British Heart Foundation

Socioeconomic inequalities in cardiovascular disease in Scotland: an analysis

February 2026

About our report

Health inequalities are a critical priority for BHF and for the NHS. Unfair differences in cardiovascular risk and outcomes are not inevitable. Instead, these differences are often rooted in systemic inequalities in society and our health and care systems.

As part of the BHF's Equality, Diversity and Inclusion strategy, we are committed to better understanding the inequalities that we know exist, so we can make informed decisions and improve our efforts to close the gaps.

In 2023, we published a report that analysed health inequalities relating to deprivation in Scotland across the cardiovascular disease (CVD) pathway. This report found evidence of significant inequalities across the CVD pathway, consistently to the detriment of the most deprived parts of Scotland. We have also examined the same topic in the context of England, Wales and Northern Ireland.

Now, in light of three more years of data on CVD in Scotland, including measures of CVD that were not available to us in 2023 (particularly age-standardised prevalence and incidence data), we have decided to update our Scotland report. We analysed data on CVD and its risk factors in Scotland from several sources, including: Public Health Scotland, the Scottish Health Survey, Scottish Cardiac Audit Programme, and National Records of Scotland.

Our report findings

We found that, when compared to the least deprived areas, the most deprived areas of Scotland have:

- Higher rates of smoking, living with obesity, and physical inactivity, as well as higher prevalence of hypertension and diabetes
- Higher prevalence of coronary heart disease, heart failure, and other cardiovascular diseases
- Higher incidence rate of coronary heart disease, heart failure, and heart attack
- Higher death rates from coronary heart disease and heart attack, as well as CVD overall.

1. Introduction

Over 800,000 people are estimated to be living with cardiovascular disease in Scotland today. Many thousands more have risk factors for these conditions such as high blood pressure, obesity, and diabetes. Although the death rate from cardiovascular disease has declined over the last several decades, it still causes 28% of deaths in Scotland[1] and remains the leading cause of death globally.[2]

Cardiovascular diseases are strongly associated with health inequalities in Scotland. With this report we aim to quantify the degree to which this association exists across the cardiac pathway, from prevention to treatment, prevalence, and mortality. In Scotland, people living in the most deprived local authority are more than twice as likely to die from cardiovascular disease before the age of 75 as those in the least deprived area. These inequalities in cardiovascular outcomes contribute to the stark differences in life expectancy between the least and most deprived areas of Scotland.[3]

Cardiovascular health is deeply connected to and impacted by wider determinants of health. In other words, the disparities seen among people with cardiovascular diseases are driven by factors such as income, housing, education, the environment, and access to health and social care. On average, people in more deprived areas develop multiple conditions 10-15 years earlier than in more affluent areas[4]. Evidence from other parts of the UK has shown that people in more deprived areas are also more likely to develop multiple conditions in the first place – 28% of people in the most deprived areas have four or more health conditions, compared to 16% in the most affluent.[4]

Health inequalities encompass differences in health status, healthcare, and health-related risks between different population groups that are unfair and avoidable. They include:

- Health-related risks: e.g. some people may find it harder to access healthy foods than others.
- Healthcare: e.g. some people may find it harder to access healthcare services than others.
- Health status: e.g. some people may have a shorter life expectancy than others.

As with our original report on this topic, the subsequent report provides a holistic view of health inequalities by deprivation across the CVD pathway, giving additional insight into not only where improvement is needed, but also indications of where there are data gaps and opportunities for further analysis. This update draws the same conclusions as the original report, underlining the significant and persistent inequalities relating to deprivation in CVD across the cardiac pathway.

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[1] British Heart Foundation, Cardiovascular Disease Statistics – 2025.
[2] World Health Organisation, 2025. Cardiovascular diseases.
[3] For a broader look at the drivers of health inequalities in Scotland, a useful starting point is The Health Foundation's 2023 report 'Leave no one behind'.
[4] The Richmond Group, Health Foundation. (2019) The Multiple Conditions Guidebook.

New evidence (particularly the GP prevalence data) has enabled us to map out this association more comprehensively, which has reinforced this conclusion.

Changes from the previous report

This report differs in some key ways from our previous Scotland Health Inequalities report published in 2023. One of the main changes is around prevalence data. We elected to use prevalence data from GP practices rather than the Scottish Health Survey, which has data on self-reported, doctor-diagnosed CVD prevalence by deprivation quintile, and was used here previously.[5] This is because the GP practice data has a much larger sample size, covering over 90% of Scotland's GP practices. Additionally, using data that is not self-reported reduces the scope for reporting bias.

To make the updated report more concise we have excluded CVD drug prescription data, which is only available by Health Board and not patient SIMD. We have also omitted sections on number of patients per GP (headcount) in Scottish health Boards. To retain a focus on CVD, we have omitted sections on life expectancy at birth and healthy life expectancy from this update.

An important addition to this update is the data on age-standardised incidence and mortality rates from CVD by SIMD quintile.

2. Methods

The main indication of inequality by geography is the Scottish Index of Multiple Deprivation (SIMD).[6] It is the official measure of relative deprivation of small areas in Scotland. The index ranks 6,976 neighbourhoods (called 'data zones') by looking at 7 distinct domains: income, employment, health, education/skills training, crime, geographic access to services, and housing. We chose to use SIMD as it as a well-recognised, validated measure of deprivation that incorporates many of the wider determinants discussed above and is not limited to simple 'rich – poor' income-based dimension. It is important to note that SIMD is a measure of inequality by geography, and that subsequently deprivation levels do not apply to every individual living in an area. Disparities exist within many communities across Scotland, even at the neighbourhood level.

For some sections of this report the neighbourhood SIMD ranks have been mapped to local authority. To calculate SIMD ranks for these, we combined population-weighted SIMD scores for their composite data zones.

Incidence and mortality rates are presented as the rate per 100,000 population.

[5] Scottish Health Survey 2024
[6] Scottish Government, Scottish Index of Multiple Deprivation 2020.

General Practice prevalence data

One of the additions to this updated report is the inclusion of analysis looking at the age-standardised prevalence of CVD in Scotland, by deprivation. We derived age-standardised prevalence from general practice (GP) prevalence data, extracted from 832 GP surgeries across Scotland through the Primary Care Information Service (PCIS). This data contained prevalent case numbers of numerous CVD indicators at each practice by sex and age band. The release also contained aggregated data on the SIMD decile, sex, and age band of patients registered at each practice.

We used data on the 825 GP practices for whom data was recorded for April-June 2025 as the basis for our prevalence analysis. We opted against using the available data on the SIMD decile of each practice's postcode as our measure of practice deprivation, as our analysis showed that this often differed significantly from the mean SIMD decile of the practices' patients. (In other words, practices in less deprived postcodes sometimes served patients from significantly more deprived areas, and vice versa). Instead, we assigned each GP practice to new deprivation deciles, based on the mean SIMD decile of their registered patients, and weighted by list size to ensure each decile was of roughly equal population size.

To obtain age-standardised prevalence data, we then aggregated prevalence data by age-band within these new deprivation deciles and standardised using the 2013 EU standard population data. This prevalence data covers people of all ages unless otherwise specified.

