

Long-term Monitoring of Health Inequalities

March 2023 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. 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. Absolute inequalities are measured by looking at changes in the gap between those living in most and least deprived areas in Scotland. It is possible for absolute inequalities to improve, but relative inequalities to worsen.

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

Indicators

Healthy life expectancy (HLE)

The RII has increased to its highest level since the start of the time series for both males and females, increasing from 0.38 to 0.47 for males and from 0.36 to 0.45 for females between 2013-2015 and 2019-2021.

The absolute gap in HLE has also increased since the start of the time series for males and females. For males it has increased from 22.5 years in 2013-2015 to 25.8 years in 2019-2021. For females it has increased from 23.8 years in 2013-2015 to 25.7 years in 2019-2021, the largest gap in the time series.

Premature Mortality (aged under 75 years)

The RII has increased over the long term and is now at the highest point in the time series (1.56 in 2021 compared to 1.00 in 1997).

In 2021, the absolute gap in premature mortality rates increased to its highest point since 2003 (684.2 per 100,000 in 2021 and 703.5 per 100,000 in 2003), and is higher than at the start of the time series (648.7 per 100,000 in 1997).

First ever hospital admission for heart attack (aged under 75 years)

The RII for heart attack hospital admissions has fluctuated over time, ranging from 0.69-1.01. The RII for 2021 was the same as at the start of the time series in 1997 (0.82).

The absolute gap in heart attack hospital admissions has fluctuated over time. The gap increased from 63.2 per 100,000 in 2020, which was the lowest figure since

2008, to 79.7 per 100,000 in 2021. This increase has been driven by a 7% increase in admissions in the most deprived areas and a 10% decrease in the least deprived areas and reflects a return to pre-pandemic levels.

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

The RII for CHD deaths has increased over the long term and is now at the highest point in the time series (1.75 in 2021).

The absolute gap in CHD deaths in 2021 was lower than at the start of the time series (222.6 per 100,000 in 2021 compared to 347.3 per 100,000 in 1997) but is the highest figure since 2009.

Cancer incidence (aged under 75 years)

The RII for cancer incidence has remained fairly stable over time, ranging from 0.29 to 0.42. In 2021, the RII was 0.42, the highest figure in the time series.

The absolute gap in cancer incidence has fluctuated over time, ranging from 122.1 per 100,000 to 178.2 per 100,000, with no clear pattern.

Cancer deaths (aged 45-74 years)

The RII for cancer deaths has increased over time and the figure in 2021 (0.98) was the second highest recorded in the time series.

The absolute gap in cancer deaths has fluctuated over the time series, ranging from, 304.8 per 100,000 to 395.3 per 100,000, with no clear pattern.

Alcohol-related hospital admissions (aged under 75 years)

There has been a general downward trend in the RII for alcohol-related hospital admissions over time, and the figure in 2021 is lower than at the start of the time series (1.72 in 2021 compared to 1.96 in 1996).

The absolute gap in alcohol-related admissions has generally reduced over time, largely due to a reduction in admissions in the most deprived areas. It was widest at the start of the time series in 1996 (613.0 per 100,000) and reduced to its lowest level in 2020 (322.2 per 100,000) before increasing slightly to 336.5 per 100,000 in 2021.

Alcohol-specific deaths (aged 45-74 years)

The RII for alcohol-specific deaths has fluctuated over the time series and in 2021 was similar to the start of the time series (2.03 in 2021 compared to 2.02 in 1997).

While the absolute gap in alcohol-specific deaths has decreased overall, from a peak of 184.7 per 100,000 in 2002, it increased from the lowest point in the time series of 71.8 per 100,000 in 2020 to 94.0 per 100,000 in 2021, the highest rate since 2017.

All-cause mortality (aged 15-44 years)

There has been an overall increase in the RII over time for all-cause mortality, although it has fallen in the last couple of years from a high of 2.11 in 2019 to 1.98 in 2021.

The absolute gap for all-cause mortality has fluctuated over time, reducing to its lowest level in 2013 (159.6 per 100,000), and reaching its highest level in 2019 (257.9 per 100,000). It has since reduced to 218.9 per 100,000 in 2021.

Low birthweight

While the RII for low birthweight has decreased since the start of the time series (from 1.03 in 1998 to 0.97 in 2021) it has increased over the last two years and is currently higher than the lowest value in the time series (0.76 in 2013).

The absolute gap in low birthweight was 4.6 percentage points in 2021, an increase from 3.4 percentage points in 2020, but lower than at the start of the time series (5.3 percentage points).

Drug-related hospital admissions (aged under 75 years)

The RII for drug-related hospital admissions has fluctuated over time. It is currently higher than at the start of the time series (2.87 in 2021/22 compared to 2.77 in 1996/1997) but has decreased from a high of 3.05 in 1998/99.

The absolute gap for drug-related hospital admissions has increased overall since the start of the time series, reaching a high of 694.3 per 100,000 in 2019/20 and has fallen to 558.3 per 100,000 in 2021/22. This decrease may be due in part to hospital admission policies associated with the COVID-19 pandemic.

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Background

A Ministerial Task Force on Health Inequalities led by the then 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.

The Scottish Government established a Health Inequalities Unit in 2020 to help tackle the existing health inequalities that have been highlighted and exacerbated by the pandemic. The Unit facilitates cross-government action to address the underlying causes of health inequalities, support healthcare institutions to become community anchors and empower communities to develop solutions based on their own individual needs.

In addition to publishing Public Health Priorities in 2018, the Scottish Government are taking population-wide approaches to reduce the significant harms of tobacco, alcohol and unhealthy food and drinks: bringing forward legislation to restrict promotions of less healthy food and drink; tackling alcohol consumption and harms; and developing a refreshed Tobacco Action Plan.

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

- 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 the mental wellbeing, self-assessed health or limiting long-term conditions indicators. These indicators are based on two combined years of Scottish Health Survey (SHeS) data and are produced every second year. They were due to be included in this report, however, data collection in 2020 was affected by the COVID-19 pandemic and it is therefore not possible to produce data for 2019/2020. These indicators will be included in the next report, using 2021/2022 data.

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

Impact of the COVID-19 pandemic

The COVID-19 pandemic is likely to have had an impact on the recent data for most indicators included in this report. Where there has been analysis undertaken to assess the impact of the pandemic that is relevant to a specific indicator the details have been included in the corresponding chapter.

Analysis of A&E attendances by Public Health Scotland found that the number of attendances decreased to 41% of normal pre-COVID-19 levels in the week ending 29 March 2020 before increasing to around 85% of normal levels throughout August and September 2020ⁱ. From mid-September 2020 until the start of February 2021, A&E attendance decreased to 63% of normal pre-COVID-19 levels before increasing to 101% of normal pre-COVID-19 levels in the week ending 20 June 2021 and a similar peak was seen in late August 2021¹. A&E attendance rates were then relatively stable between mid-October and mid-December before dropping in late Decemberⁱ.

A&E attendance figures provide an indication of the wider impact COVID-19 has had across the NHS. Changes in the use of healthcare services during the pandemic could be due to a number of factors, including a real change in the need for these services, reduced availability of services or a reduced demand for services, for example due to a reluctance to burden the NHS or anxiety about risk of infection.

ⁱ Covid-19 in Scotland. Indirect health Impacts – A&E attendances.
https://data.gov.scot/coronavirus-covid-19/detail.html#2_indirect_health_impacts

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 2019-2021, male HLE at birth was 46.3 years for those living in the most deprived areas, 25.8 years lower than those living in the least deprived areas (72.1 years).

Female HLE at birth was 47.3 years for those living in the most deprived areas, 25.7 years lower than those living in the least deprived areas (73.1 years).

The relative index of inequality has increased to its highest level for both males and females since the start of the time series, increasing from 0.38 to 0.47 for males and from 0.36 to 0.45 for females between 2013-2015 and 2019-2021.

The absolute gap in HLE has increased for males since the start of the time series, from 23.8 years in 2013-2015 to 25.8 years in 2019-2021.

The absolute gap has also increased for females from 23.8 years in 2013-2015 to 25.7 years in 2019-2021, the largest gap in the time series.

The latest HLE figures are calculated with data from 2019, 2020 and 2021, meaning the data includes two years of the COVID-19 pandemic, so we might expect to see some impact on the estimates. However, HLE estimates have large confidence intervals, making it difficult to compare year on year change and directly measure the impact of the pandemic. Additionally, annual population survey data used in the calculation of HLE only asks people to say whether they are in good or poor health and not what is causing their poor health.

However, National Records of Scotland (NRS) have undertaken some analysis on the impact of the COVID-19 pandemic on life expectancy in Scotland. This information is available in the Life Expectancy in Scotland, 2019-2021 reportⁱⁱ.

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, 60.4 years in

ⁱⁱ National Records of Scotland. Life Expectancy in Scotland, 2019-2021 report. [Life Expectancy in Scotland, 2019 - 2021, Report \(nrscotland.gov.uk\)](https://www.nrscotland.gov.uk/publications/life-expectancy-in-scotland-2019-2021-report)

2019-2021. 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 2019-2021 (61.1 years).

Inequalities in HLE, 2019-2021

HLE is lower for those living in the most deprived areas than for those living in the least deprived areas. In 2019-2021 males in the most deprived areas were, on average, expected to live 25.8 fewer years in good health than those in the least deprived areas (46.3 years vs 72.1 years). Females in the most deprived areas were, on average, expected to live 25.7 fewer years in good health than those in the least deprived areas (47.3 years vs 73.1 years).

Figure 1.1

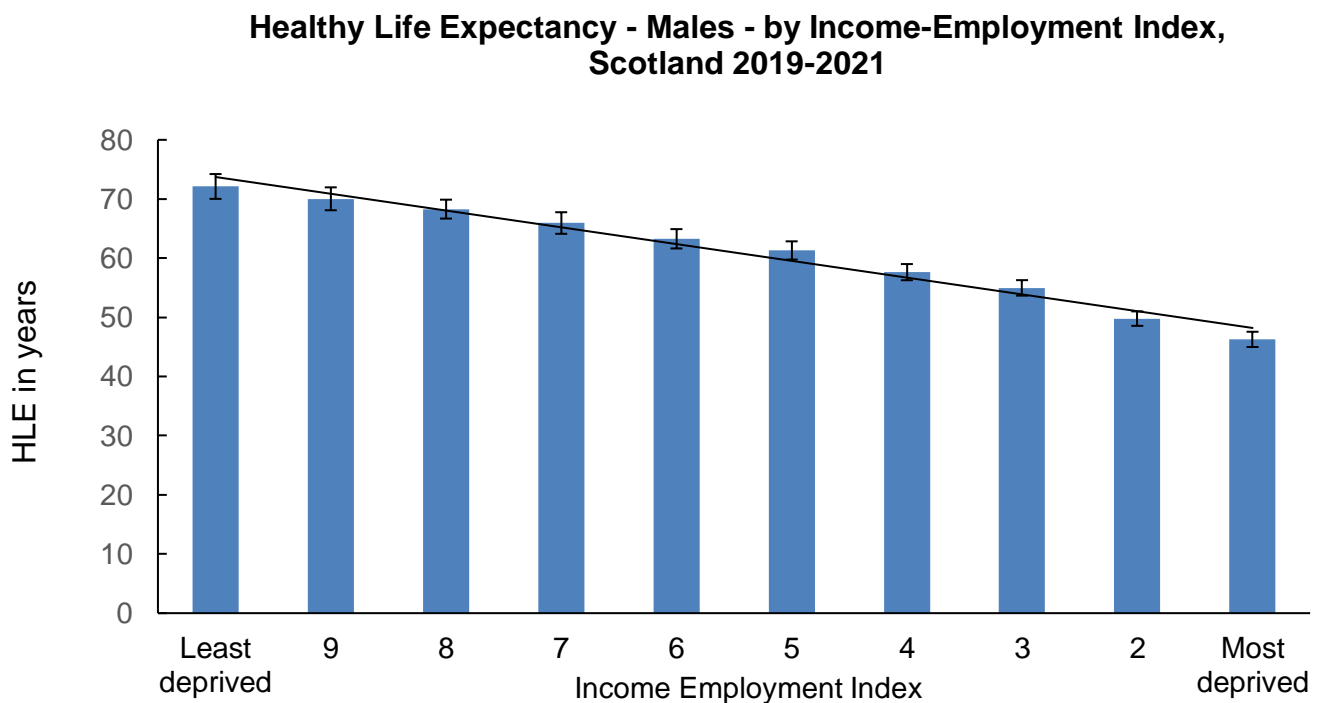
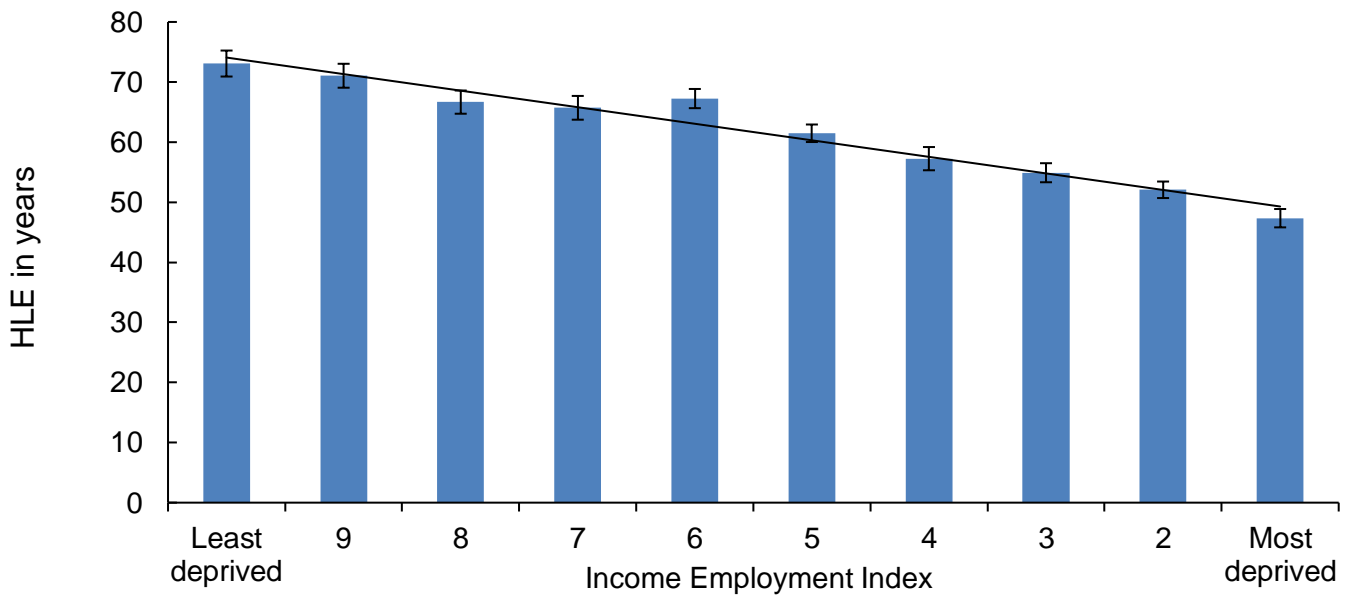


Figure 1.2

Healthy Life Expectancy - Females - by Income-Employment Index Scotland 2019-2021



Trends in relative inequalities

The RII has increased to its highest level for both males and females since the start of the time series, increasing from 0.38 to 0.47 for males and from 0.36 to 0.45 for females between 2013-2015 and 2019-2021.

