissions[1]	Population	Rate per 100,000 (EASR)
1996/97	3,366	4,754,906	64.0
1997/98	3,801	4,740,269	73.6
1998/99	4,395	4,729,975	86.1
1999/00	4,734	4,721,298	94.1
2000/01	4,851	4,708,667	97.6
2001/02	5,205	4,703,661	105.7
2002/03	5,412	4,701,958	110.7
2003/04	5,124	4,702,431	106.0
2004/05	5,292	4,714,233	109.8
2005/06	5,019	4,735,320	104.0
2006/07	5,262	4,752,425	108.8
2007/08	5,790	4,783,452	119.3
2008/09	6,120	4,811,453	125.9
2009/10	6,009	4,835,007	124.0
2010/11	6,435	4,858,058	132.6
2011/12	6,384	4,888,316	131.1
2012/13	6,033	4,895,114	124.5
2013/14	6,624	4,903,074	137.5
2014/15	6,981	4,914,362	144.7
2015/16	7,836	4,935,283	162.3
2016/17	8,607	4,962,391	178.4
2017/18	9,258	4,976,829	191.9
2018/19	10,017	4,983,364	207.6

1. Total admissions counts the number of individuals who have been admitted to hospital for drug misuse in each financial year. Individuals admitted to hospital multiple times in the same financial year will only be included once per year.

Inequalities in drug-related hospital admissions, 2017/18

In 2018/19, the admission rate in Scotland's most deprived areas was 18 times greater than that of the least deprived (644.0 cases per 100,000 compared to 35.2 per 100,000).

Figure 15.1

Drug-related hospital admissions <75 y
by Income-Employment Index, Scotland 2018/19
(European Age-Standardised Rates per 100,000)
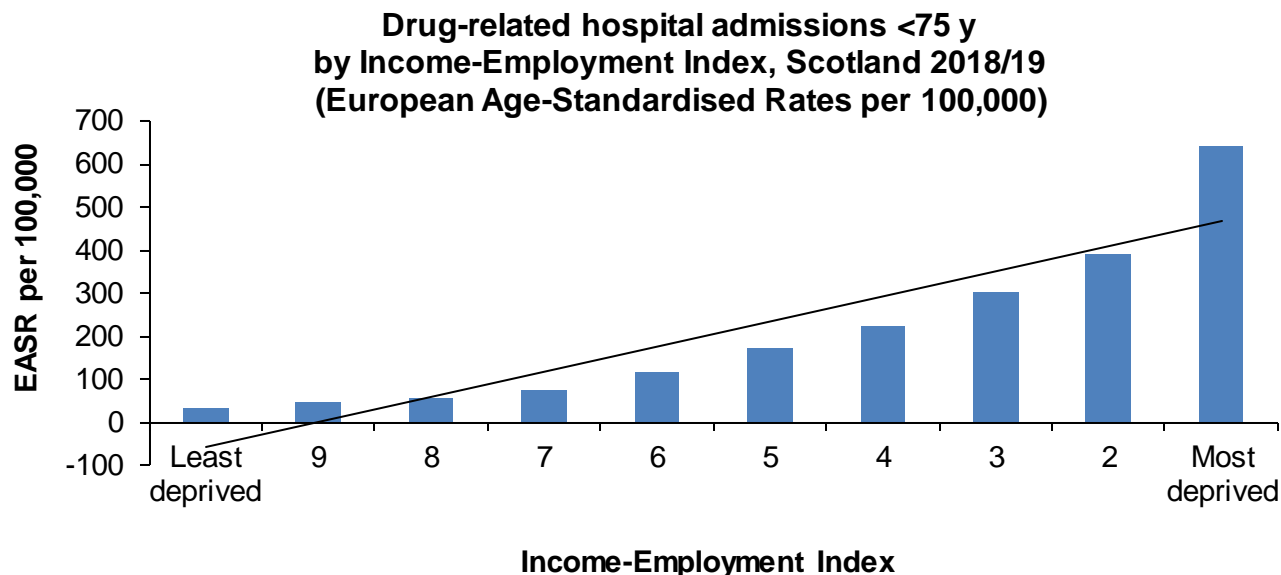
Trends in relative inequalities

Relative inequality levels for patients with drug-related hospital admissions have fluctuated over time. Although they have decreased from a high of 3.06 in 1998/99 the RII for 2018/19 (2.83) is higher than at the start of the time series (2.77).