3. Results

Prevention: risk factors for cardiovascular diseases

In Scotland, it's estimated that over 70% of the cardiovascular disease burden can be attributed to modifiable risk factors. This includes medically manageable risk factors like high blood pressure and high LDL cholesterol, and behavioural risk factors like smoking, poor diet, and physical activity.[7] These factors are often influenced by access to health and care services and the social, physical, and economic environments in which people live. This has an impact on people's choices, behaviours, and exposure to risk.

Hypertension

Hypertension, also known as high blood pressure, is the leading modifiable risk factor for cardiovascular disease in Scotland.[8] An estimated 31% of adults in Scotland have high blood

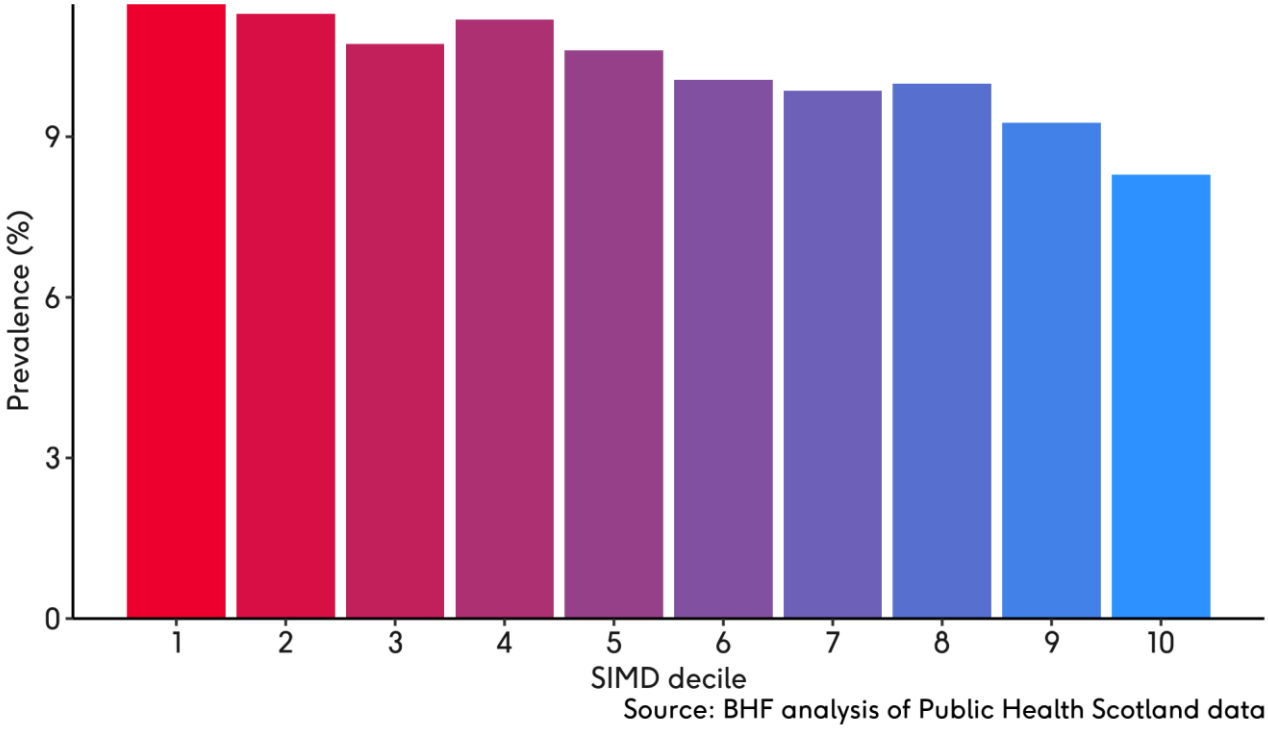
[7] Global Burden of Disease (2025).
[8] Global Burden of Disease (2025)

pressure and many are not receiving effective treatment.[9] Around 50% of heart attacks and strokes are associated with high blood pressure.[5]

Figure 1 shows the age-standardised prevalence of diagnosed hypertension in Scottish GP practices by deprivation decile. There is a clear association between deprivation and hypertension prevalence. The most deprived decile has an age-standardised prevalence of 11.5%. In the least deprived decile, the prevalence is 8.3%.

Figure 1: Age-standardised prevalence of hypertension in Scottish GP practices, by deprivation decile, 2025 (under-75s)

SIMD 1 = most deprived, SIMD 10 = least deprived



Source: BHF analysis of Public Health Scotland data

[9] British Heart Foundation Statistics. (2026) Scotland Factsheet

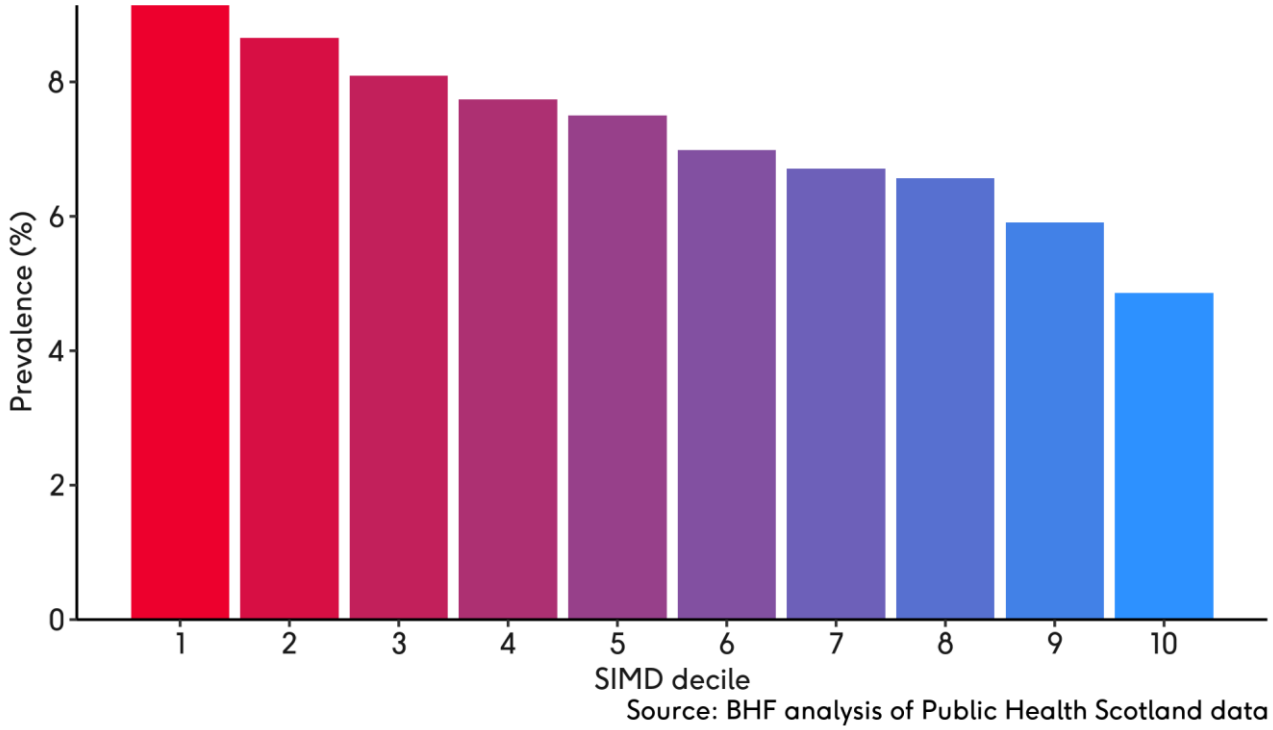
Diabetes

Diabetes is a condition in which blood sugar levels are elevated over a prolonged period. This results in damage to the inner lining of blood vessels. Consequently, diabetes is a significant risk factor for cardiovascular disease. Adults with diabetes are 2-3 time more likely to develop a cardiovascular condition, and nearly twice as likely to die from heart disease or stroke.[10,11]