Figure 1.3

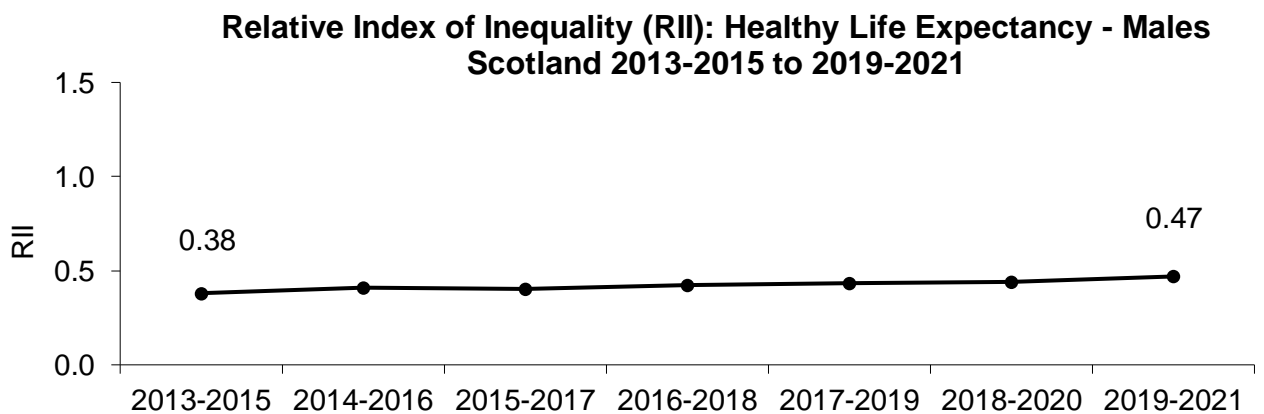
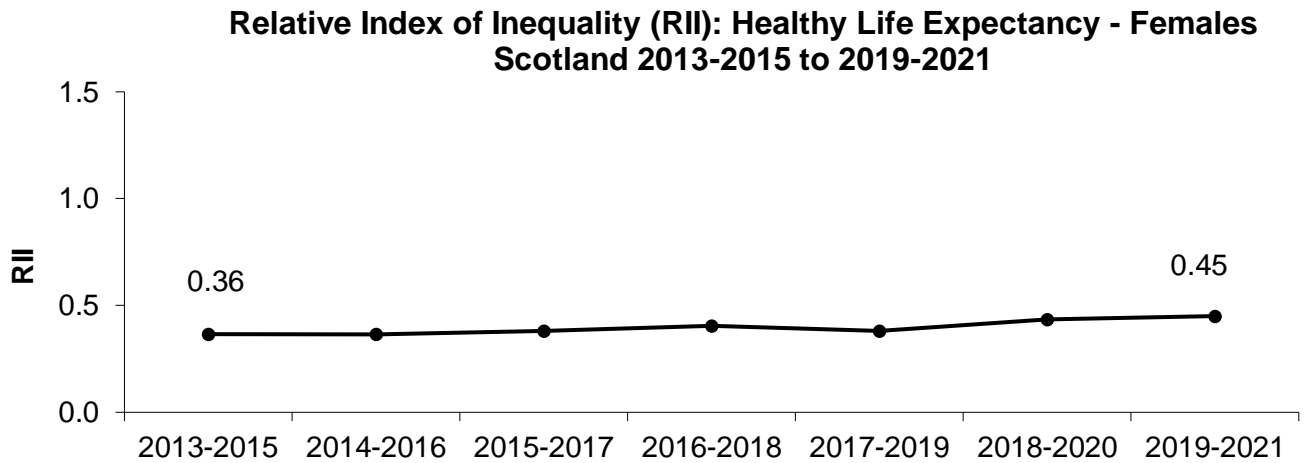


Figure 1.4



Trends in absolute inequalities

The absolute gap in HLE has increased overall for males since the start of the time series, from 22.5 years in 2013-2015 to a high of 26.0 in 2017-2019 before falling to 25.8 in 2019-2021

The absolute gap in HLE for females has increased since the start of the time series, from 23.8 years in 2013-2015 to 25.7 years in 2019-2021 and the gap is currently the largest gap in the time series.

Figure 1.5

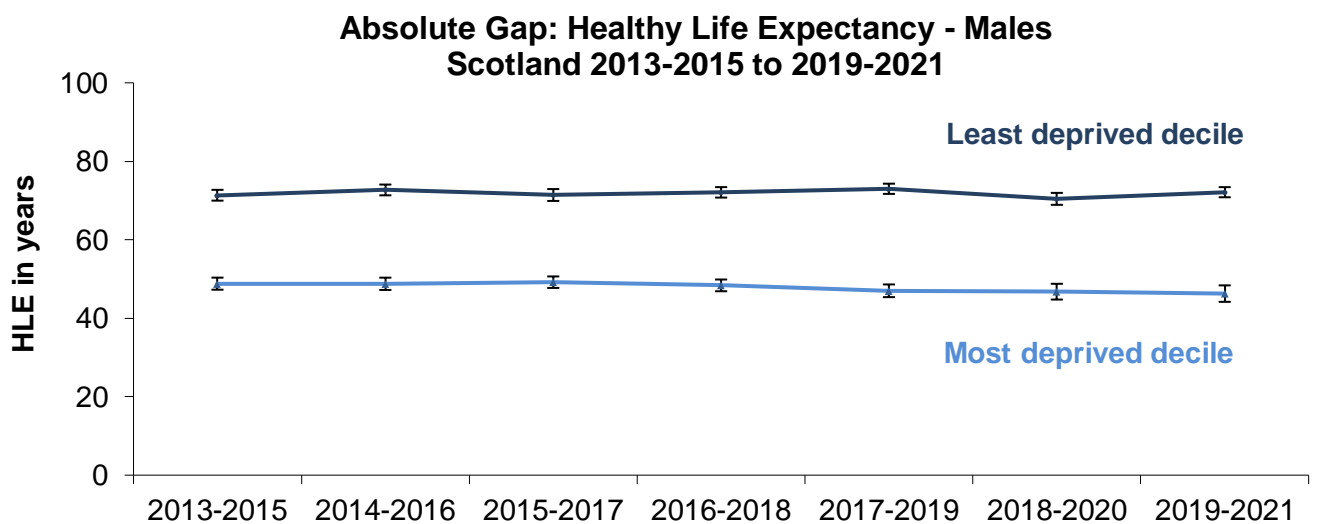
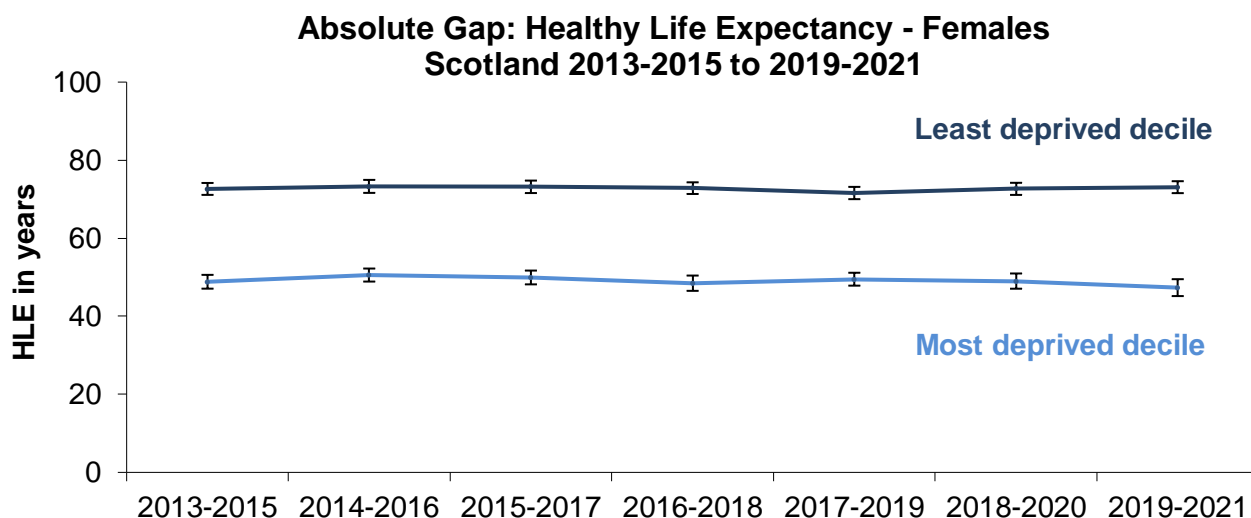


Figure 1.6



Healthy Life Expectancy and Life Expectancy, 2013-2015 to 2019-2021

Based on HLE and life expectancy (LE) we can estimate the proportion of life spent in good health. In 2019-2021 males were estimated to spend 78.9% of their life in good health, while females were estimated to spend 75.6% of their life in good health.

Males and females in the most deprived areas in Scotland are estimated to spend a much lower proportion of their life in good health than those living in the least deprived areas. In 2019-2021 males living in the most deprived areas spent 67.3% of their life in good health, compared to 87.3% for males living in the least deprived areas. Similarly, in 2019-2021, females living in the most deprived areas spent 62.9% of their life in good health, compared to 85.3% for females living in the least deprived areas.

Table 1.2: Trends in male healthy life expectancy and life expectancy, 2013-2015 to 2019-2021

		Confidence Intervals			Confidence Intervals			Proportion of life spent in good health
		Male HLE in years	95% LL	95% UL	Male LE in years	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
2018-2020	Scotland	60.9	60.4	61.4	76.8	76.7	76.9	79.3
	Most deprived decile	46.8	44.8	48.8	69.1	68.7	69.4	67.7
	Least deprived decile	70.4	68.9	71.9	82.7	82.5	83.0	85.1
2019-2021	Scotland	60.4	59.9	60.9	76.6	76.5	76.7	78.9
	Most deprived decile	46.3	44.2	48.4	68.7	68.4	69.1	67.3
	Least deprived decile	72.1	70.8	73.4	82.6	82.4	82.9	87.3

Table 1.3: Trends in female healthy life expectancy and life expectancy, 2013-2015 to 2019-2021

		Confidence Intervals			Female LE in years	Confidence Intervals		Proportion of life spent in good health
		Female HLE in years	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
2018-2020	Scotland	61.8	61.3	62.3	81.0	80.9	81.1	76.3
	Most deprived decile	49.0	47.1	51.0	75.6	75.3	75.9	64.9
	Least deprived decile	72.6	71.1	74.2	85.6	85.4	85.9	84.8
2019-2021	Scotland	61.1	60.5	61.7	80.8	80.7	80.9	75.6
	Most deprived decile	47.3	45.2	49.5	75.2	74.9	75.5	62.9
	Least deprived decile	73.1	71.6	74.6	85.7	85.4	85.9	85.3

Premature mortality (under 75 years)

In 2021, the gap in premature mortality rates between the most and least deprived areas increased to its highest point since 2003 (684.2 per 100,000 and 703.5 per 100,000 respectively), and is higher than at the start of the time series (648.7 per 100,000 in 1997). Relative inequalities have widened over the long term and are now at the highest point in the time series (1.56).

In 2021, premature mortality rates were 4 times higher in the most deprived areas compared to the least deprived, an increase from 3 times higher in 1997.

The first case of COVID-19 in Scotland occurred on the 1st March 2020, with the first death caused by COVID-19 occurring in Scotland on the 13th March 2020ⁱⁱⁱ. Data published by National Records of Scotland found that in both 2020 and 2021 there were significant increases in avoidable mortality, defined as ‘deaths which are considered either preventable or treatable through public health interventions or timely and effective healthcare^{iv}, largely due to COVID-19 deaths^{iv}. In addition, in 2020/21 COVID-19 drove an increase in winter deaths, responsible for almost two-thirds of additional deaths in winter 2020/21^v. It is therefore likely that the COVID-19 pandemic will have had an impact on the premature mortality rates for 2020 and 2021.

Trends in premature mortality

Over 24,000 people in Scotland died before the age of 75 in 2021.

Over the long term there has been a reduction in the mortality rate among under-75s. However, the European Age-Standardised mortality rate (EASR) among under-75s in 2021 was 465.9 per 100,000 people, the highest rate since 2010.

Table 2.1: Trends in premature mortality (under 75 years), 1997-2021

Year	Number of deaths	Target population size	Rate per 100,000 (EASR)
1997	26,081	4,740,269	651.9

ⁱⁱⁱ Scottish Government. First death of patient from Coronavirus (COVID-19) [First death of patient from Coronavirus \(COVID-19\) - gov.scot \(www.gov.scot\)](https://www.gov.scot/news/first-death-of-patient-from-coronavirus-covid-19/)

^{iv} National Records of Scotland. Avoidable Mortality 2021. [Avoidable Mortality 2021, Report \(nrscotland.gov.uk\)](https://www.nrscotland.gov.uk/publications/avoidable-mortality-2021-report)

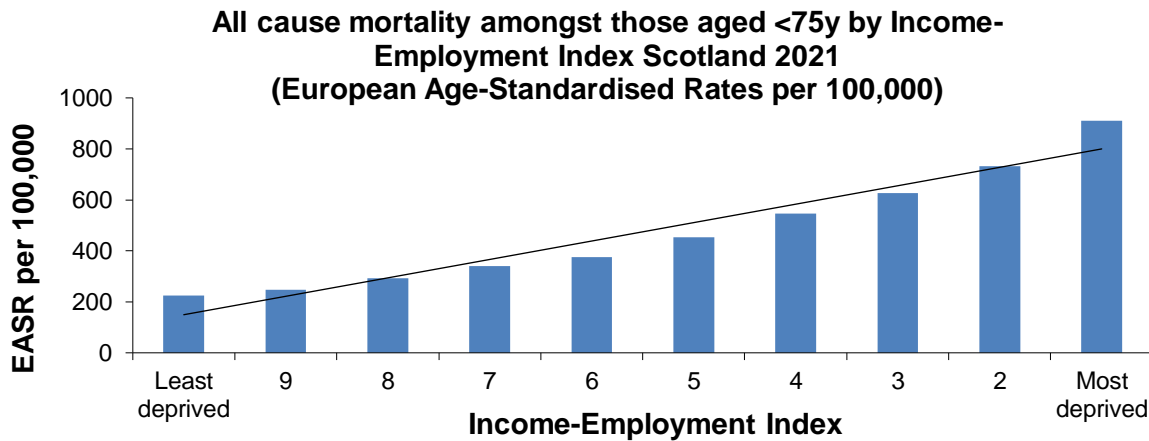
^v National Records of Scotland. Winter Mortality in Scotland 2020/21. [Winter Mortality in Scotland 2020/21: Report \(nrscotland.gov.uk\)](https://www.nrscotland.gov.uk/publications/winter-mortality-in-scotland-2020-21-report)

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
2020	23,370	4,996,183	457.4
2021	24,060	5,001,617	465.9

Inequalities in premature mortality, 2021

In 2021, the premature mortality rate in the most deprived areas was 909.7 per 100,000, four times higher than the rate in the least deprived areas (225.5 per 100,000).

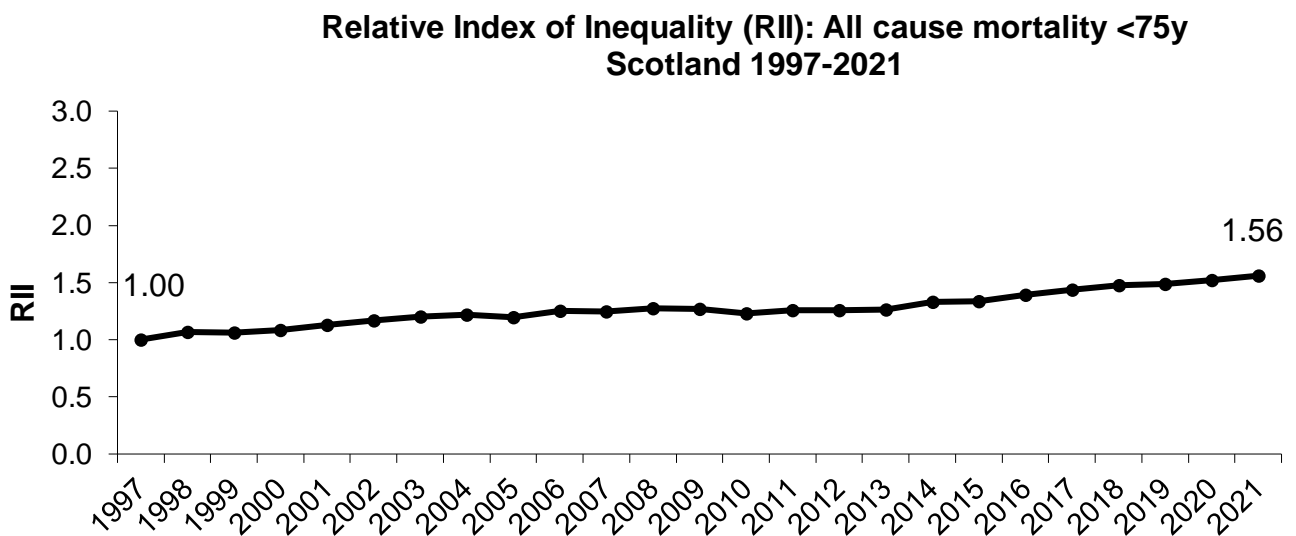
Figure 2.1



Trends in relative inequalities

Over the longer term, relative inequalities have increased. The RII for 2021 is the highest in the time series at 1.56, compared with 1.00 at the start of the time series in 1997.