Figure 15.2

Relative Index of Inequality (RII): Drug-related hospital admissions <75y Scotland 1996/97-2018/19
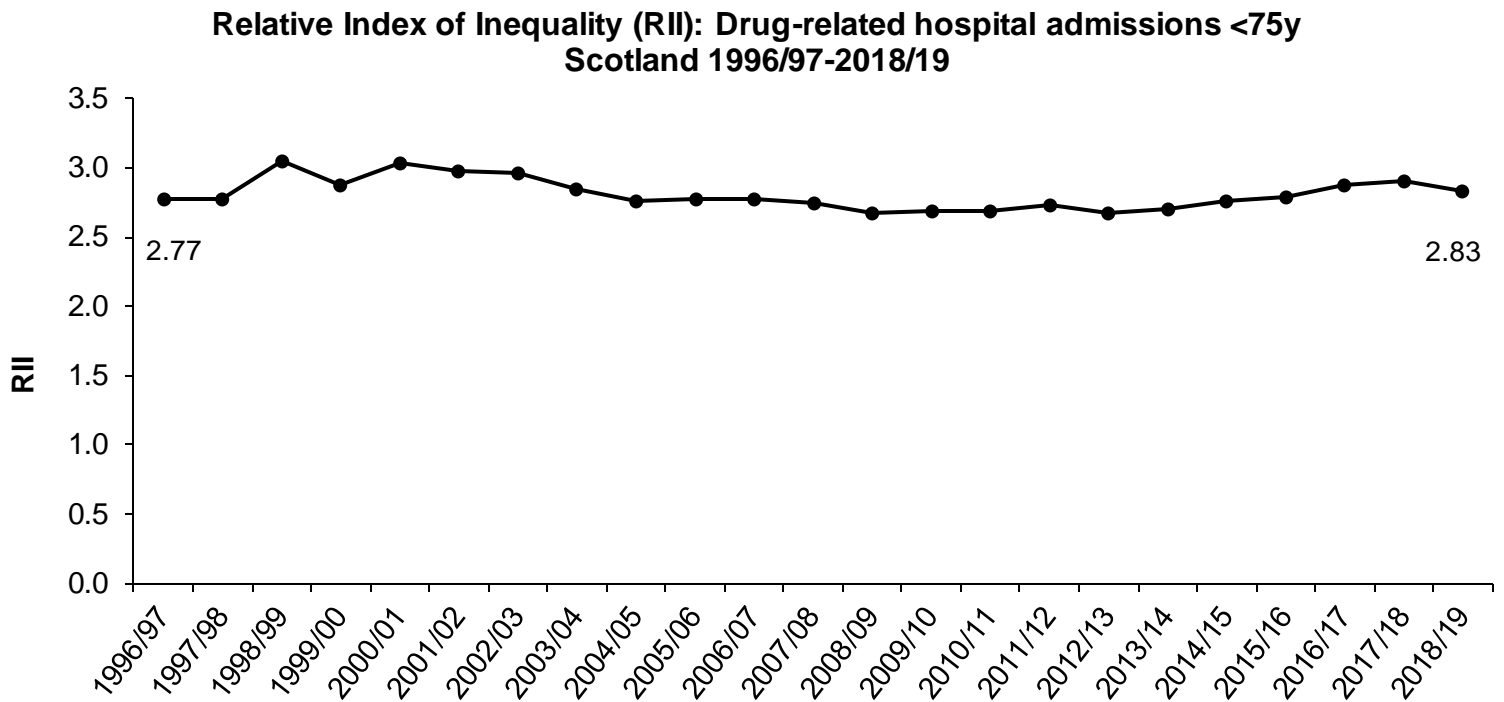
Since 1996/97 admission rates (aged <75) have ranged from 15-28 times higher in the most deprived areas compared to the least deprived areas.

Trends in absolute inequalities

The absolute gap in rates between those living in the most deprived areas and the least deprived areas has increased overall since the start of the time series. After an initial increase between 1996/97 and 1998/99 the absolute gap remained relatively stable, ranging from 309.6 – 384.7 per 100,000 between 1999/00 and 2012/13 before increasing in each of the past six years. In 2018/19 the absolute gap was at its highest level at 608.8 per 100,000. These fluctuations have mainly been driven by changes in drug-related hospital admissions in the most deprived areas, with drug-related hospital admissions in the least deprived areas also increasing but at a much lower scale.