Approximately 370,000 adults in Scotland have been diagnosed with diabetes.[12] Many thousands more are likely to have undiagnosed type-2 diabetes. Figure 2 shows the age-standardised prevalence of diabetes in adults aged over 15 in Scottish GP practices by deprivation decile. There is a clear association between diabetes and deprivation in Scotland, with diabetes prevalence higher in more deprived areas. The prevalence in the most deprived decile is almost double that of the least deprived (9.1% and 4.9%, respectively).

Figure 2: Age-standardised prevalence of diabetes in Scottish GP practices, by deprivation decile, 2025 (adults aged over 15)

SIMD 1 = most deprived, SIMD 10 = least deprived



Source: BHF analysis of Public Health Scotland data

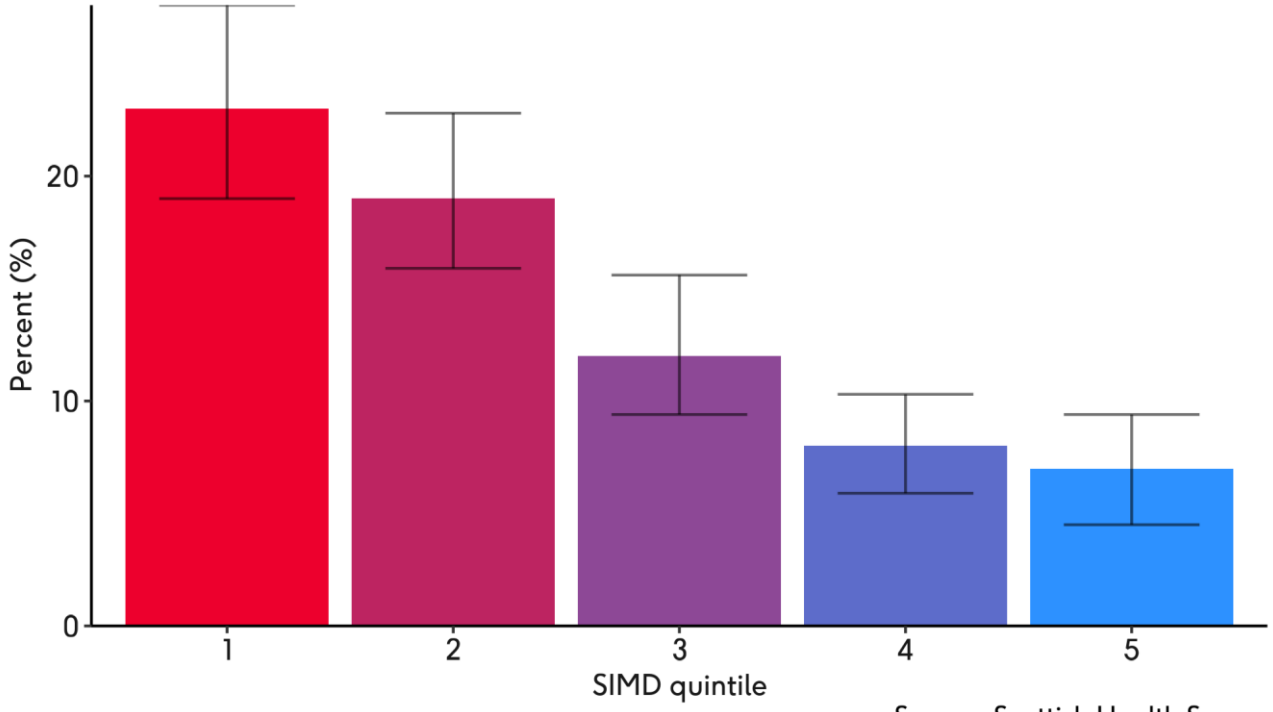
[10] The Lancet. (2010) Diabetes mellitus, fasting blood glucose concentration, and risk of vascular disease: a collaborative meta-analysis of 102 prospective studies
[11] Laakso M. (2010) Cardiovascular disease in type 2 diabetes from population to man to mechanisms: the Kelly West Award Lecture 2008. Diabetes Care
[12] British Heart Foundation Statistics. (2026) Scotland Factsheet

Smoking

The link between cigarette smoking and cardiovascular disease—particularly heart attack and stroke—is well evidenced.[13] It is estimated that around 2,000 deaths from cardiovascular diseases in Scotland each year can be attributed to smoking.[14] The prevalence of smoking varies by deprivation level. Figure 3 shows the proportion of adults in Scotland who identified as current smokers in 2024. This data comes from the annual Scottish Health Survey. The prevalence was more than three times higher in the most deprived quintile compared to the least deprived (23% and 7%, respectively).[15]

Figure 3: Proportion of adults aged over 16 who currently smoke cigarettes, 2024

SIMD 1 = most deprived, SIMD 5 = least deprived



Source: Scottish Health Survey

95% confidence interval shown

[13] Action of Smoking and Health, 2021. Smoking, the Heart and Circulation

[14] Global Burden of Disease (2025)