Figure 2.2



Between 1997 and 2014, premature mortality rates were three times higher in the most deprived areas compared to the least deprived; in the last six years premature mortality rates have been four times higher in the most deprived areas.

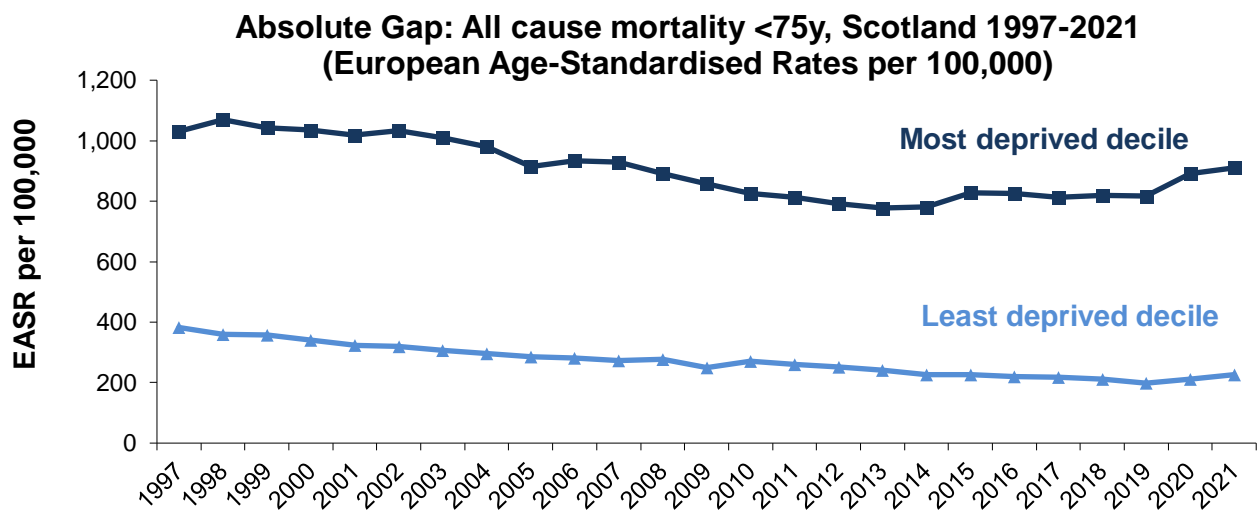
Trends in absolute inequalities

The gap in absolute inequalities in premature mortality between those living in the most and least deprived areas 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 per 100,000 in 2007 to 536.0 per 100,000 in 2013). Since 2013 the gap has increased, and is currently at its highest point since 2003 at 684.2 per 100,000.

Analysis by NRS^{vi} for the period of March 2020 to January 2023 found that, after adjusting for age, people living in the most deprived areas were 2.3 times more likely to die with COVID-19 than those living in the least deprived areas. When looking at deaths from all causes the death rate is 1.9 times higher in the most deprived areas compared to the least deprived areas. As COVID-19 was one of the leading causes of death during this time period it suggests that the pandemic will have driven an increase in inequalities in premature mortality between those living in the most and least deprived areas in 2020 and 2021.

Figure 2.3



^{vi} National Records of Scotland. Deaths involving coronavirus (COVID-19) in Scotland [Deaths involving coronavirus \(COVID-19\) in Scotland, Report \(nrscotland.gov.uk\)](https://www.nrscotland.gov.uk/deaths-involving-coronavirus-covid-19-in-scotland-report)

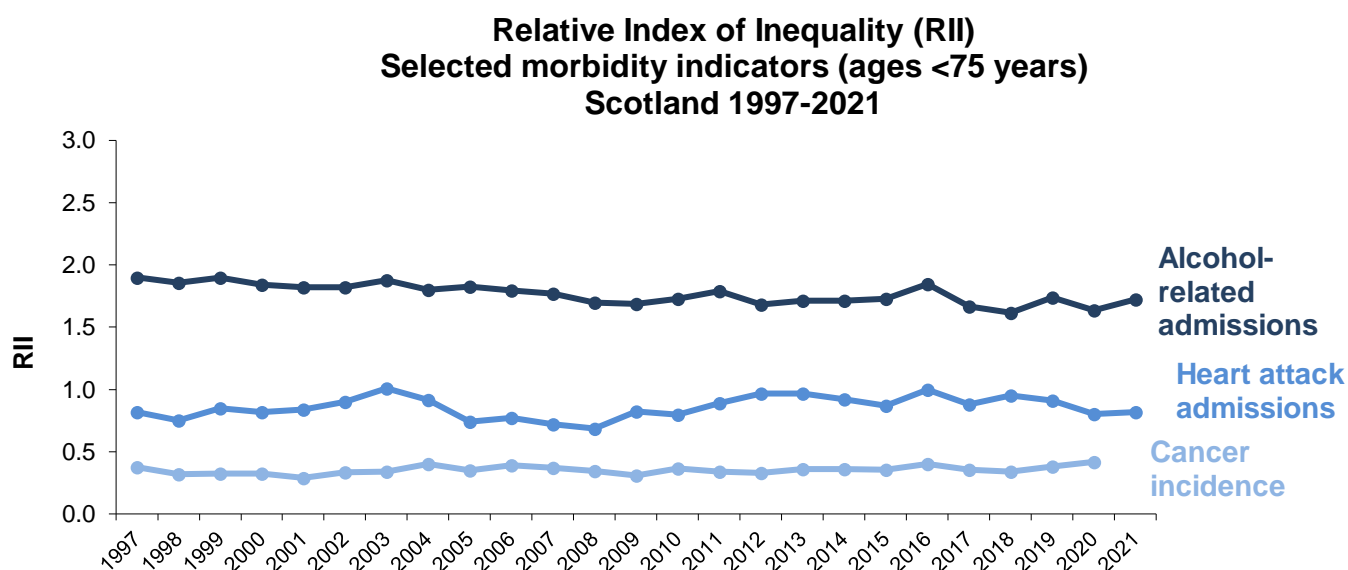
Inequalities in morbidity and mortality indicators

The 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 three causes of death.

Although relative inequalities in heart attack hospital admissions had been increasing 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

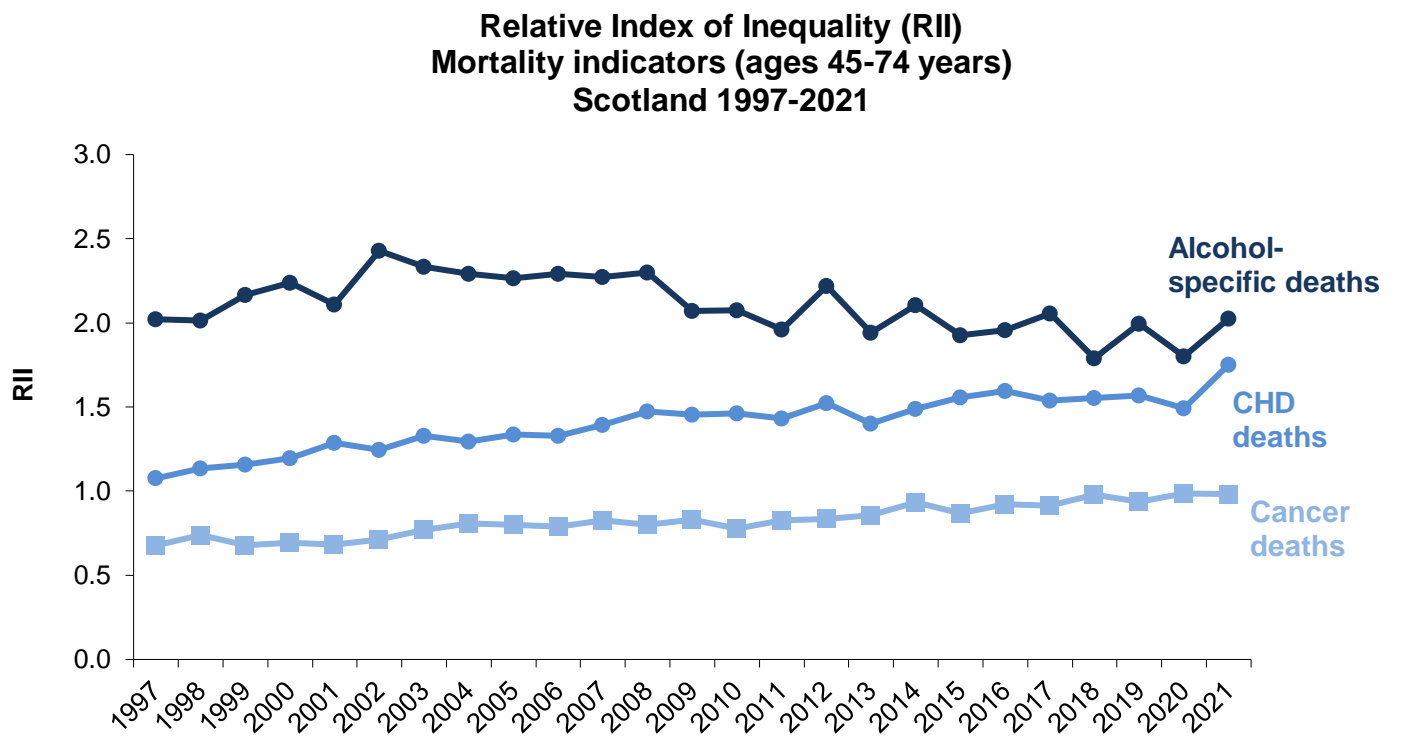


1. Cancer incidence data is only available up to 2020

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 similar to at the start of the time series (2.02 in 1997 vs 2.03 in 2021).

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

Figure 3.2



First ever hospital admission for heart attack aged under 75 years

Trends in heart attack hospital admissions

In 2021, over 5,100 new cases of heart attack (for those aged under 75 years) were recorded in Scottish hospitals.

The rate of admissions decreased year on year in the first 10 years of the time series, from 145.1 per 100,000 in 1997 to 80.4 per 100,000 in 2007, the lowest figure in the time series. While the rate of admissions in 2021 was 32% lower than in 1997 (99.2 in 2021), it has increased by 23% since 2007.

This indicator includes data for 2020 and 2021, the first two years of the COVID-19 pandemic. During this time there were changes to the accessibility and use of health services at various points^{vii} which may have impacted on the likelihood of adults suffering from^{viii}, or presenting at hospital suffering from, a heart attack, although the exact nature of any impact is unclear.

Table 4.1: Trends in heart attack hospital admissions (aged <75), 1997-2021

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

^{vii} Public Health Scotland. COVID-19 wider impacts on the health care system. [COVID-19 wider impacts \(shinyapps.io\)](https://shinyapps.io)

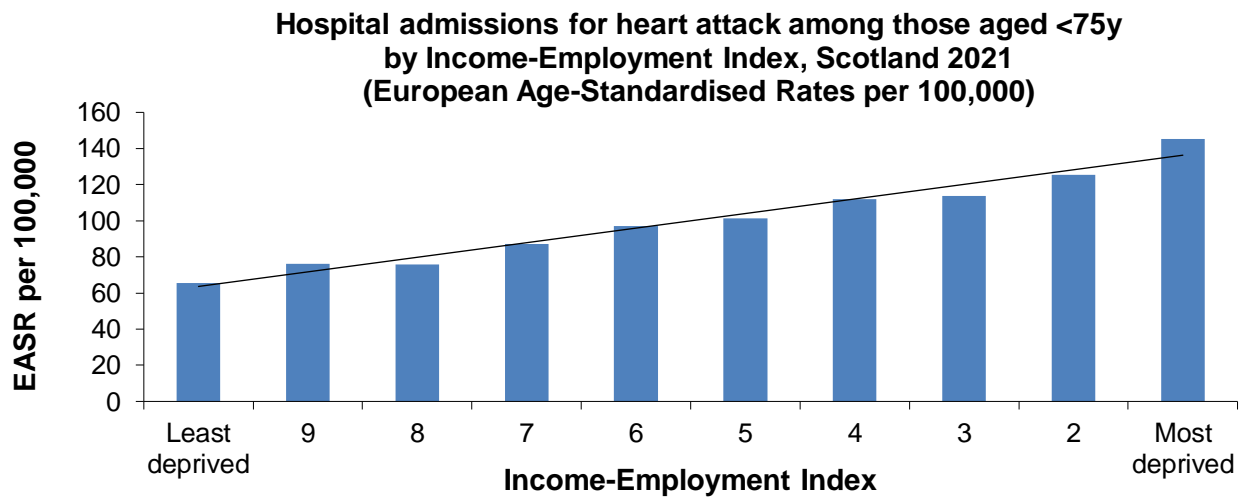
^{viii} Dale, C.E., Takhar, R., Carragher, R. *et al.* The impact of the COVID-19 pandemic on cardiovascular disease prevention and management. *Nat Med* **29**, 219–225 (2023). <https://doi.org/10.1038/s41591-022-02158-7>

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
2020	4,908	4,996,183	95.4
2021	5,140	5,001,617	99.2

Inequalities in heart attack hospital admissions, 2021

In 2021, the admission rate in Scotland’s most deprived areas was more than double that of those living in the least deprived areas (145.3 cases per 100,000 compared to 65.6 per 100,000).

Figure 4.1

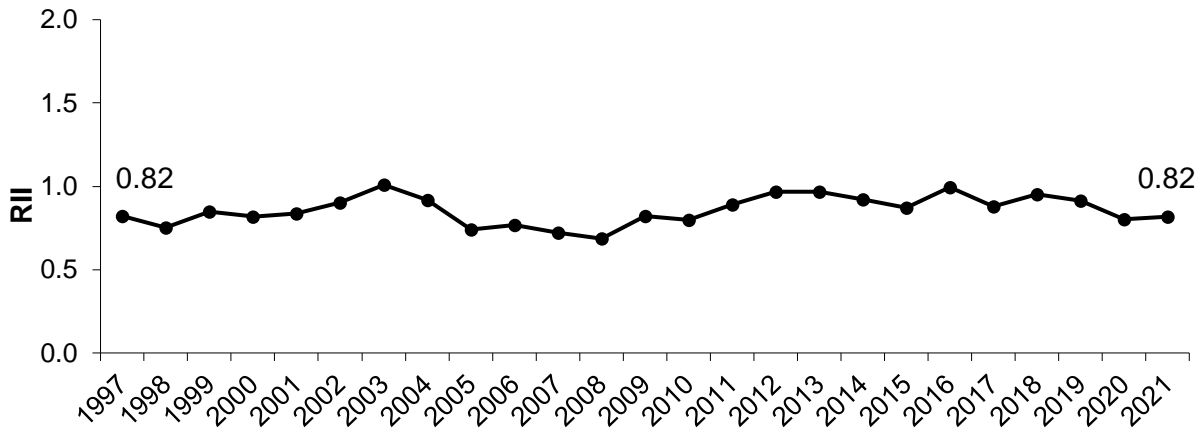


Trends in relative inequalities

Relative inequality levels for heart attack hospital admissions have fluctuated over time, ranging from 0.69-1.01. The RII for 2021 was the same as at the start of the time series in 1997 (0.82).