Figure 15.3

Absolute Gap: Drug-related hospital admissions <75y
Scotland 1996/97-2018/19
(European Age-Standardised Rates per 100,000)
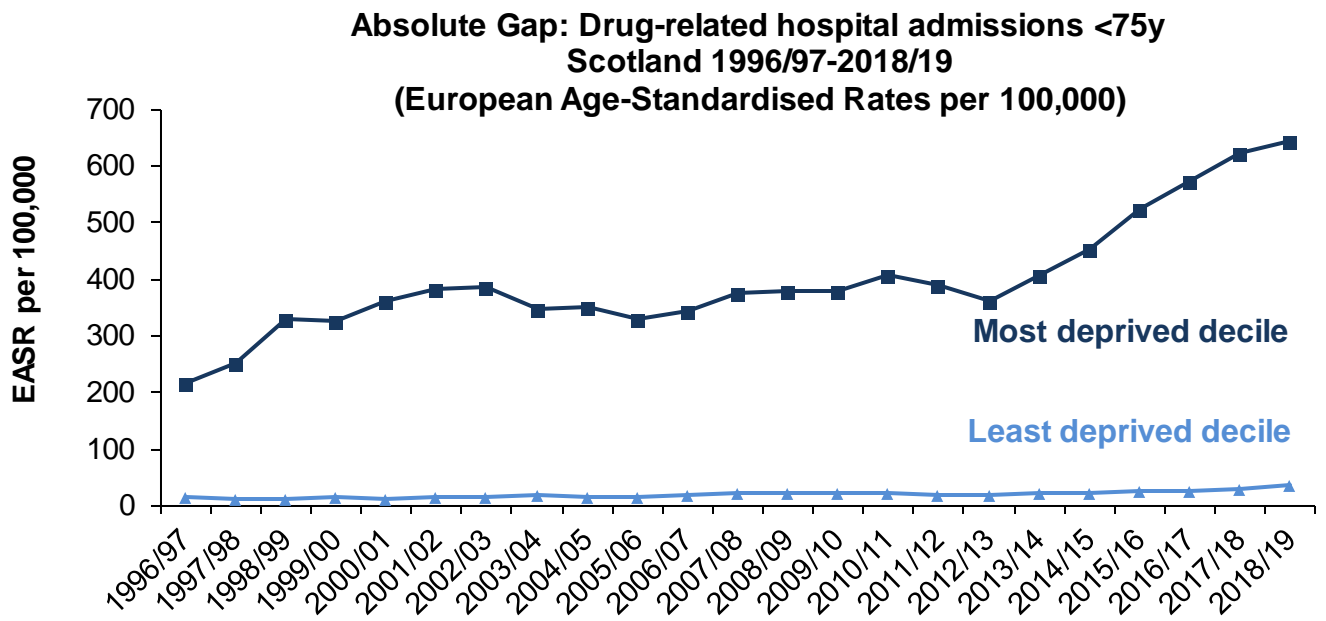
Annex 1: Technical Notes

All figures presented in the report are rounded but are calculated using unrounded data.

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: https://www.scotpho.org.uk/publications/reports-and-papers/measuring-socio-economic-inequalities-in-health-a-practical-guide/

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).

Figure 1: Disease rate - Slope Index of Inequality

A horizontal line would indicate equality across the deprivation groups.

The slope of the best fit line indicates the degree of inequality.

Disease rate per 100,000 (y-axis: 0, 5, 10, 15, 20, 25, 30, 35, 40)

Relative rank of population grouped by SIMD (x-axis: 0, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1)
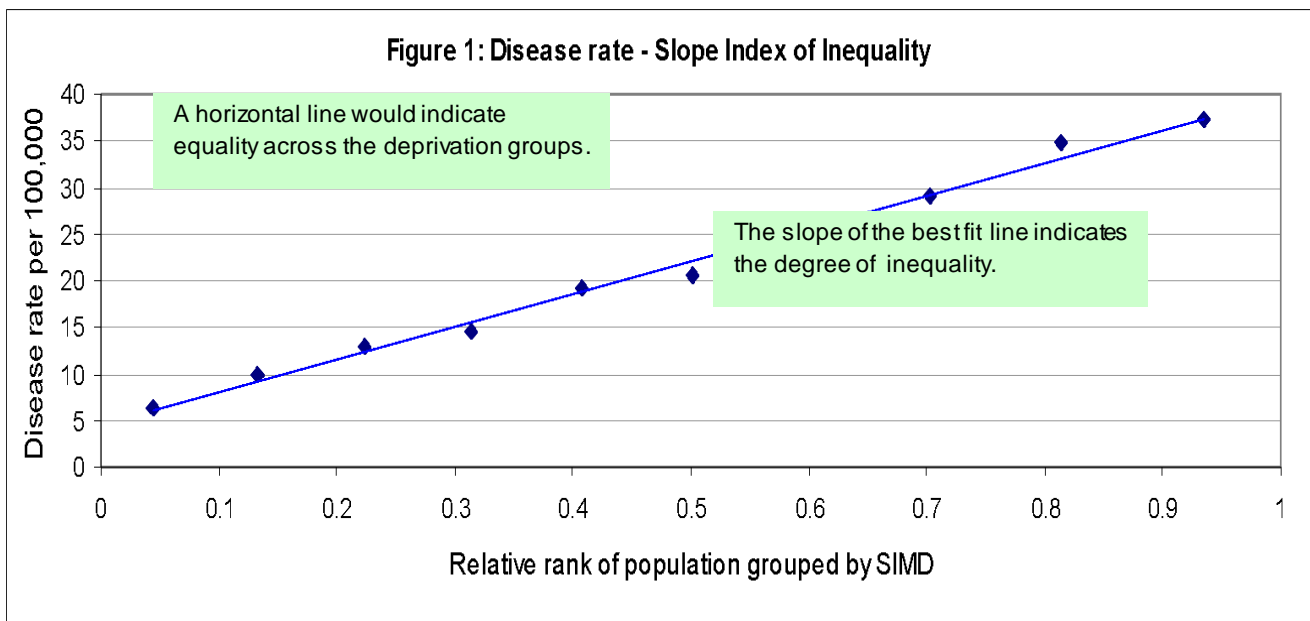
The SII and RII have the advantage that they are based on data about the whole population, rather than just the extremes, and so take into account inequalities across the scale. They do, however, require a reasonably linear relationship between the health indicator and deprivation (or income). Another 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.