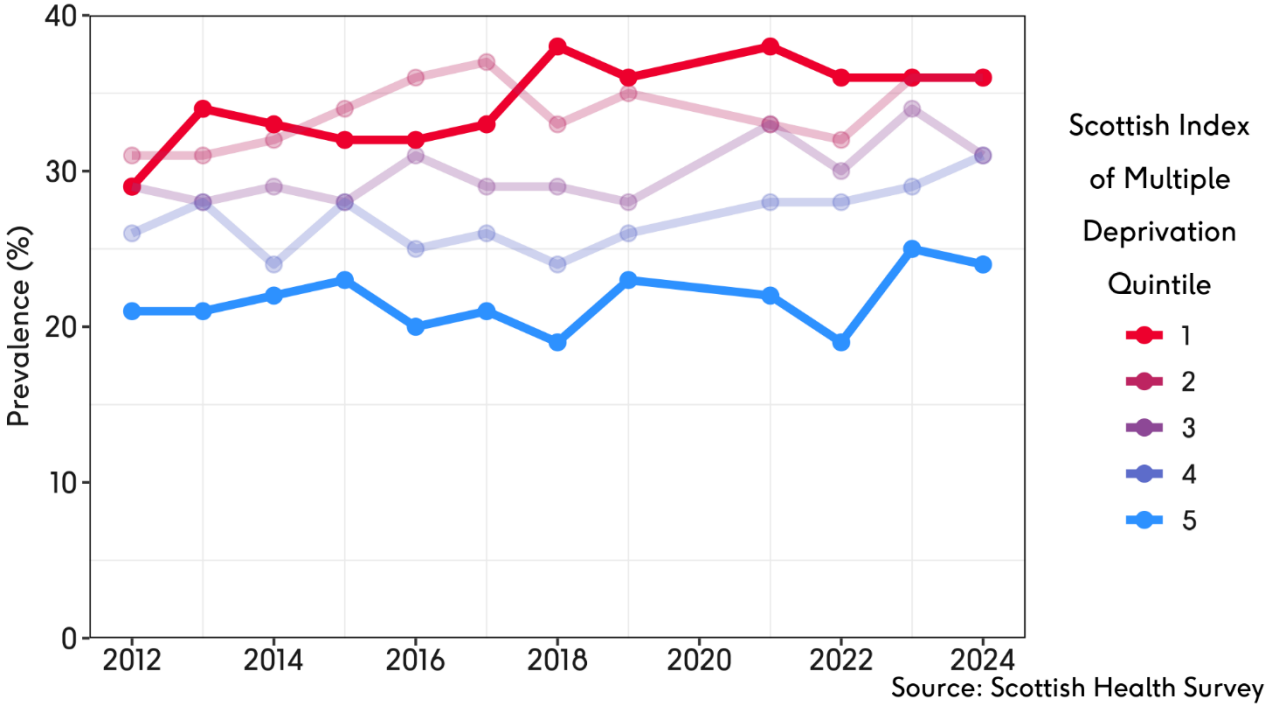
[15] Scottish Health Survey 2024

Overweight and obesity

Having a high body-mass index (BMI) classed as overweight or obese increases the risk of developing cardiovascular disease.[16] In 2024, based on self-reported data, an estimated 31% of adults in Scotland had obesity, and a further 35% had a BMI defined as overweight.[17] Obesity prevalence is higher in more deprived areas, with over a third (36%) of adults in the two most deprived quintiles living with obesity (Figure 4). Thisis 12 percentage points higher that the prevalence in the least deprived quintile (24%). In 2012 there was a difference of only 8 percentage points. This is because more deprived areas have seen a greater increase in obesity prevalence over the past decade than less deprived areas.

Figure 4: Percentage of adults with a BMI classified as obese, 2012 to 2024

SIMD 1 = most deprived, SIMD 5 = least deprived



Source: Scottish Health Survey

*Please note there is no data for 2020, as the Scottish Health Survey was suspended due to the Covid-19 pandemic

[16] Adams KF, Schatzkin A, Harris TB, Kipnis V, Mouw T, Ballard-Barbash R, Hollenbeck A, Leitzmann MF. Overweight, obesity, and mortality in a large prospective cohort of persons 50 to 71 years old. N Engl J Med. 2006 Aug 24;355(8):763-78

[17] Scottish Health Survey 2024

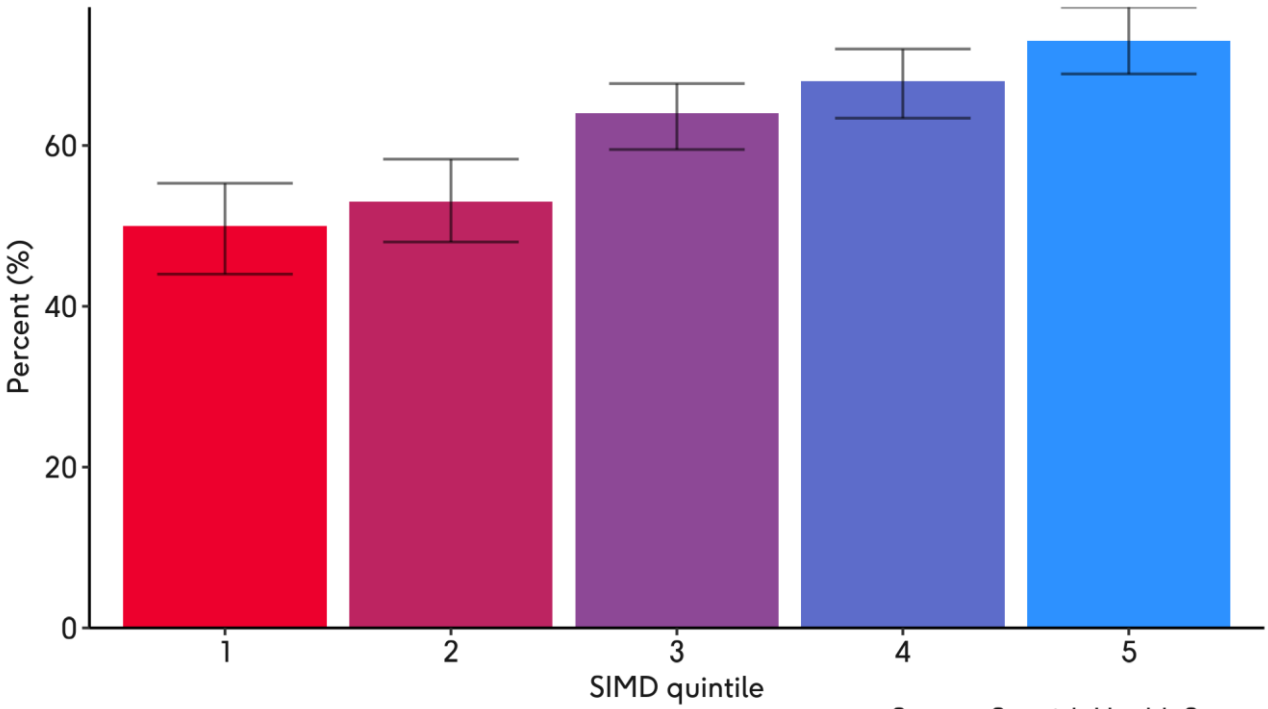
Physical activity

Low levels of physical activity are associated with an increased risk of cardiovascular disease and cardiovascular mortality.[18] The UK's Chief Medical Officers (CMOs) recommend that adults undertake at least 150 minutes of moderate physical activity (or 75 minutes of vigorous activity) each week.[19] According to self-reported Scottish Health Survey data for 2024, 62% of adults in Scotland were classed as physically active, meaning that they met the recommended guidelines.[20] Approximately 24% of adults had 'very low' activity levels (defined as less than 30 minutes per week of moderate physical activity, or less than 15 minutes of vigorous physical activity).

Physical activity levels are strongly associated with deprivation, with fewer adults meeting physical activity guidelines in more deprived areas (Figure 5). In 2024, only 50% of adults in the most deprived quintile were getting the recommended level of physical activity, compared with 73% in the least deprived - a gap of 23 percentage points.

Figure 5: Proportion of people meeting weekly physical activity recommendations, 2024

SIMD 1 = most deprived, SIMD 5 = least deprived



Source: Scottish Health Survey

95% confidence interval shown

[18] Cheng W, et al., Associations of leisure-time physical activity with cardiovascular mortality: a systematic review and meta-analysis of 44 prospective cohort studies. European journal of preventive cardiology. 2018 Nov;25(17):1864-72.
[19] GOV UK. (2020) Physical activity guidelines: UK Chief Medical Officers' report.
[20] Scottish Health Survey 2024

Prevalence of cardiovascular diseases

This section looks at the diagnosed prevalence of cardiovascular diseases (i.e. how many people are diagnosed with these diseases in a particular area and point in time). We conducted an analysis of data from GP practices in Scotland, as outlined in the methodology section. The data has been age-standardised and is presented as prevalence in people aged under 75.