Figure 4.2

Relative Index of Inequality (RII): Hospital admissions for heart attack <75y Scotland 1997-2021



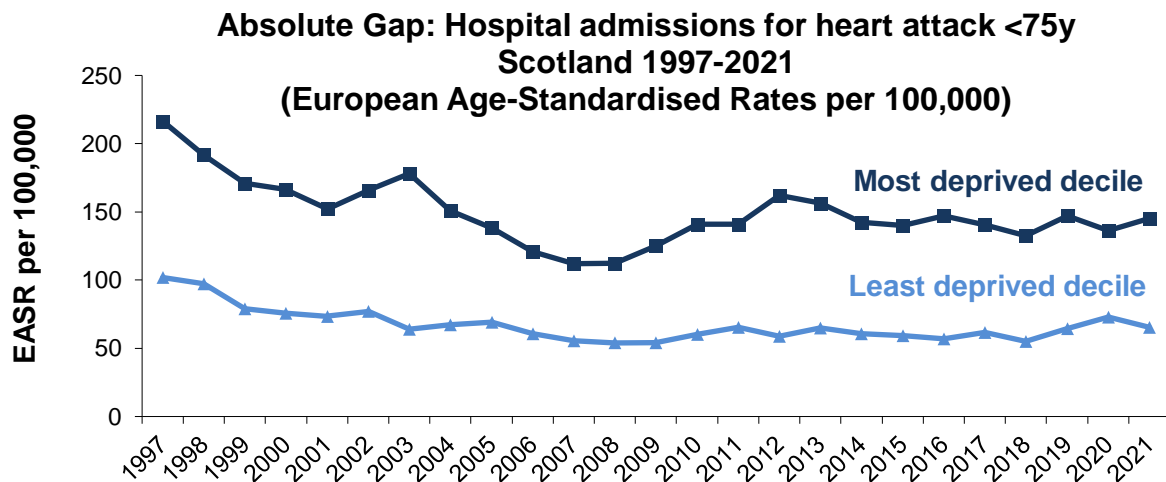
Heart attack hospital admission rates (aged <75) have been around 2-3 times higher in the most deprived areas compared to the least deprived areas across the time series.

Trends in absolute inequalities

The absolute gap in hospital admissions between those living in the most and least deprived areas was 79.7 per 100,000 in 2021. The gap has increased from 63.2 per 100,000 in 2020, which was the lowest figure since 2008.

The increase in 2021 has been driven by a 7% increase in admissions in the most deprived areas and a 10% decrease in the least deprived areas and reflects a return to pre-pandemic levels.

Figure 4.3



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

Trends in CHD deaths

In 2021, over 2,700 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 2021, the death rate for this age group was 130.1 per 100,000. While the 2021 rate is 65% lower than the rate in 1997 (372.5 per 100,000), it is the highest level since 2013.

National Records of Scotland note that in 2020 and 2021 there were more deaths than usual (when compared to the five year average of 2015-2019) from a number of causes, including heart disease^{ix}. The cause of this increase is not clear, however, reduced access to and availability of health services, and reluctance to use services^x, during the pandemic may have played a part.

Table 5.1: Trends in CHD deaths (aged 45-74), 1997-2021

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

^{ix} National Records of Scotland. Scotland's Population 2021. The Registrar General's Annual Review of Demographic Trends. [Scotland's Population 2021 \(nrscotland.gov.uk\)](https://www.nrscotland.gov.uk)

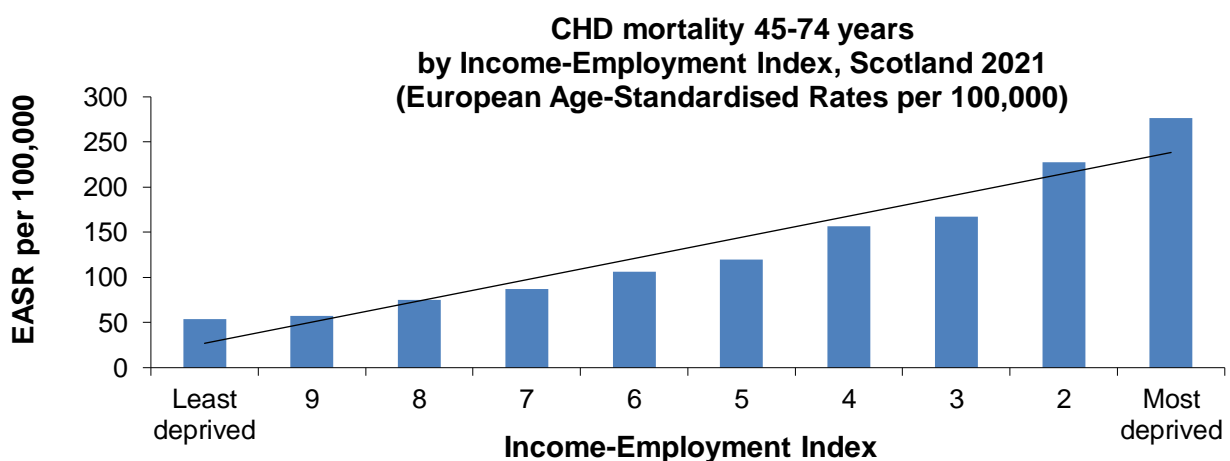
^x COVID-19 Recover Committee. Excess Deaths in Scotland since the start of the pandemic, Scottish Parliament. [Excess deaths in Scotland since the start of the pandemic | Scottish Parliament Website](https://www.scottish.parliament.uk)

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
2020	2,595	2,081,214	123.3
2021	2,772	2,085,703	130.1

Inequalities in CHD deaths, 2021

In 2021, the CHD mortality rate was five times higher in Scotland's most deprived areas compared to the least deprived (276.3 compared to 53.6 deaths per 100,000 population).

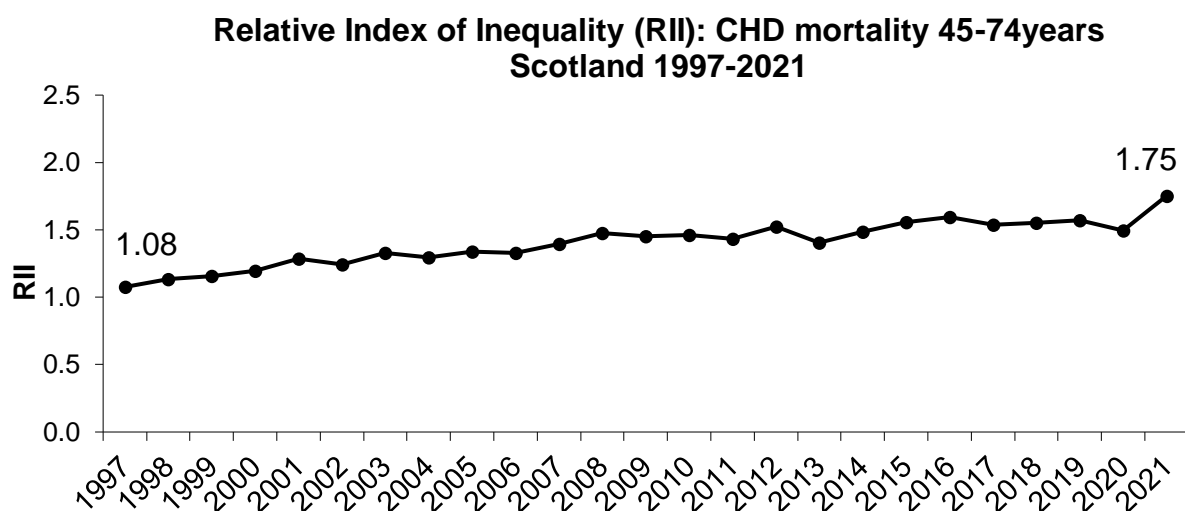
Figure 5.1



Trends in relative inequalities

Relative inequalities in CHD deaths have increased over the longer term. In 2021 the RII was 1.75, the highest in the time series.

Figure 5.2



In the second half of the time series, 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

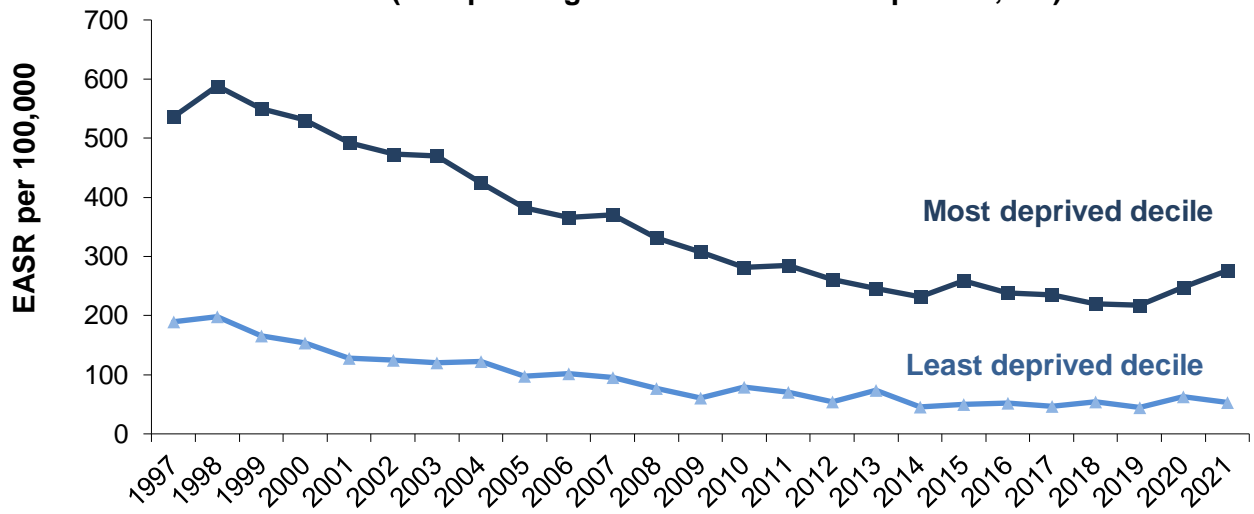
In contrast to relative inequalities, the absolute gap between those living in the most deprived areas and those living in the least deprived areas has reduced over the longer term from a high of 390.1 per 100,000 in 1998. The gap in 2021 is 36% lower than the start of the time series (222.6 per 100,000 in 2021 compared to 347.3 per 100,000 in 1997) but is the highest figure since 2009.

Between 2020 and 2021 the mortality rate in the most deprived areas increased by 11%, whilst the rate in the least deprived areas decreased by 14%. In 2020 there was a decrease in the rate of first hospital admission for heart attack for adults living in the most deprived areas^{xi}, potentially as a result of non-attendance at hospital as a result of the COVID-19 pandemic, which may have contributed towards this increase in mortality seen in 2021.

Figure 5.3

^{xi} Scottish Government. Long-term Monitoring of Health Inequalities. March 2022 Report. [Long-term Monitoring of Health Inequalities \(www.gov.scot\)](http://www.gov.scot/Long-term-Monitoring-of-Health-Inequalities)

**Absolute Gap: CHD mortality 45-74 years, Scotland 1997-2021
(European Age-Standardised Rates per 100,000)**



Cancer incidence rate aged under 75 years

Trends in cancer incidence

In 2020, there were more than 19,500 new cases of cancer diagnosed among people aged under 75.

Cancer incidence among people aged under 75 has fluctuated over the time series ranging from 417.5 per 100,000 to 452.7 per 100,000 between 1996 and 2019. Cancer incidence in 2020 was the lowest in the time series at 383.9 per 100,000, a reduction of 14% since 2019. This reduction is likely to be a result of the impact of COVID-19 on cancer detection, rather than a genuine decrease in the incidence of cancer in Scotland in 2020.

In Public Health Scotland's (PHS) Cancer Incidence in Scotland^{xii} publication they note that during the COVID-19 pandemic, cancer screening programmes were paused and referrals for suspected cancer fell as patients were less likely to seek help. Some people will also have died of COVID-19 in 2020 before they were diagnosed with cancer. To quantify this, PHS undertook analysis to determine the rates of cancer that would have been expected in 2020 based on the previous decades cancer data (2010-2019) and determined that the decrease was out with what would have been expected and was therefore likely the result of the COVID-19 pandemic.

Table 6.1: Trends in cancer incidence (aged < 75), 1996-2020

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

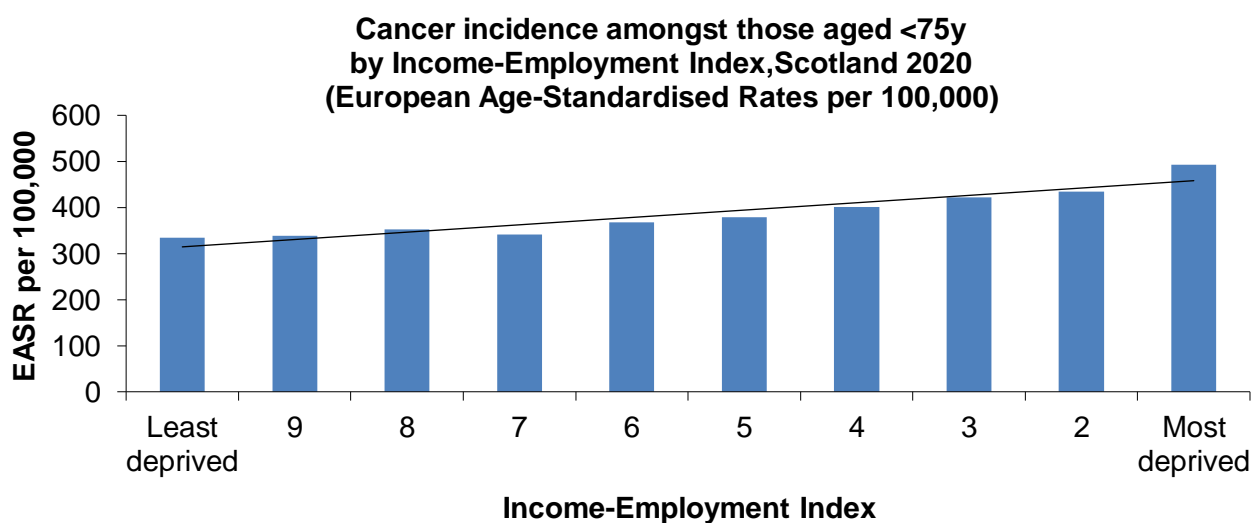
^{xii} Public Health Scotland. Cancer Incidence in Scotland, to December 2020. [Cancer Incidence in Scotland \(publichealthscotland.scot\)](https://publichealthscotland.scot)

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
2019	22,698	4,997,455	447.1
2020	19,663	4,996,183	383.9

Inequalities in cancer incidence, 2020

In 2020, there were 492.1 cases of cancer per 100,000 people in the most deprived areas, compared to 333.8 cases per 100,000 in the least deprived areas.