The RII and SII for each indicator are available in the supplementary tables, available in the supporting files section.

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 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 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. Similarly, 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.

Annex 2: Data sources and quality

Data quality

Aggregate data is provided by National Records of Scotland (NRS) for the mortality and alcohol mortality indicators, and by Public Health Scotland (PHS) 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 PHS.

PHS and NRS are responsible for the quality assurance of their own datasets. Detailed information on the quality control of the relevant PHS datasets is available online[2]. National Records of Scotland have published detailed information on the quality of data on deaths[3]. Analysts at both PHS and NRS are provided with income-employment decile-datazone lookups and population estimates before a request for aggregate data is submitted.

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[2] http://www.isdscotland.org/Health-Topics/Cancer/Scottish-Cancer-Registry/Quality-Assurance/

[3] 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.

Healthy Life Expectancy (HLE)

Responsibility for production of Healthy Life Expectancy (HLE) data passed to National Records of Scotland (NRS) in 2018 as part of a programme of work to harmonise life expectancy and healthy life expectancy estimates across the UK. The indicator used in this report has been updated to reflect this change. Details of the new definition are outlined below.

New definition

Source: National Register of Scotland (NRS). HLE is derived by combining the estimates of life expectancy (LE) with data on self-assessed health (which comes from the annual population survey). The previous indicator, produced by ScotPHO, used self-assessed health estimates from the Scottish Household Survey and the Scottish Health Survey.

As the healthy life expectancy methodology has changed data presented in this report are not comparable to data previously published in this report series.

Definition: Healthy life expectancy (HLE) is the estimated number of years that a new born baby could be expected to live in good health, based on how individuals perceive their general health.
Life Expectancy: The average number of years that a new born baby could expect to survive if the current mortality rates for each age group, sex and geographic area remain constant throughout their life.

Based on HLE and LE we can estimate the proportion of the average lifetime that adults can expect to live in good health.

Estimates of HLE are less robust than estimates of LE due to the use of survey data. As the number of people responding to the survey are fewer than in the total population, sample size for HLE is smaller than for LE and therefore the 95% confidence intervals are wider.

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.

Mental wellbeing (adults aged 16 years and over)

Source: Scottish Health Survey (2008-2019).

Definition: Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS). This has been developed as a tool for measuring positive mental wellbeing at a population level. The scale comprises fourteen separate statements describing feelings related to mental wellbeing; respondents are asked to indicate how often they have felt such feelings over the last two weeks. Results are presented as average WEMWBS score for the population concerned, and are age-standardised using the age distribution for the Scotland population each year. WEMWBS scores for individuals can range from 14 (for the lowest possible score for each of the fourteen statements) to 70 (for the maximum possible score for each of the fourteen statements). An additional indicator based on the proportion of adults with 'below' average wellbeing is also included. Below average' wellbeing has been defined as WEMWBS scores of at least one standard deviation below the mean, equivalent to scores of 41 or lower in all years except 2018/2019, which was scores of 40 or lower. In order to improve the precision of the estimates of mean and below average WEMWBS scores, data has been presented for two year combined periods in this report (2008/2009 to 2018/2019), together with confidence limits around each estimate.