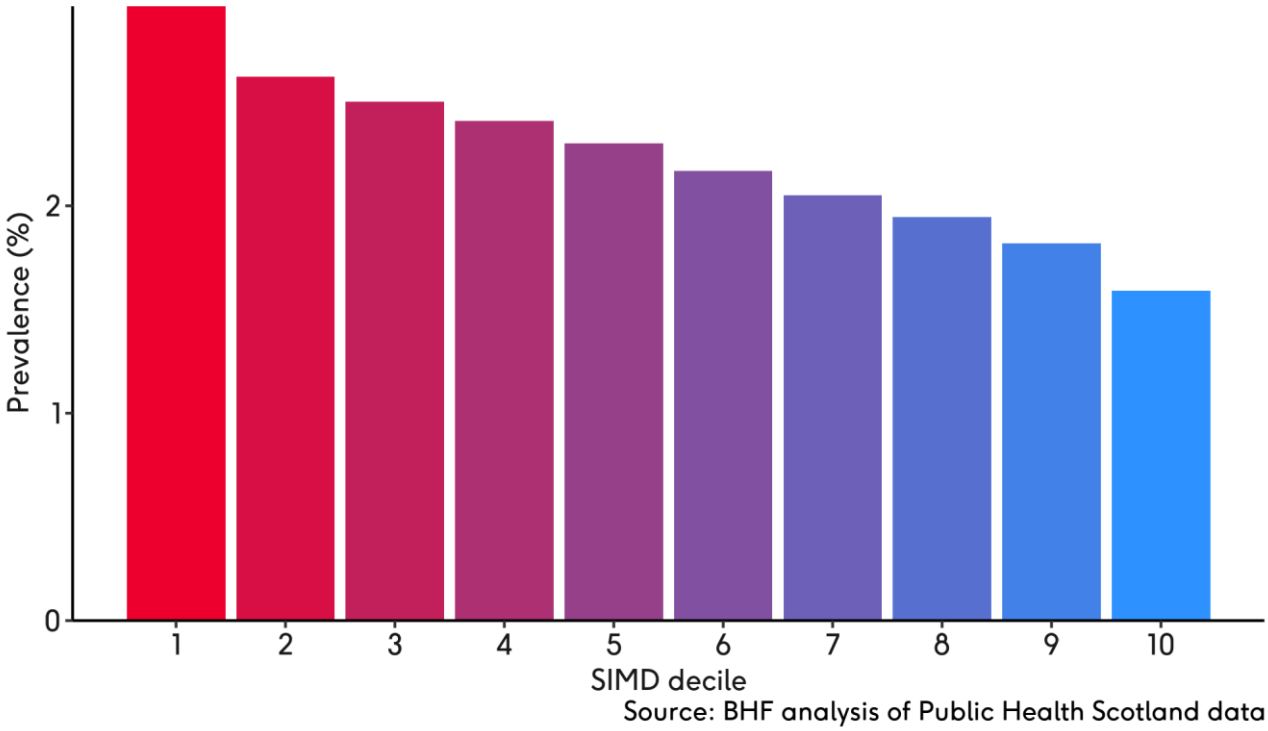
Coronary heart disease

Coronary heart disease (CHD) is the most commonly diagnosed type of heart disease. It occurs when coronary arteries become narrowed by a build-up of atheroma, a fatty material within their walls. The pain or discomfort felt from such narrowing is called angina and if a blockage occurs it can cause a myocardial infarction (heart attack). There are 210,000 people living with coronary heart disease in Scotland.[21] Coronary heart disease is the single biggest cause of death in Scotland and the leading cause of heart attacks.

Figure 6 shows the age-standardised prevalence of CHD in under-75s, which is more than 80% higher in the most deprived decile (2.9%) relative to the least deprived decile (1.6%).

Figure 6: Age-standardised prevalence of coronary heart disease in Scottish GP practices, by deprivation decile, 2025 (under-75s)

SIMD 1 = most deprived, SIMD 10 = least deprived



Source: BHF analysis of Public Health Scotland data

[21] British Heart Foundation Statistics. (2025) Scotland factsheet

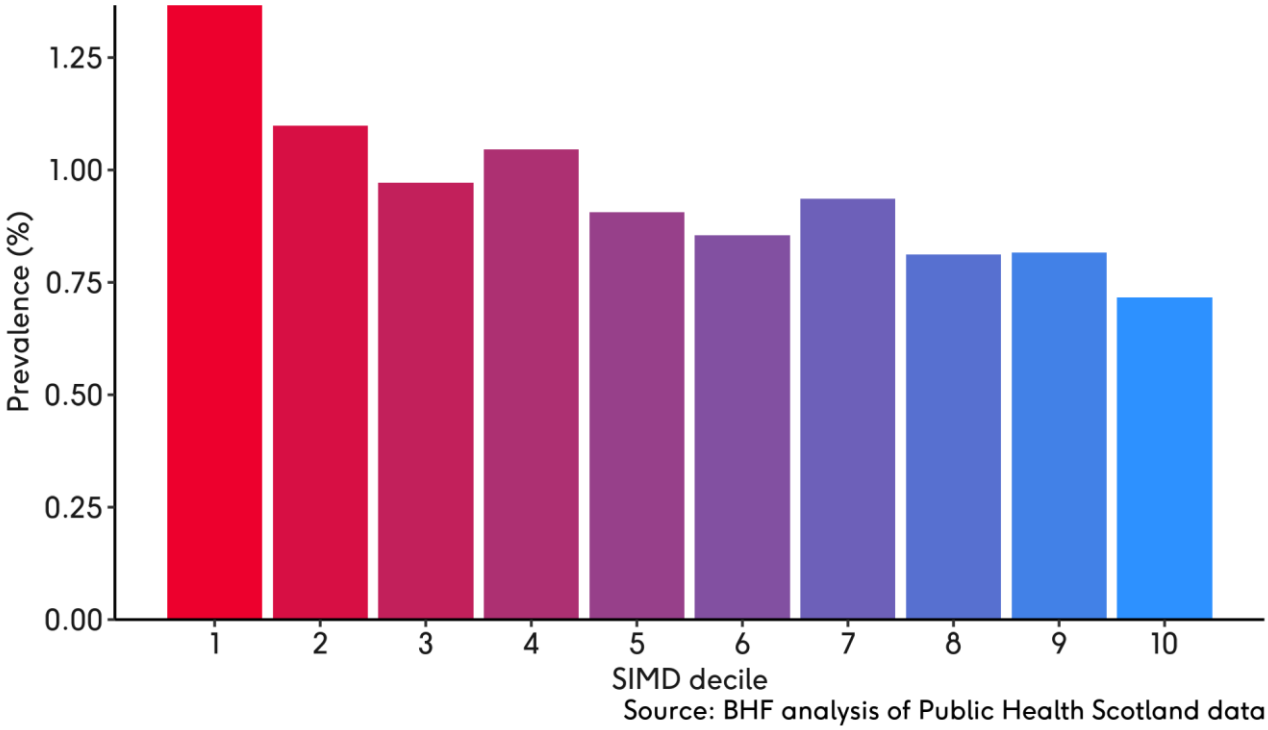
Heart failure

Heart failure occurs when the heart is not pumping blood around the body as well as it should, most commonly when the heart muscle has been damaged – for example, after a heart attack. Around 48,000 people in Scotland have been diagnosed with heart failure by their GP.[22] Estimates which include diagnoses at hospital suggest that there are thousands more people living with the condition across the country.[23]

Figure 7 shows the age-standardised prevalence of heart failure in Scottish GP practices by deprivation decile. The age-standardised prevalence in the least deprived decile is 0.7%. In the most deprived decile, the prevalence is 1.4%, meaning that the prevalence of heart failure is twice as high in the most deprived areas compared to the least deprived. In people aged under 75, the difference is even more pronounced at three times more prevalent in the most deprived decile (see figure A1).