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^{xiii}. 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

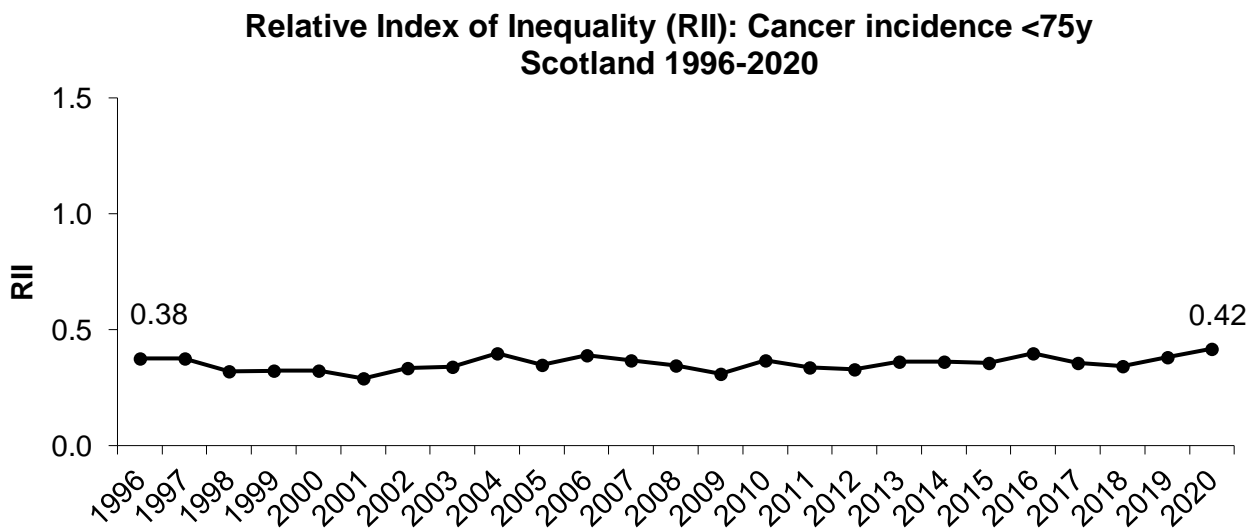
^{xiii} Web tables accompanying this publication include incidence inequality data for prostate cancer, breast cancer, cancer of the trachea, bronchus and lung, and colorectal cancer.

trachea, bronchus and lung (2020 rates were 116.8 and 23.6 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 0.42. In 2020 the RII was 0.42, the highest figure in the time series.

Figure 6.2

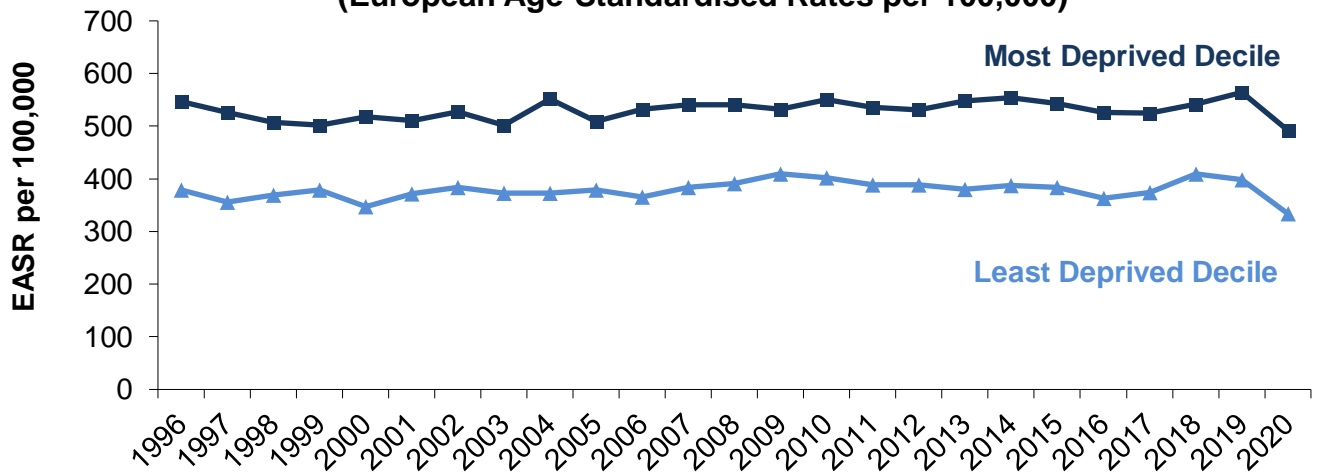


Trends in absolute inequalities

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. The gap between the most and least deprived decile was 158.2 in 2020. Between 2019 and 2020 the rate of cancer incidence decreased in both the most and least deprived deciles (by 13% and 16% respectively), most likely as a result of the impact of the COVID-19 pandemic.

Figure 6.3

**Absolute Gap: Cancer incidence <75y, Scotland 1996-2020
(European Age-Standardised Rates per 100,000)**



Cancer deaths aged 45-74 years

In October 2022 Public Health Scotland (PHS) published the annual Cancer Mortality in Scotland report^{xiv} which included data up to 2021. In the report they note that the COVID-19 pandemic resulted in the pausing of cancer screenings, a fall in urgent referrals for suspected cancer and a reduction in patients seeking help, receiving investigations and treatment for cancer.

In the publication PHS note that cancer mortality rates have fallen over time and they therefore undertook analysis to gauge the impact of the pandemic on cancer mortality rates. This analysis concluded that while cancer mortality rates in 2020 and 2021 were lower than before the pandemic, they were within the limits which would have been expected if the pandemic had not occurred^{xiv}.

Trends in cancer deaths

In 2021 more than 7,300 adults aged 45-74 died of cancer.

The cancer mortality rate amongst those aged 45-74 years has fallen by 35% since the start of the time series (from 529.8 per 100,000 population in 1996 to 343.6 per 100,000 in 2021).

Table 7.1: Trends in cancer mortality (aged 45-74), 1996-2021

Year	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

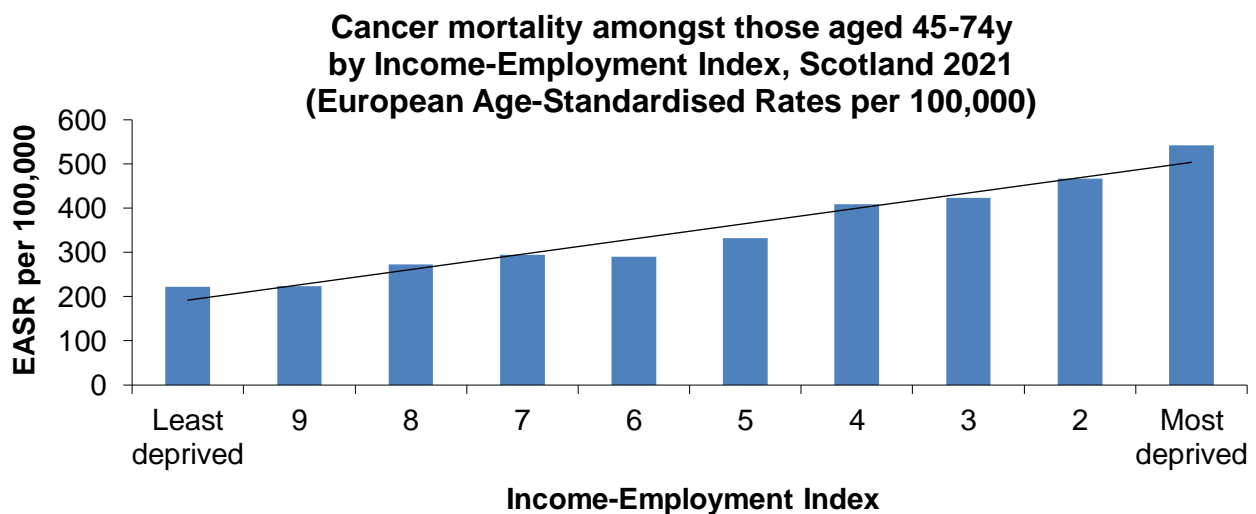
^{xiv} Public Health Scotland. Cancer Mortality in Scotland, annual update to 2021. <https://www.publichealthscotland.scot/media/15989/2022-10-25-cancer-mortality-report.pdf>

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
2017	7,342	2,064,612	363.6
2018	7,531	2,073,318	367.0
2019	7,487	2,078,664	360.0
2020	7,362	2,081,213	349.8
2021	7,326	2,085,703	343.6

Inequalities in cancer deaths, 2021

Of people in the 45-74 year age group, those living in Scotland's most deprived areas were more than twice as likely to die of cancer than those in the least deprived areas in 2021 (542.0 deaths per 100,000 population compared to 221.8 per 100,000 population).

Figure 7.1



As is the case for cancer incidence, inequality levels vary when examining deaths by cancer type^{xv}. 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.

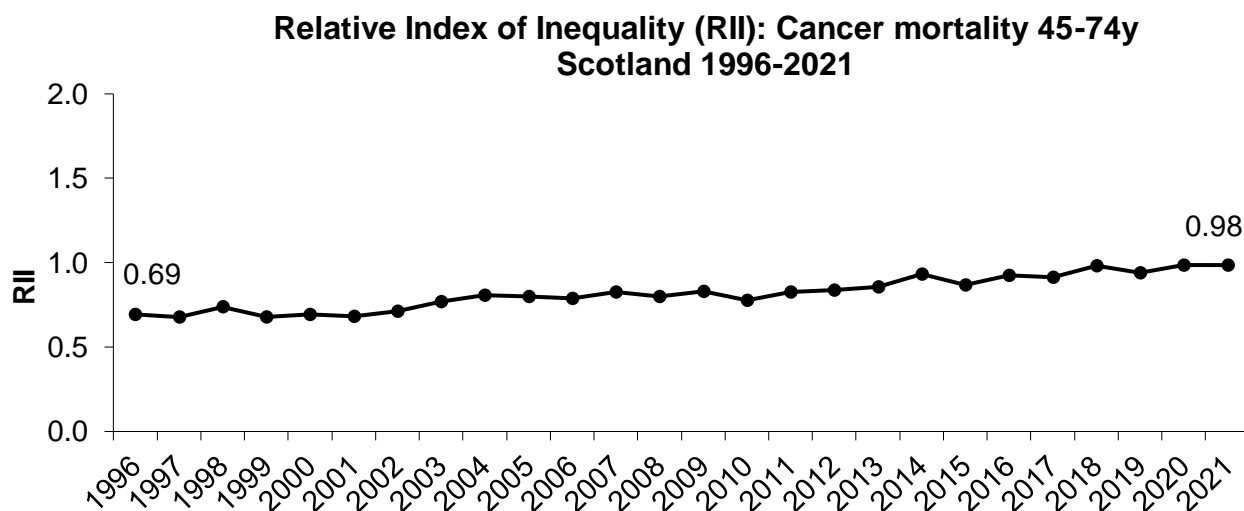
In 2021 the largest differences between rates in the most and least deprived areas are again observed for cancer of the trachea, bronchus and lung (201.4 compared to 31.8 per 100,000 population).

^{xv} 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 in cancer mortality have increased over time and the RII in 2021 was the second highest recorded across the time series (0.98), higher than at the start of the time series (0.69 in 1996).

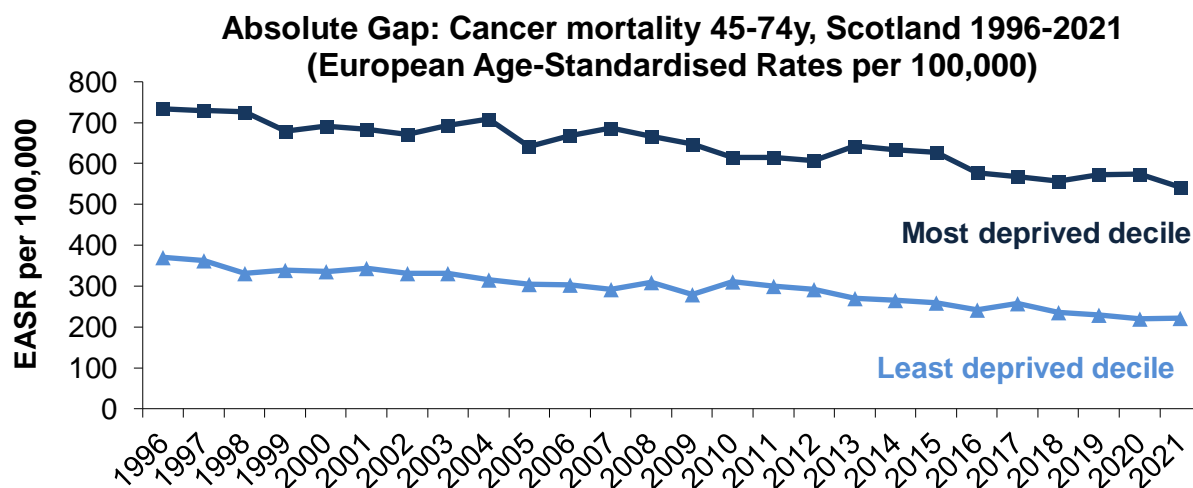
Figure 7.2



Trends in absolute inequalities

Levels of absolute inequality for cancer deaths have fluctuated since 1996, ranging from 304.8 to 395.3. In 2021 the absolute gap between the most deprived and least deprived areas was 320.2 per 100,000.

Figure 7.3



Alcohol-related hospital admissions aged under 75 years

Trends in alcohol-related admissions

The first hospital admission rate for alcohol-related conditions amongst those aged under 75 years with a 10-year look-back period has shown a general downward trend over time. The rate of admissions was 201.1 per 100,000 in 2021, the lowest figure in the time series and 31% lower than at the start of the time series (289.8 per 100,000 in 1996).

Alcohol-related hospital admissions were around 11% lower in 2020 and 2021 than in 2019. Measures put in place in response to the COVID-19 pandemic impacted hospital activity from March 2020 and are likely to have contributed to the decrease^{xvi}

Table 8.1: Trends in first alcohol-related hospital admissions¹ (aged < 75), 1996-2021²

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	223.7

^{xvi} Public Health Scotland. Alcohol related hospital statistics: Scotland financial year 202 to 2022.

[Alcohol related hospital statistics - Scotland financial year 2021 to 2022 - Alcohol related hospital statistics - Publications - Public Health Scotland](#)

2015	10,466	4,935,283	216.9
2016	10,769	4,962,391	221.8
2017	10,645	4,976,829	218.1
2018	10,662	4,983,364	217.6
2019	11,186	4,997,455	227.5
2020	9,994	4,996,183	202.5
2021	9,933	5,001,617	201.1

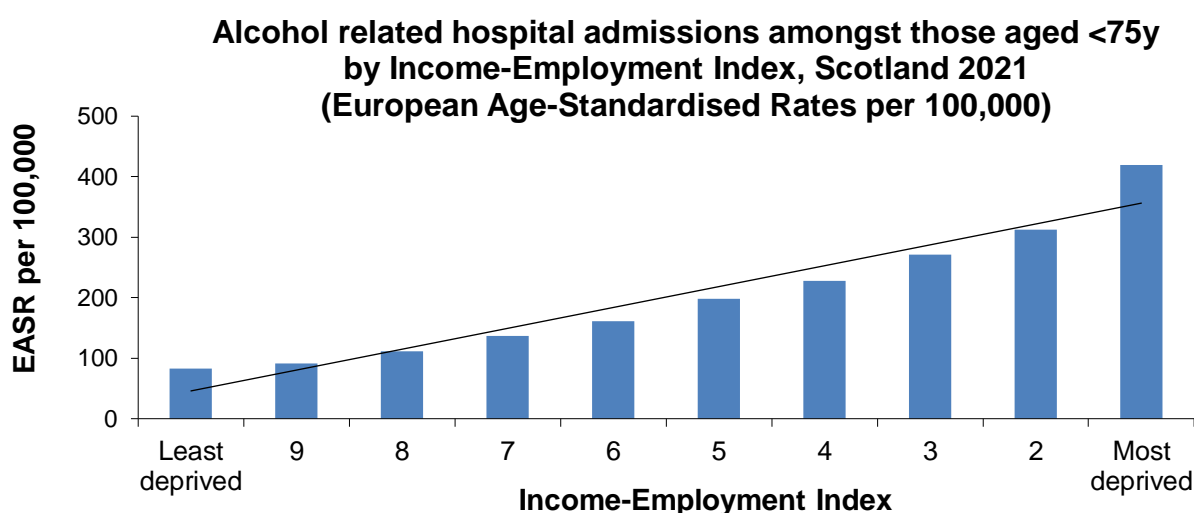
1. Based on a 10 year look-back period

2. Figures for 2014-2020 have been revised slightly, but this does not affect the overall picture.

Inequalities in alcohol-related hospital admissions, 2021

In 2021, alcohol-related admissions were 5 times higher in the most deprived areas of Scotland compared to the least deprived (419.1 compared to 82.6 cases per 100,000).