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

Source: NHS Information Services Division (ISD); SMR01 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: Public Health Scotland (PHS); using deaths data from National Records of Scotland.

Definition: European age-standardised rates of 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: Public Health Scotland (PHS); 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: Public Health Scotland (PHS); 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: Public Health Scotland (PHS).

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- specific deaths aged 45-74 years

Source: National Records of Scotland.

Definition: This indicator changed from alcohol-related deaths to alcohol-specific deaths in this report following the introduction of a new definition of alcohol deaths by NRS towards the end of 2017.

Alcohol-specific deaths
European age-standardised rates of death from alcohol-specific conditions amongst those aged 45-74 years. The definition of alcohol- specific deaths includes deaths which are known to be a direct consequence of alcohol misuse. The following World Health Organisation International Classification of Disease coding was used: ICD10 E24.4, F10, G31.2, G62.1, G72.1 I42.6, K29.2, K70, K85.2, K86.0, Q86.0, R78.0, X45, X65, Y15; ICD9 291, 303, 305.0, 357.5, 425.5, 535.3, 571.0, 571.1, 571.2, 571.3, 790.3, E860.

The figures for alcohol deaths do not include all deaths which may be caused by alcohol – for example, they do not include deaths:
- As a result of road accidents, falls, fires, suicide or violence involving people who had been drinking; or
- From some medication conditions which are considered partly attributable to alcohol, such as certain forms of cancer.

Alcohol-related deaths – definition used in previous reports
The definition of alcohol- related deaths included 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.

The numbers produced using the two definitions show broadly similar patterns of change over the period from 2000 to 2016, with the new definition's figures for Scotland tending to be very roughly 10% lower. For more information about the change of definition please see the NRS website: https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths/alcohol-deaths

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: Public Health Scotland (PHS); 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: Public Health Scotland (PHS); 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.

Data on appropriate birthweight for gestational age are produced using tables based on the UK-WHO child growth standards developed by the Royal College of Paediatrics and Child Health, see: https://www.rcpch.ac.uk/resources/growth-charts

Self-assessed health (adults aged 16 years and over)

Source: Scottish Health Survey (2008-2019)

Definition: The indicator expresses the percentage of adults responding either 'bad' or 'very bad' to the following question from the Scottish Health Survey:

How is your health in general? Would you say it was…
1. … very good
2. good
3. fair
4. bad, or
5. very bad

Results are presented as percentage of adults self-reporting 'poor' or 'very bad' health, and are age-standardised using the age distribution for the Scotland population each year
In order to improve the precision of estimates, data has been presented for two

year combined periods in this report (2008/2009 to 2018/2019), together with confidence limits around each estimate.

Limiting long-term conditions (adults aged 16 years and over)

Source: Scottish Health Survey (2008-2019)

Definition: The indicator expresses the percentage of adults responding 'yes' to the first question below and then either 'yes, a lot' or 'yes, a little' to the second question.

Do you have a physical or mental condition or illness lasting, or expected to last 12 months or more?
1. Yes
2. No

Does (condition) limit your activities in any way?
1. Yes, a lot
2. Yes, a little
3. Not at all

Results are presented as percentage of adults with a limiting long term condition, and are age-standardised using the age distribution for the Scotland population each year.

In order to improve the precision of estimates, data has been presented for two year combined periods in this report (2008/2009 to 2018/2019), together with confidence limits around each estimate.

Drug-related hospital admission aged under 75 years

Source: Public Health Scotland (PHS).

Definition: European age-standardised rates of hospital admissions for drug misuse amongst those aged under 75 years. These rates are based on inpatients and day cases discharged from general acute and psychiatric specialties in Scotland, where drug misuse was mentioned in the records at some point during the patient's hospital stay. Patients admitted to hospital multiple times in the same financial year will only be counted once per year. Patients admitted in multiple financial years will be included once in each year they are admitted. These figures include SMR01 records (general/acute inpatient and day cases) and SMR04 records (mental health inpatient and day cases). Some caution is necessary when interpreting these figures as drug misuse may only be suspected and may not always be recorded by the hospital. The following revised World Health Organisation International Classification of Disease coding was used: ICD10: F11, F12, F13, F14, F15, F16, F17, F18, F19, T40.0, T40.1, T40.3, T40.5, T40.6, T40.7, T40.8, T40.9. For the following T-codes a continuous inpatient stay (CIS) is counted if there is a presence

in the same CID of at least one of the ICD-10 Mental and Behavioural Disorder codes F11-F16, F18 or F19: T40.2, T40.4, T42.3, T43.6, T52.

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