Figure 7: Age-standardised prevalence of heart failure in Scottish GP practices, by deprivation decile, 2025 (all ages)

SIMD 1 = most deprived, SIMD 10 = least deprived



Source: BHF analysis of Public Health Scotland data

[22] British Heart Foundation Statistics. (2025) Scotland factsheet
[23] Temporal trends and patterns in heart failure incidence: a population-based study of 4 million individuals. Conrad, Nathalie et al., The Lancet, Volume 391, Issue 10120, 572 - 580

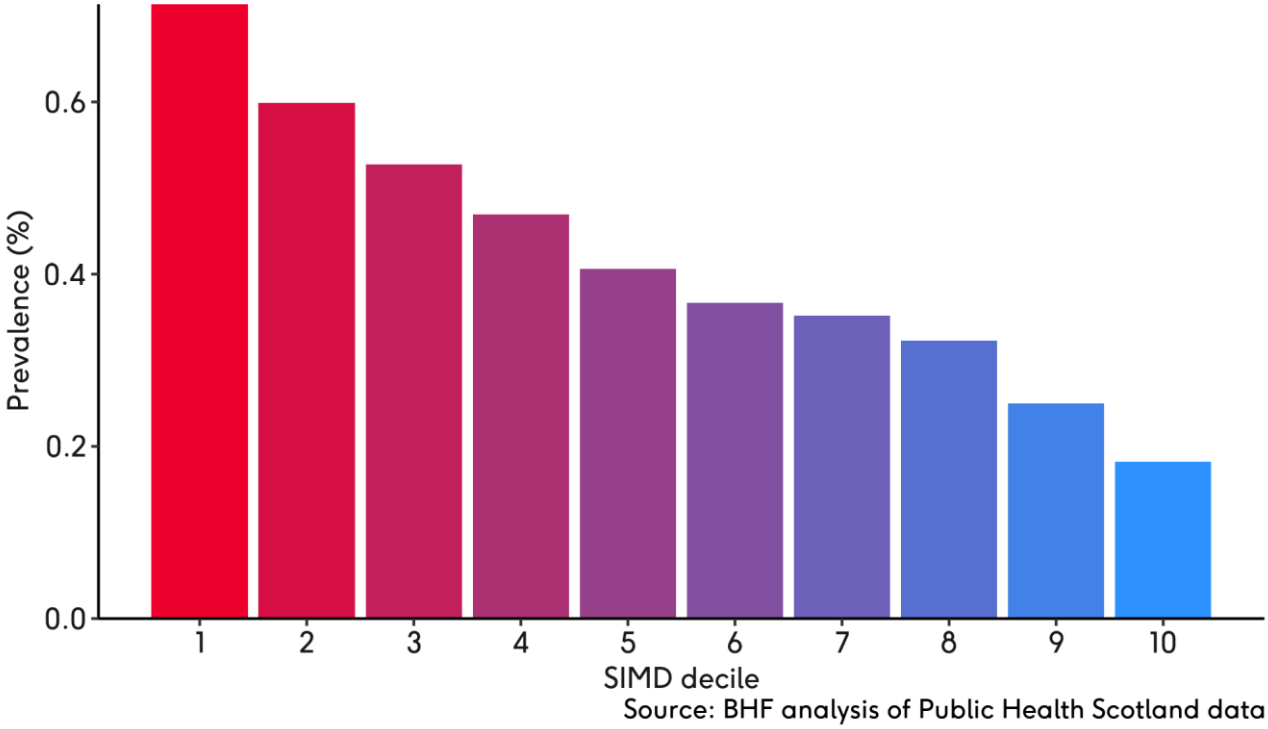
Peripheral arterial disease (PAD)

Peripheral arterial disease is a condition caused by a build-up of fatty deposits (atheroma) inside your arteries, meaning less blood can get through. When the same process occurs in the heart, we call it coronary heart disease. Having PAD puts you at risk of coronary heart disease, as well as stroke. PAD usually affects the legs – it can often lead to leg pain when walking and, in severe cases, gangrene and even amputation. More than 40,000 people in Scotland have diagnosed PAD.

Figure 8 shows the age-standardised prevalence of peripheral arterial disease among people aged under 75 years old in Scotland. In the least deprived decile, the age-standardised prevalence was 0.18% in under-75s. In the most deprived decile, the prevalence was 0.71%. This means that the prevalence was almost three times higher in the most deprived decile compared to the least deprived.

Figure 8: Age-standardised prevalence of peripheral arterial disease in Scottish GP practices, by deprivation decile, 2025 (under-75s)