Figure 8.1

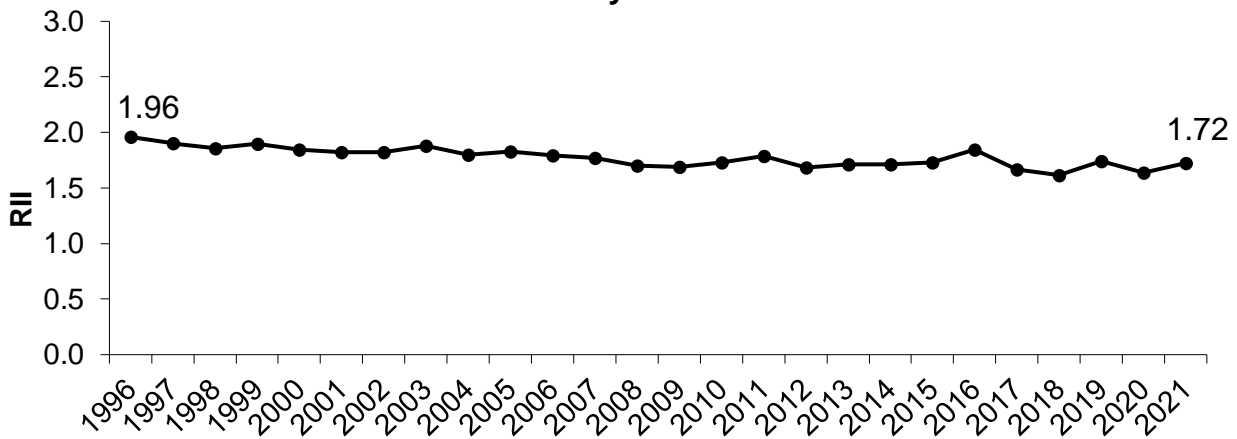


Trends in relative inequalities

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 2021 was 1.72.

Figure 8.2

Relative Index of Inequality (RII): Alcohol related hospital admissions <75y Scotland 1996-2021



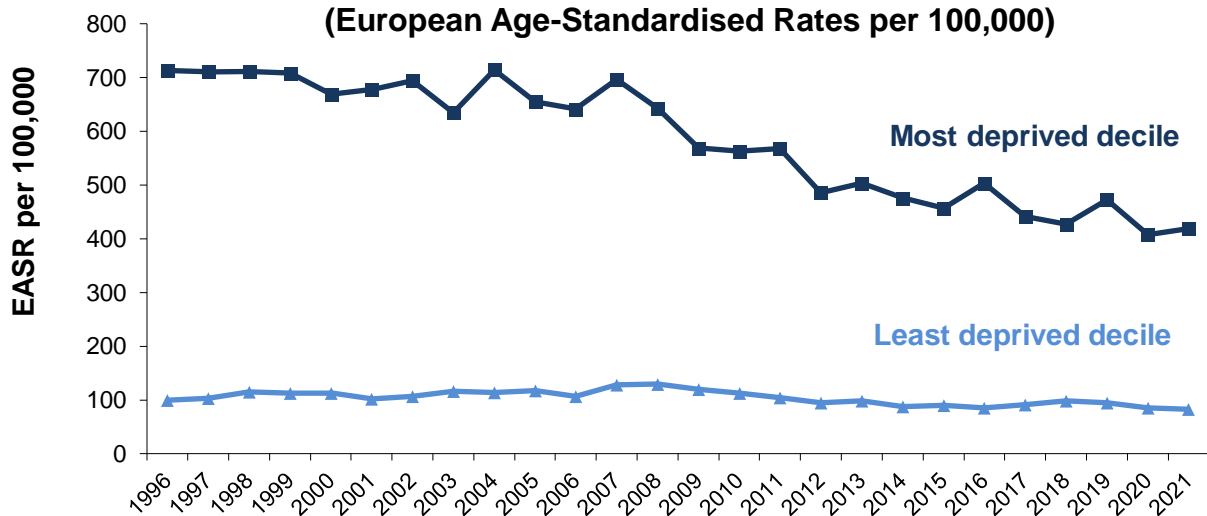
Since 2003, alcohol-admission rates have been between 4 to 6 times higher in the most deprived areas compared to the least deprived areas. Prior to this, admission rates were 6-7 times higher in the most deprived areas.

Trends in absolute inequalities

Absolute inequalities in alcohol-related admissions have generally reduced over time, largely 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 2020 (322.2 per 100,000). The rate increased slightly to 336.5 per 100,000 in 2021. Rates in the most deprived areas have reduced by 41% between 1996 and 2021, compared to a reduction of 17% in the least deprived areas.

Figure 8.3

Absolute Gap: Alcohol related hospital admissions <75y Scotland 1996-2021 (European Age-Standardised Rates per 100,000)



Alcohol-specific deaths aged 45-74 years

Trends in alcohol-specific deaths

Analysis by PHS on alcohol consumption during the COVID-19 pandemic found that, while total alcohol consumption for the population reduced, alcohol-specific deaths were 9% higher in 2020 than the 2017-19 annual average^{xvii}. This is possibly as a result of some individuals increasing their alcohol consumption during the pandemic and a reduction in access to hospital treatment for alcohol-related conditions. This impact may have continued to have an influence on alcohol-specific death rates in 2021.

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 2012 (38.2 per 100,000) when the rate was similar to the start of the time series. Since 2013, the alcohol-specific mortality rate has increased overall and the rate in 2021 was 47.3 per 100,000, the highest rate since 2010 and higher than at the start of the time series.

Table 9.1: Trends in alcohol-specific deaths (aged 45-74), 1997-2021

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

^{xvii} Public Health Scotland. Alcohol sales and harm in Scotland during the COVID-19 pandemic.

[Alcohol sales and harm in Scotland during the COVID-19 pandemic \(publichealthscotland.scot\)](https://publichealthscotland.scot)

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
2020	952	2,081,213	45.4
2021	997	2,085,703	47.3

Inequalities in alcohol-specific deaths, 2021

The alcohol-specific death rate (for those aged 45-74 years) in Scotland's most deprived areas is almost six times higher than that observed in the least deprived areas (113.0 compared to 19.0 per 100,000 population).

Figure 9.1

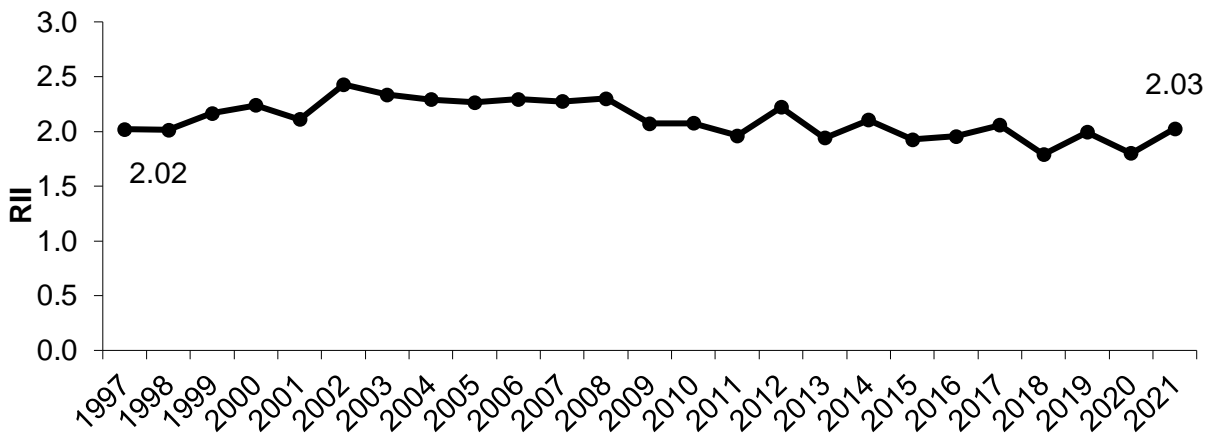


Trends in relative inequalities

Relative inequalities in alcohol-specific deaths in 2021 were similar to at the start of the time series in 1997 (2.03 and 2.02 respectively). Over the time series the RII has ranged from 1.79 to 2.43.

Figure 9.2

**Relative Index of Inequality (RII): Alcohol specific mortality 45-74y
Scotland 1997-2021**



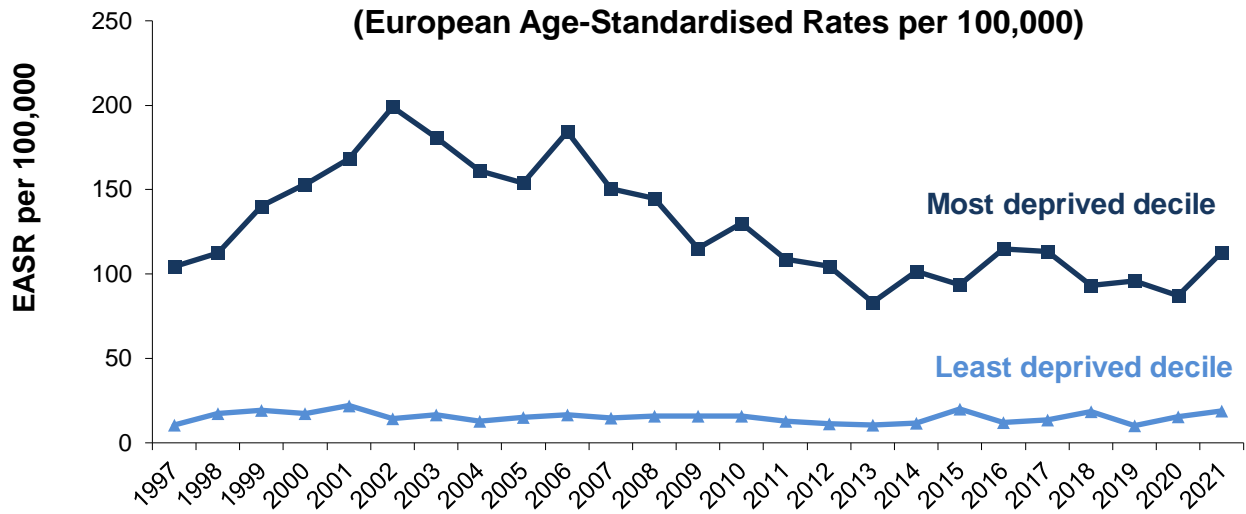
Trends in absolute inequalities

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 the lowest rate of 71.8 per 100,000 in 2020. However, this rate increased in 2021 to 94.0 per 100,000, the highest rate since 2017

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, however, in 2021, both the most and least deprived areas showed an increase from 2020 (increases of 30% and 23% in the most and least deprived areas respectively.)

Figure 9.3

**Absolute Gap: Alcohol specific mortality 45-74y
Scotland 1997-2021
(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 2021.

There was an overall decrease in the mortality rate from the start of the time series in 1997 to 2014, when rates reached a low of 96.8 per 100,000. Since then, the mortality rate of those aged 15-44 has increased and in 2021 it was similar to the start of the time series (116.8 per 100,000 and 116.3 per 100,000 respectively).

Table 10.1: Trends in all-cause mortality (aged 15-44), 1997-2021

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
2020	2,349	2,055,180	119.0
2021	2,322	2,062,184	116.8

The deaths of those age 15-44 in 2021 included: 352 probable suicides, 30 deaths from assault and 723 drug-related deaths. The rate of probable suicide in this age group in 2021 declined for the first time in three years and is lower than at the start of the time series in 1997 (17.0 per 100,000 and 23.9 per 100,000 respectively). Rates of death from assault have increased slightly to 1.5 per 100,000 in 2021 from

a low of 1.0 per 100,000 in 2014, but have generally been lower in the last decade than at the start of the series. Drug-related deaths have shown large increases since the beginning of the time series in 1997. In 2021, the drug-related death rate was 36.2 per 100,000, this compares with 8.9 per 100,000 in 1997.

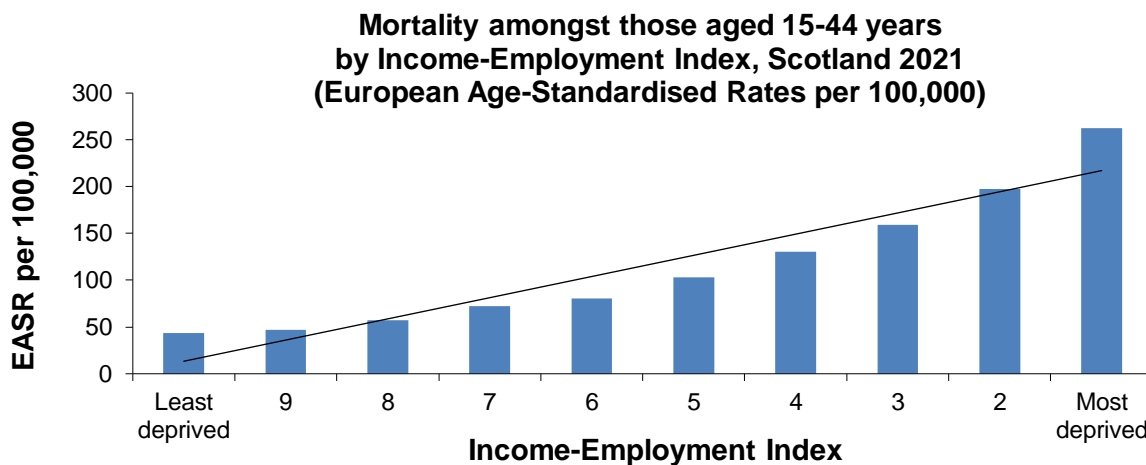
Table 10.2: Trends in deaths from assault, drugs and suicide (aged 15-44), 1997-2021

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
2020	30	1.4	756	38.0	404	19.8
2021	30	1.5	723	36.2	352	17.0

Inequalities in all-cause mortality aged 15-44, 2021

The mortality rate amongst people aged 15-44 years was more than six times higher in the most deprived areas (262.5 per 100,000) compared to the least deprived (43.6 per 100,000) in 2021.

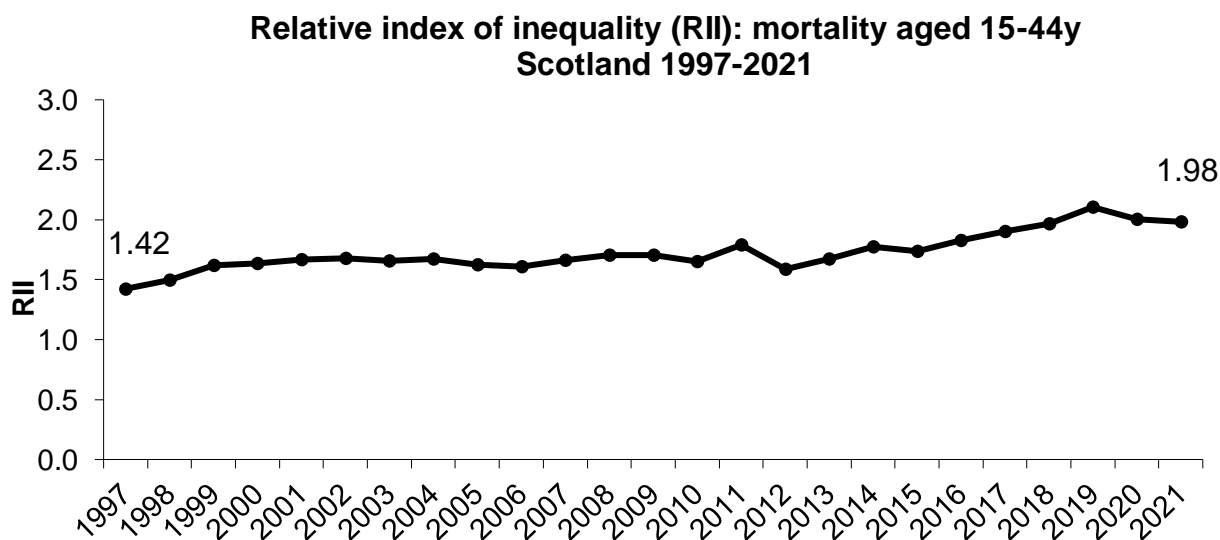
Figure 10.1



Trends in relative inequalities

There has been an overall increase in relative inequalities over time, although they have fallen in the last couple of years from a high of 2.11 in 2019 to 1.98 in 2021.

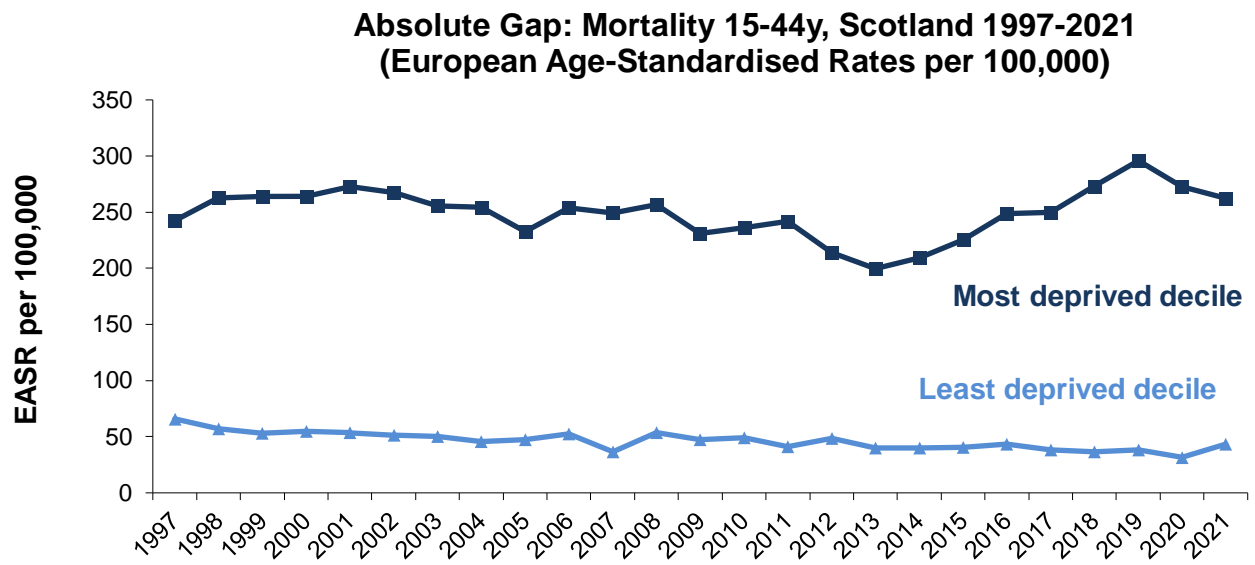
Figure 10.2



Trends in absolute inequalities

The absolute gap in all-cause mortality between those living in the most and least deprived areas has fluctuated over the time series, reaching its lowest level in 2013 (a gap of 159.6 per 100,000). The gap was highest in 2019 at 257.9 per 100,000 and has fallen to 218.9 per 100,000 in 2021. This decrease has been driven by both a decrease in mortality for those living in the most deprived areas and an increase in mortality for those living in the least deprived areas.

Figure 10.3



Low Birthweight

Trends in low birthweight

Over 2,350 low birthweight babies were born in Scotland in 2021.

The percentage of babies born with a low birthweight has remained fairly stable across the time series, ranging from 5.0 – 6.0%

Table 11.1: Trends in low birthweight, 1998-2021

Year	Number of low birthweight babies ¹	Target population size	% of live singleton births
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	56,135	5.0
2011	2,948	56,038	5.3
2012	2,781	55,395	5.0
2013	2,716	53,619	5.1
2014	2,772	54,389	5.1
2015	2,819	52,842	5.3
2016	2,761	52,416	5.3
2017	2,842	50,824	5.6
2018	2,689	49,248	5.5
2019	2,626	47,379	5.5
2020	2,435	45,575	5.3
2021 ²	2,357	45,846	5.1

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.

2. 2021 data are provisional and may be updated in future reports.

Inequalities in low birthweight 2021

In 2021, 7.8% of live singleton births in the most deprived areas were recorded as low birthweight, this compared to 3.2% in the least deprived areas.

Figure 11.1

**Low birthweight babies in Scotland by Income-Employment Index 2021
(as percentage of live singleton births)**

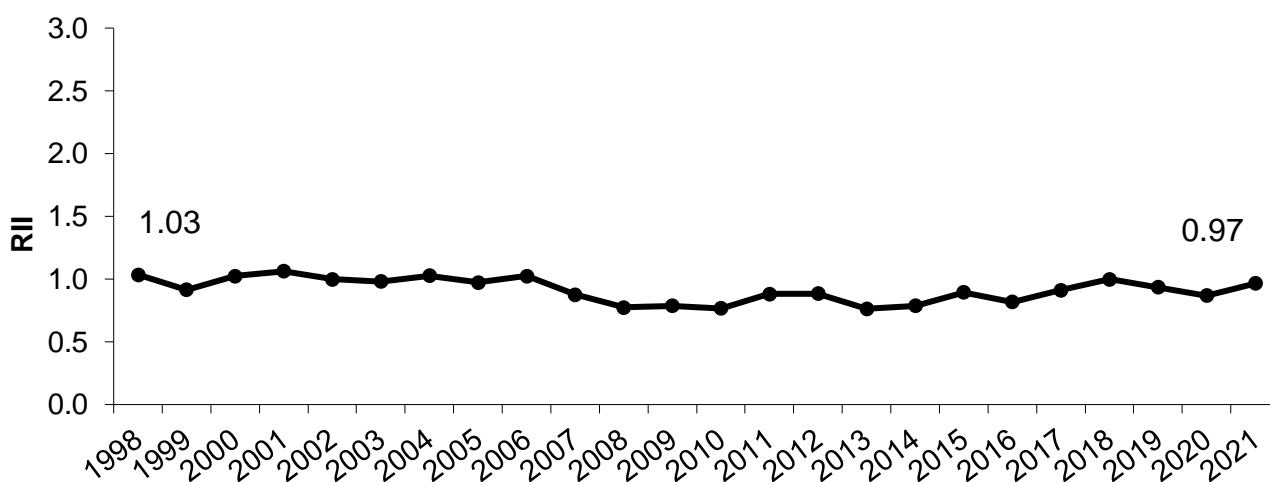


Trends in relative inequalities

Relative inequalities in low birthweight were lower in 2021 than those observed at the start of the time series in 1998 (0.97 and 1.03 respectively). However, the RII values have been increasing the last five years, and are higher than the lowest value in the time series (0.76 in 2013).

Figure 11.2

**Relative index of inequality (RII): Low birthweight babies in Scotland
1998-2021**



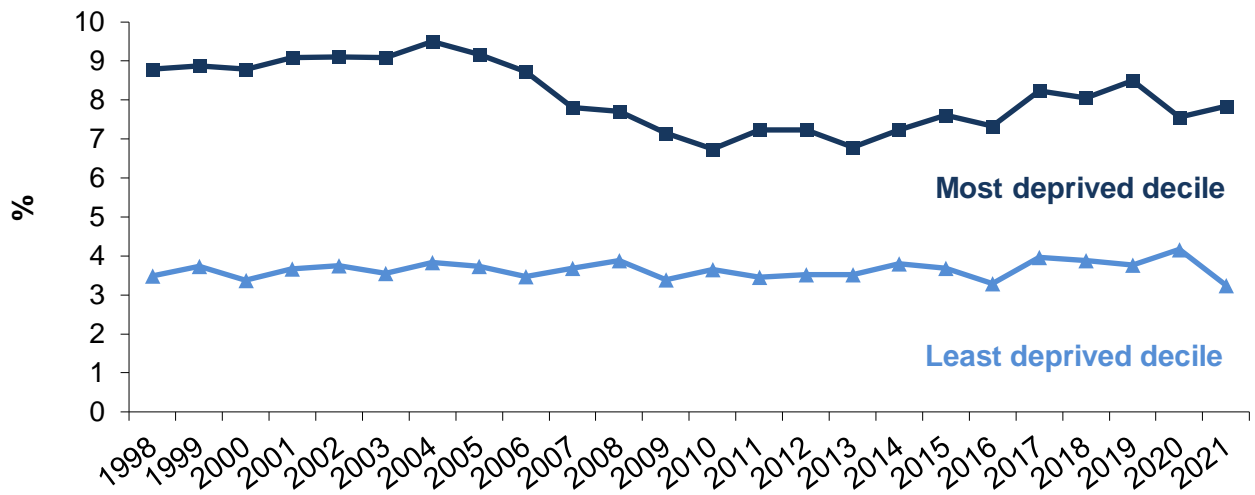
Trends in absolute inequalities

The absolute gap in low birthweight between those living in the most and least deprived areas in 2021 was 4.6 percentage points, an increase from 3.4 percentage points in 2020 but lower than at the start of the time series (5.3 percentage points).

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. However, the increase between 2020 and 2021 was driven by both an increase in the most deprived areas and a decrease in the least deprived areas.

Figure 11.3

**Absolute Gap: Low birthweight babies in Scotland 1998-2021
(as percentage of live singleton births)**



Healthy Birthweight

Trends in healthy birthweight babies

In each year of the time series, between 79% and 81% of babies have been of healthy birthweight.

Table 12.1: Trends in healthy birthweight, 1998-2021

Year	Number appropriate for gestational age ^{1,2}	Target population size ¹	% of live singleton births
1998	43,963	55,065	79.8
1999	41,815	52,655	79.4
2000	40,348	50,978	79.1
2001	39,412	49,666	79.4
2002	38,699	48,853	79.2
2003	39,720	49,955	79.5
2004	40,823	51,694	79.0
2005	40,616	51,303	79.2
2006	41,578	52,330	79.5
2007	43,778	55,077	79.5
2008	45,112	56,733	79.5
2009	44,456	55,907	79.5
2010	44,936	56,039	80.2
2011	44,589	55,956	79.7
2012	44,243	55,274	80.0
2013	42,849	53,424	80.2
2014	43,424	54,037	80.4
2015	42,267	52,525	80.5
2016	41,877	51,863	80.7
2017	40,417	50,246	80.4
2018	39,658	49,000	80.9
2019	38,168	47,290	80.7
2020	36,609	45,496	80.5
2021 ³	36,573	45,778	79.9

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.
2. Babies identified as an appropriate weight for gestational age are those with a birthweight between the 10th and 90th percentile. Previously the 5th and 95th percentiles were used. See annex 2 for more information.
3. 2021 data are provisional and may be updated in future reports.

Inequalities in healthy birthweight babies 2021

In 2021, there was a marginal difference between the most and the least deprived areas in terms of the proportion of healthy birthweight babies, with a slightly higher percentage of healthy birthweight babies born to mothers living in the most deprived areas (80.3% in the most deprived areas compared with 80.0% in the least deprived areas).

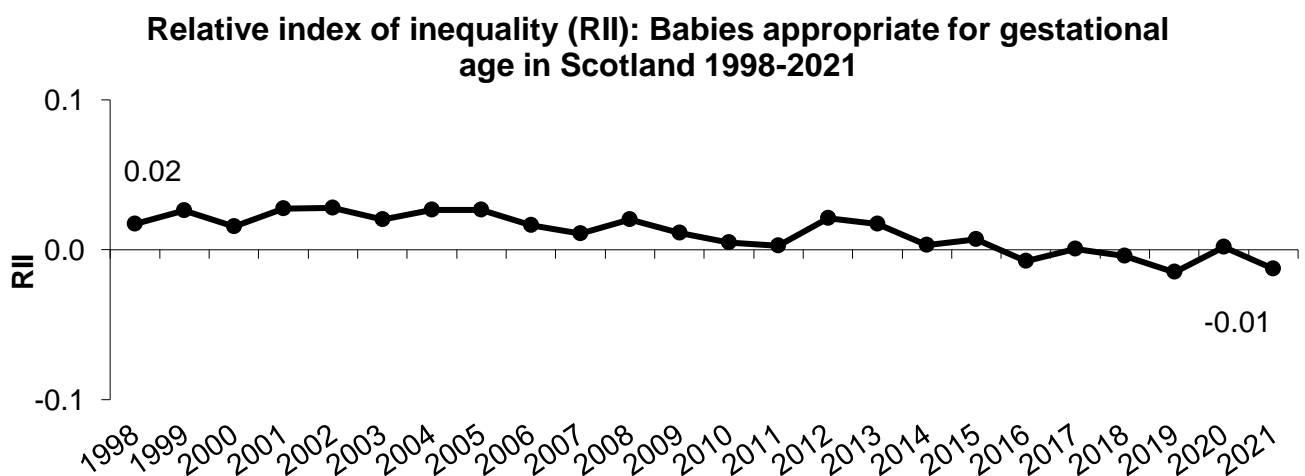
Figure 12.1



Trends in relative inequalities

Relative inequalities have been consistently low over the times series. The RII for 2021 is -0.01, suggesting that the relative inequality for this indicator is very small.

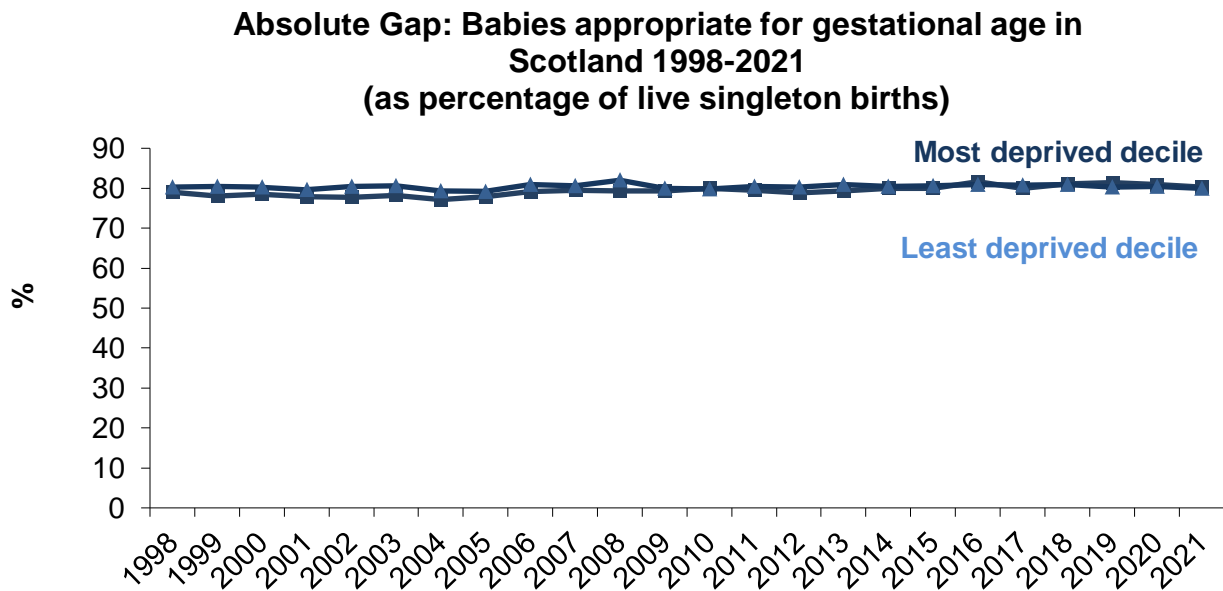
Figure 12.2



Trends in absolute inequalities

The absolute gap between the percentage of healthy birthweight babies born to mothers in the most and least deprived deciles has been consistently low across the full time series (0.3 percentage points in 2021). In some years the gap was in the opposite direction to the rest of the time series, with a slightly higher proportion of healthy weight babies born to mothers living in the most deprived areas.

Figure 12.3



Drug-related hospital admissions aged under 75 years

Trends in drug-related hospital admissions

In 2021/22, just under 9,100 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 the start of the time series, increasing from 63.8 per 100,000 in 1996/97 to 224.2 per 100,000 in 2019/20 and then decreasing in 2020/21 and 2021/22, (188.0 per 100,000 in 2021/22). This fall may be due to the impact of the COVID-19 pandemic rather than a genuine reduction in drug misuse incidents requiring hospitalization.