SIMD 1 = most deprived, SIMD 10 = least deprived



Source: BHF analysis of Public Health Scotland data

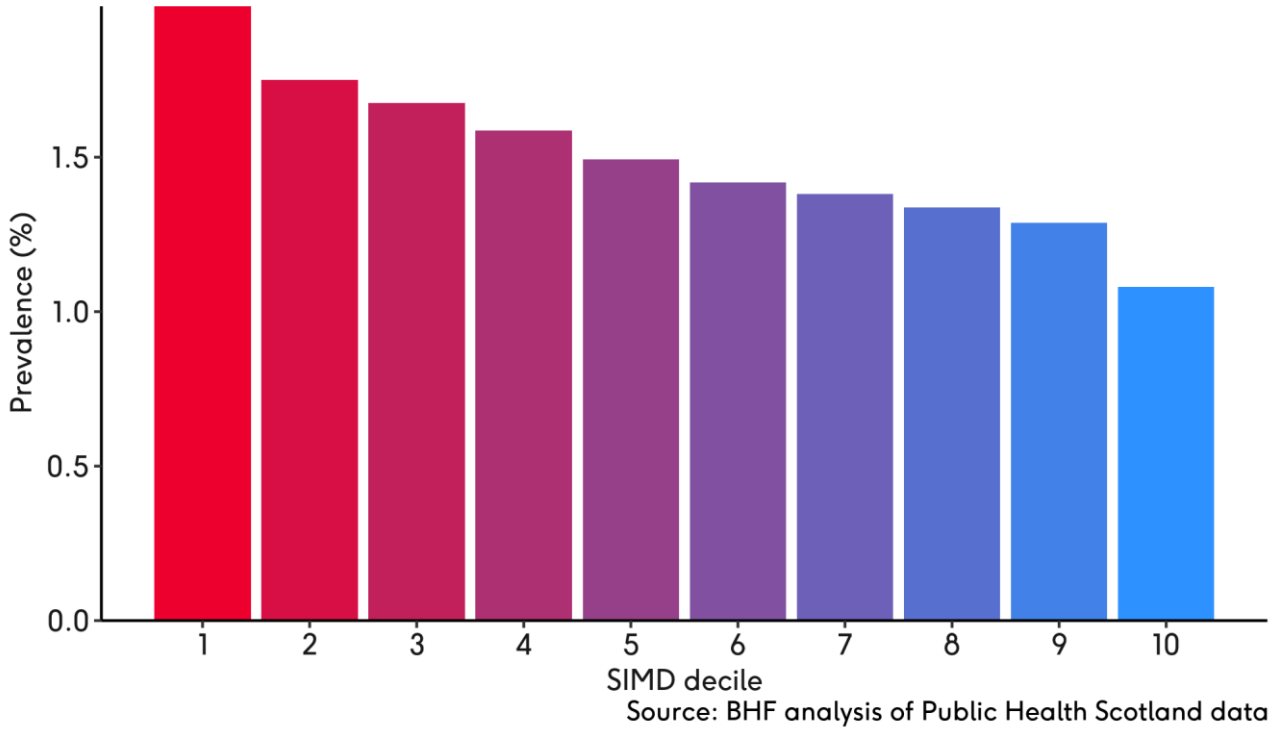
Stroke and transient ischaemic attack

A stroke occurs when the blood supply to part of the brain is cut off, causing brain cells to become damaged. A transient ischaemic attack (TIA), also known as a "mini-stroke", is caused by a temporary disruption in the blood supply to part of the brain. In Scotland there are around 12,500 hospital admissions for stroke each year, and over 150,000 people living in Scotland have survived a stroke or TIA.[24]

The prevalence of stroke is higher in the most deprived parts of Scotland . Figure 9 displays the age-standardised prevalence of having ever survived a stroke or TIA among people aged under 75. In least deprived decile the prevalence is 1.1%. In the most deprived decile, the prevalence is almost double (2%).

Figure 9: Age-standardised prevalence of stroke and TIA in Scottish GP practices, by deprivation decile, 2025 (under-75s)

SIMD 1 = most deprived, SIMD 10 = least deprived



Source: BHF analysis of Public Health Scotland data

[24] British Heart Foundation Statistics. (2025) Scotland factsheet

Incidence of cardiovascular diseases

This section of the report looks at the incidence of cardiovascular diseases in Scotland (i.e. how many new diagnoses of CVD happen in a particular time period). It analyses data from Public Health Scotland's Scottish Cardiac Audit Programme (SCAP).

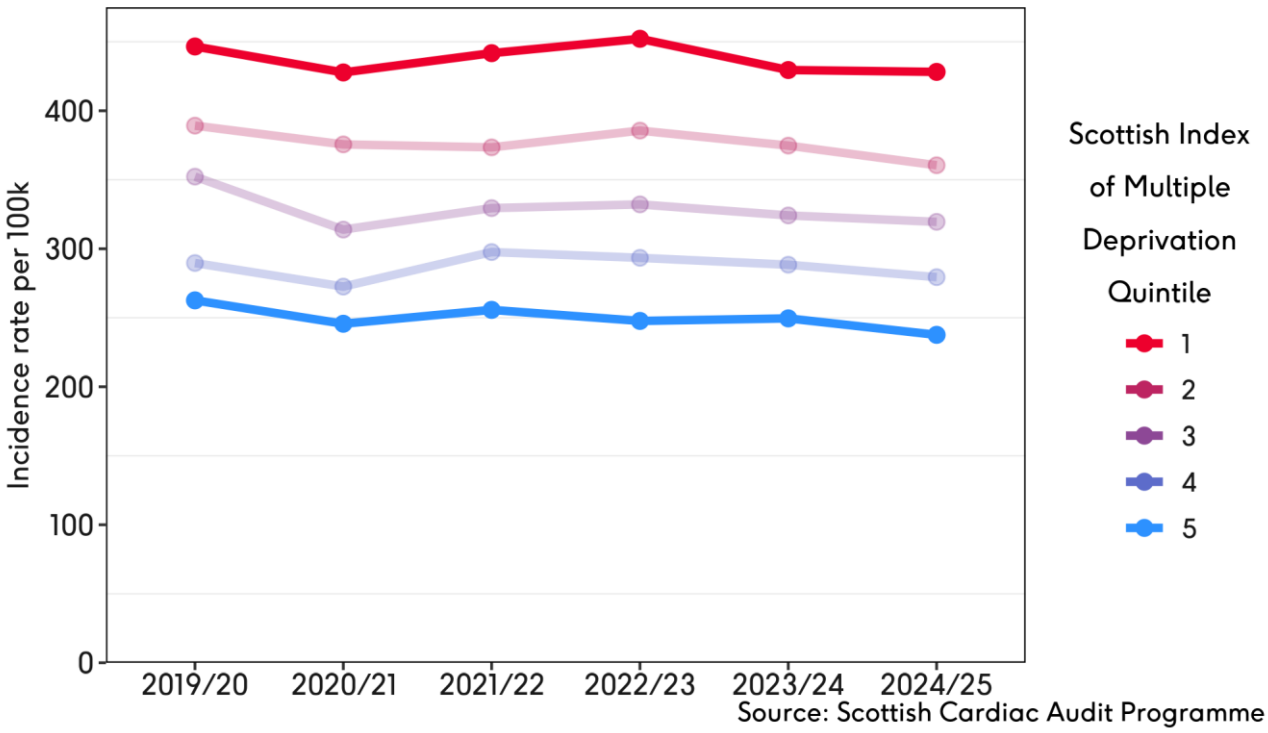
Coronary heart disease

Figure 10 shows that, from 2019/20 to 2024/25, the incidence of coronary heart disease has consistently been higher in more deprived areas of Scotland. In 2024/25, the age-standardised incidence rate of CHD in the least deprived quintile was 238 per 100,000. In the most deprived quintile the incidence rate was almost twice as high, at 428 per 100,000. This means that the incidence of CHD in the most deprived areas was 1.8 times greater compared to the least deprived.

Overall, the incidence rate of coronary heart disease has fallen slightly over this time period. However, a smaller reduction in incidence has occurred in the most deprived quintile compared to the least deprived (a drop of 19 per 100,00 compared to 25 per 100,000).