In their annual drug-related hospital statistics in Scotland report^{xviii}, PHS note that there was a decrease in drug-related hospital stays during the COVID-19 pandemic which is inconsistent with the previous upward trend. Analysis found that the number of drug-related hospital stays in April 2020 was 29% lower than the average number of stays in April 2018 and 2019, likely due to the measures put in place in response to the COVID-19 pandemic. In May 2020, however, hospital stays were 6% higher than in May 2018 and 2019 and from May 2020 to June 2021 drug-related hospital stays were broadly similar to the 2018 and 2019 average for the same time period. From July 2021 to March 2022 drug-related hospital stays were lower than the 2018 and 2019 average, decreasing from 10% lower in July 2021 to 26% lower in March 2022.

It is unclear whether the changes in drug-related hospital stays, which coincide with the start of the pandemic, were a result of genuine differences in drug use, changes to hospital admission policies, or whether national and local restrictions in place, such as indoor physical distancing and the closure of nightclubs, may have influenced access to and use of drugs. The continuing reduction in hospital stays observed in 2021/22 could also suggest a new trend in drug admissions which is not yet fully understood^{xix}.

Table 13.1: Trends in drug-related hospital admissions (aged <75), 1996/97-2020/21

^{xviii} Public Health Scotland. Drug-Related Hospital Statistics, Scotland 2021/22.

[Drug-Related Hospital Statistics \(publichealthscotland.scot\)](https://publichealthscotland.scot)

^{xix} Public Health Scotland. Drug-Related Hospital Statistics, Scotland 2021/22.

[Drug-Related Hospital Statistics \(publichealthscotland.scot\)](https://publichealthscotland.scot)

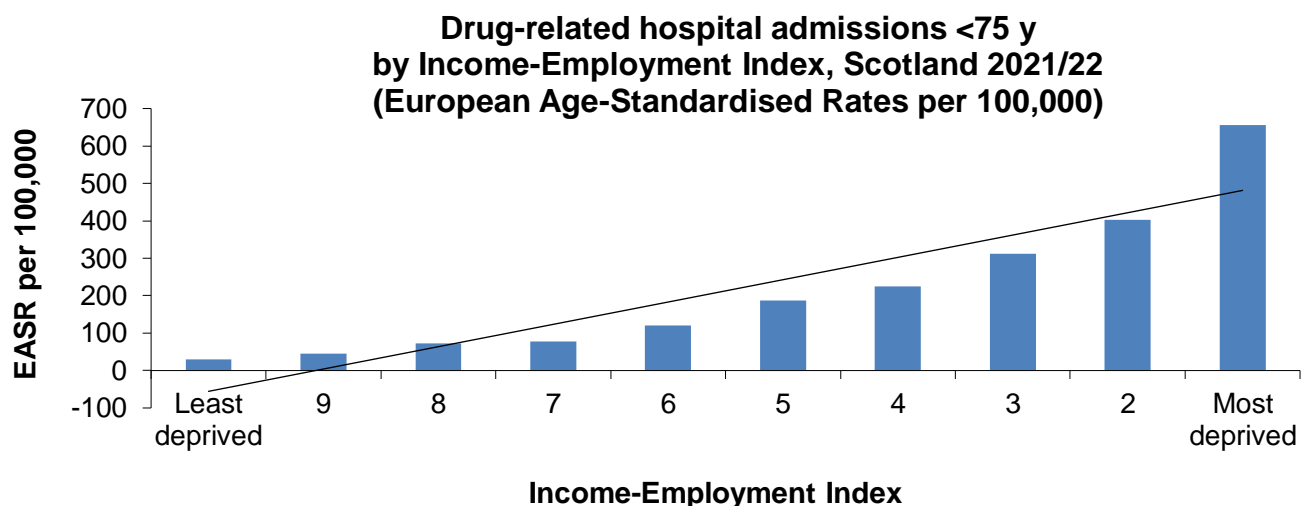
Year	Total admissions ¹	Population	Rate per 100,000 (EASR)
1996/97	3,354	4,754,906	63.8
1997/98	3,792	4,740,269	73.4
1998/99	4,386	4,729,975	86.0
1999/00	4,728	4,721,298	94.0
2000/01	4,839	4,708,667	97.3
2001/02	5,193	4,703,661	105.4
2002/03	5,409	4,701,958	110.7
2003/04	5,121	4,702,431	105.9
2004/05	5,292	4,714,233	109.7
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	6,432	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	6,978	4,914,362	144.7
2015/16	7,830	4,935,283	162.2
2016/17	8,598	4,962,391	178.2
2017/18	9,246	4,976,829	191.7
2018/19	10,005	4,983,364	207.3
2019/20	10,860	4,997,455	224.2
2020/21	10,335	4,996,183	213.4
2021/22	9,093	5,001,617	188.0

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, 2021/22

In 2021/22 the admission rate in Scotland's most deprived areas was 19 times greater than that of the least deprived areas (589.4 cases per 100,000 compared to 31.1 per 100,000).

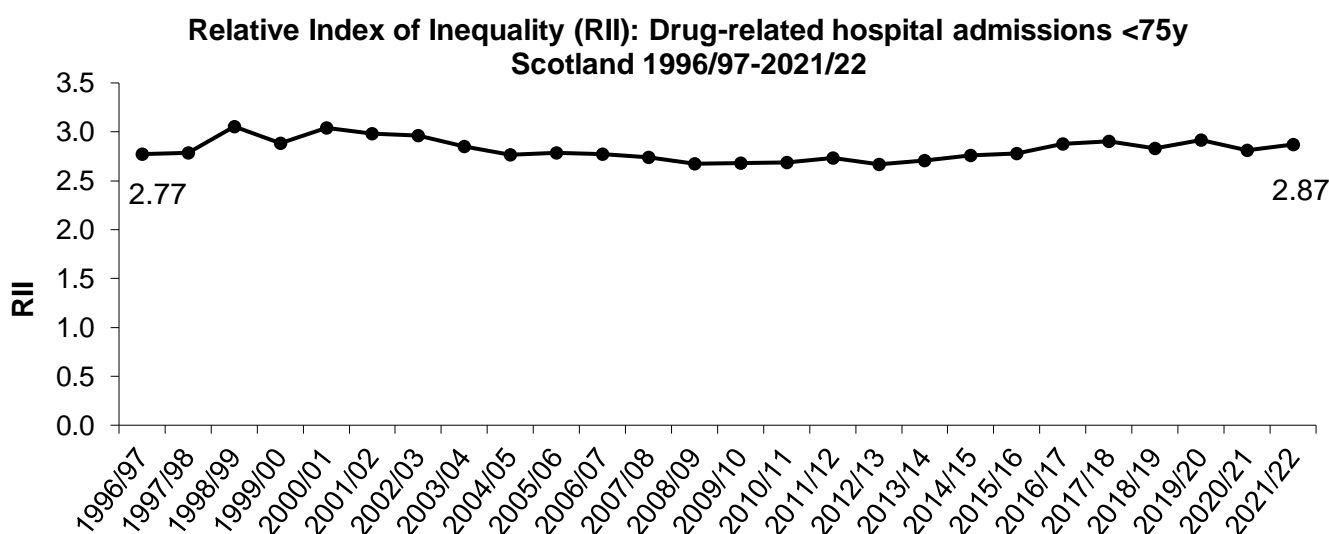
Figure 13.1



Trends in relative inequalities

The RII for patients with drug-related hospital admissions has fluctuated over time. Although it has decreased from a high of 3.05 in 1998/99 the RII for 2021/22 (2.87) is higher than at the start of the time series (2.77).

Figure 13.2



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

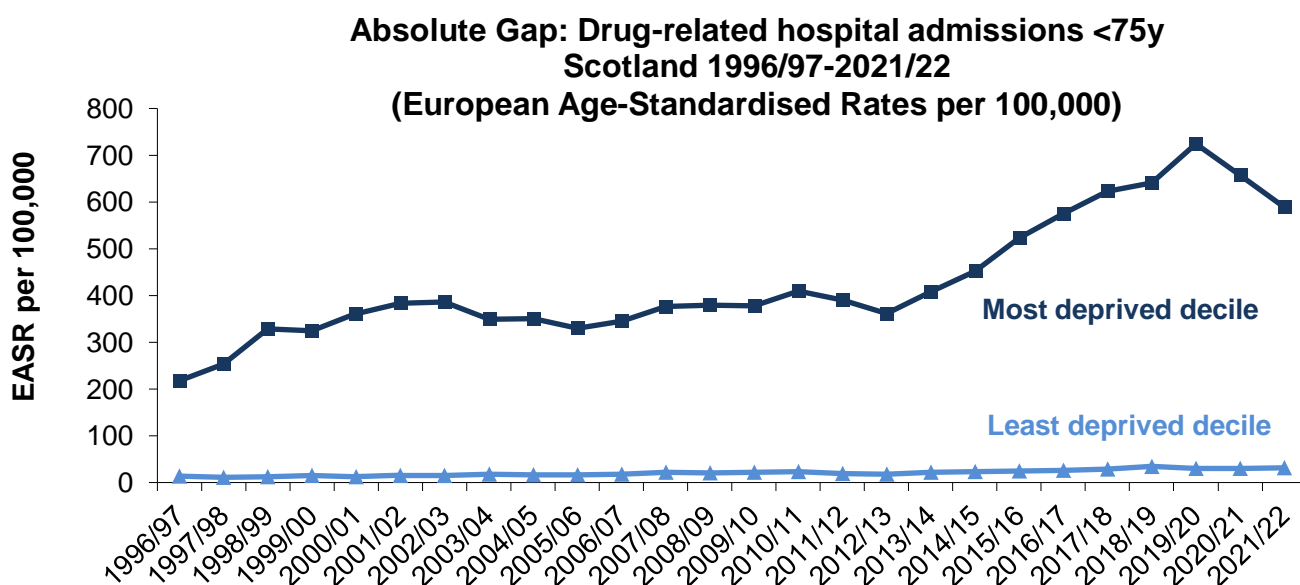
The absolute gap in drug-related hospital admission rates between those living in the most deprived areas and the least deprived areas has increased overall since the start of the time series. After an initial increase between 1996/97 and 1998/99 the absolute gap remained relatively stable, ranging from 309.6 – 385.7 per 100,000 between 1999/00 and 2013/14. The gap then increased each year to reach

a high of 694.3 per 100,000 in 2019/20 before falling over the last two year to 626.6 per 100,000 in 2020/21 and 558.3 in 2021/22.

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.

Between 2020/21 and 2021/22 the rate of hospital admissions for those living in the most deprived areas decreased by 11%, having fallen 10% between 2019/20 and 2020/21. These decreases go against the upward trend that was observed between 2012/13 – 2019/20 and it is therefore possible that the reduction is a result of hospital admissions policies associated with the COVID-19 pandemic, rather than a genuine decrease in the number of incidences requiring hospitalization.

Figure 13.3



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](#).

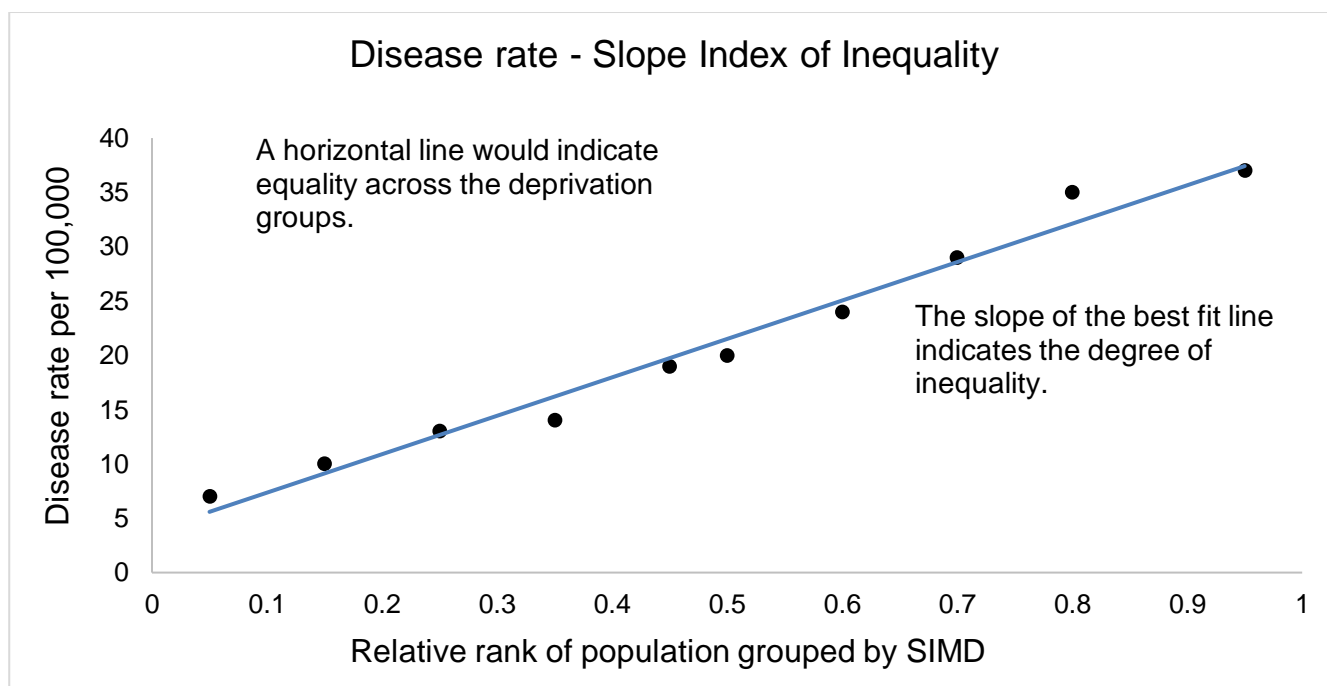
The approach recommended by the expert group and adopted in this report uses a combination of measures, with the aim of giving a fuller understanding of the inequalities concerned.

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 14 below).

Figure 14



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 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 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^{xx}. National Records of Scotland have published detailed information on the quality of data on deaths^{xxi}. 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.

^{xx} Scottish Cancer Registry – Quality Assurance

[Cancer | Scottish Cancer Registry | Quality Assurance | Health Topics | ISD Scotland](#)

^{xxi} Quality of National Records of Scotland (NRS) Data on Deaths

[Quality of National Records of Scotland \(NRS\) Data on Deaths | National Records of Scotland \(nrscotland.gov.uk\)](#)

Indicators

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 Records 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 prior to January 2021.

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.

First ever hospital admission for heart attack aged under 75 years

Source: Public Health Scotland (PHS); 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 hospital 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 from 2020 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 Alcohol-Specific deaths report on the NRS website^{xxii}.

All-cause mortality aged 15-44 years

Source: National Records of Scotland.

Definition: European age-standardised rates of death 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, births in non-NHS hospitals and multiple births) where the birthweight is known. Low birthweight is defined as <2,500g - the standard World Health Organisation definition.

Healthy Birthweight

^{xxii} National Records of Scotland. Alcohol-specific deaths

[Alcohol-specific deaths | National Records of Scotland \(nrscotland.gov.uk\)](https://www.nrscotland.gov.uk/publications/2017-01-10-alcohol-specific-deaths)

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, births in non-NHS hospitals and multiple births) where the birthweight is known. A baby is considered to be of healthy birthweight (a weight appropriate for its gestational age) when it lies between the 10th and 90th 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.

Prior to this publication, the 5th and 95th percentiles were used instead of the 10th and 90th. This change was made to align with the more commonly used method that has been adopted by PHS in their Births in Scotland publication, for additional information please see the Births in Scotland technical report^{xxiii}.

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^{xxiv}.

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.

^{xxiii} Public Health Scotland. Births in Scotland

[Alcohol-specific deaths | National Records of Scotland \(nrsotland.gov.uk\)](https://nrsotland.gov.uk)

^{xxiv} Royal College of Pediatrics and Child Health. Growth charts

[Growth charts \(rcpch.ac.uk\)](https://rcpch.ac.uk)

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