Figure 10: Age-standardised incidence rate of coronary heart disease, by deprivation quintile (all ages)

SIMD 1 = most deprived, SIMD 5 = least deprived



Source: Scottish Cardiac Audit Programme

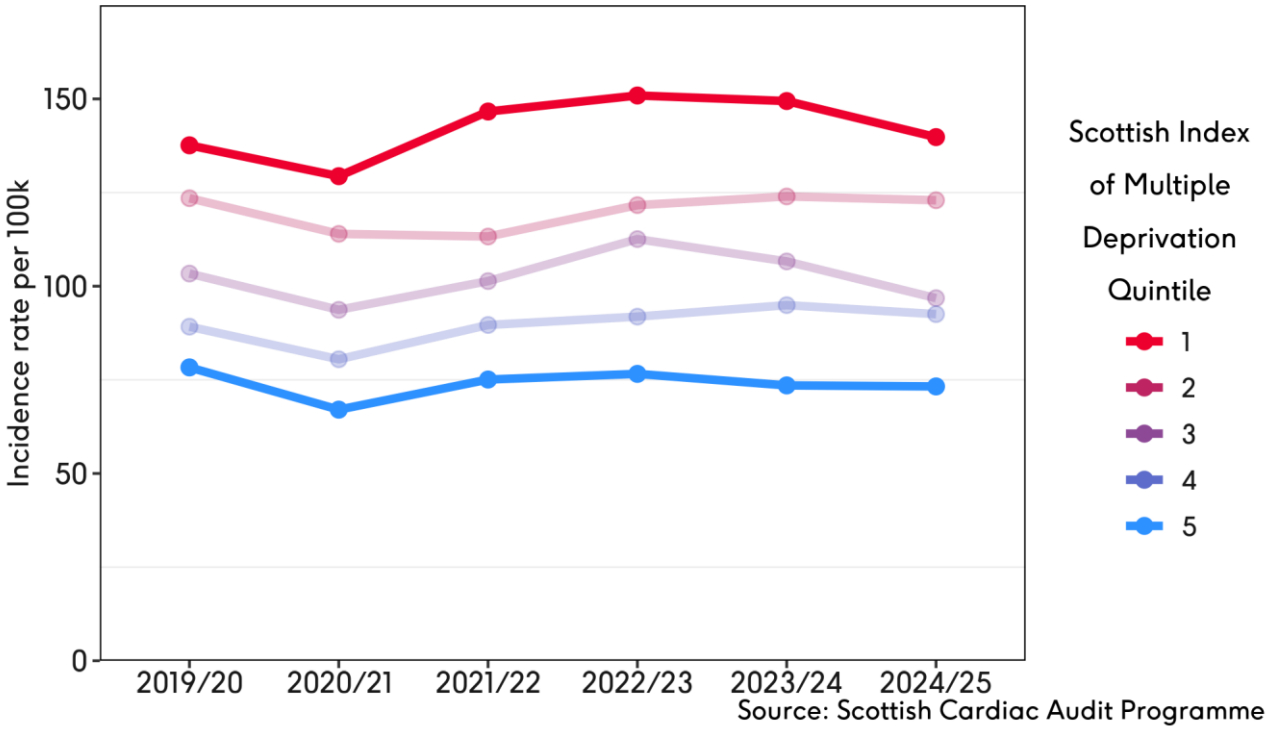
Heart failure

Similarly, the incidence rate of heart failure has been consistently highest in the most deprived SIMD quintile and lowest in the least deprived (Figure 11). In 2024/25, the age-standardised incidence rate of heart failure in the least deprived quintile was 73 per 100,000. In the most deprived quintile the incidence rate was almost twice as high, at 140 per 100,000.

Over the period shown, the incidence rate of heart failure in the least deprived areas decreased by 5 per 100,000 people. In the most deprived areas it increased by 2 per 100,000.

Figure 11: Age-standardised incidence rate of heart failure, by deprivation quintile (all ages)

SIMD 1 = most deprived, SIMD 5 = least deprived



Source: Scottish Cardiac Audit Programme

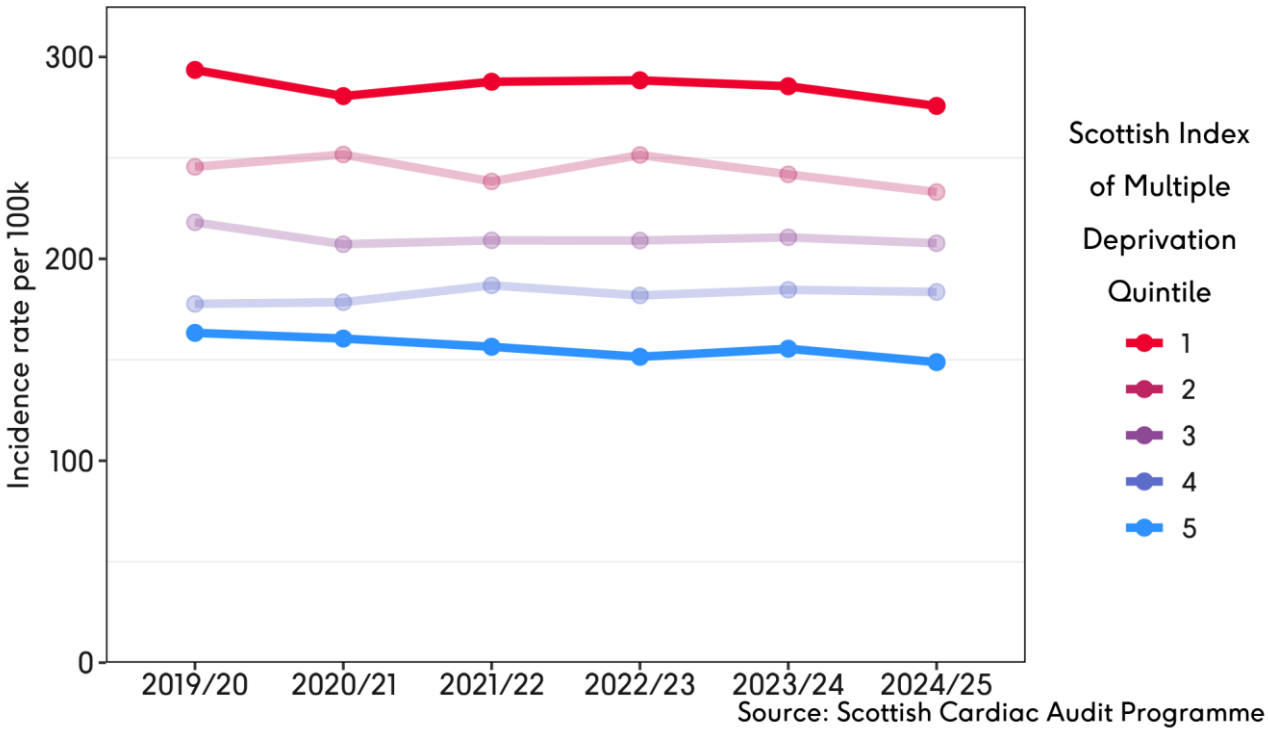
Heart attack

Figure 12 shows the incidence rate of myocardial infarction, or heart attack, by deprivation quintile. In 2024/25, the age-standardised incidence rate of heart attack in the least deprived quintile was 149 per 100,000. In the most deprived quintile the incidence rate was almost double, at 276 per 100,000.

The trend over time is more positive for heart attack incidence. Between 2019/20 and 2024/45 the incidence rate of heart attack fell overall, with the largest reduction occurring in the most deprived quintile (18 per 100,000).

Figure 12: Age-standardised incidence rate of heart attack, by deprivation quintile (all ages)

SIMD 1 = most deprived, SIMD 5 = least deprived



Source: Scottish Cardiac Audit Programme

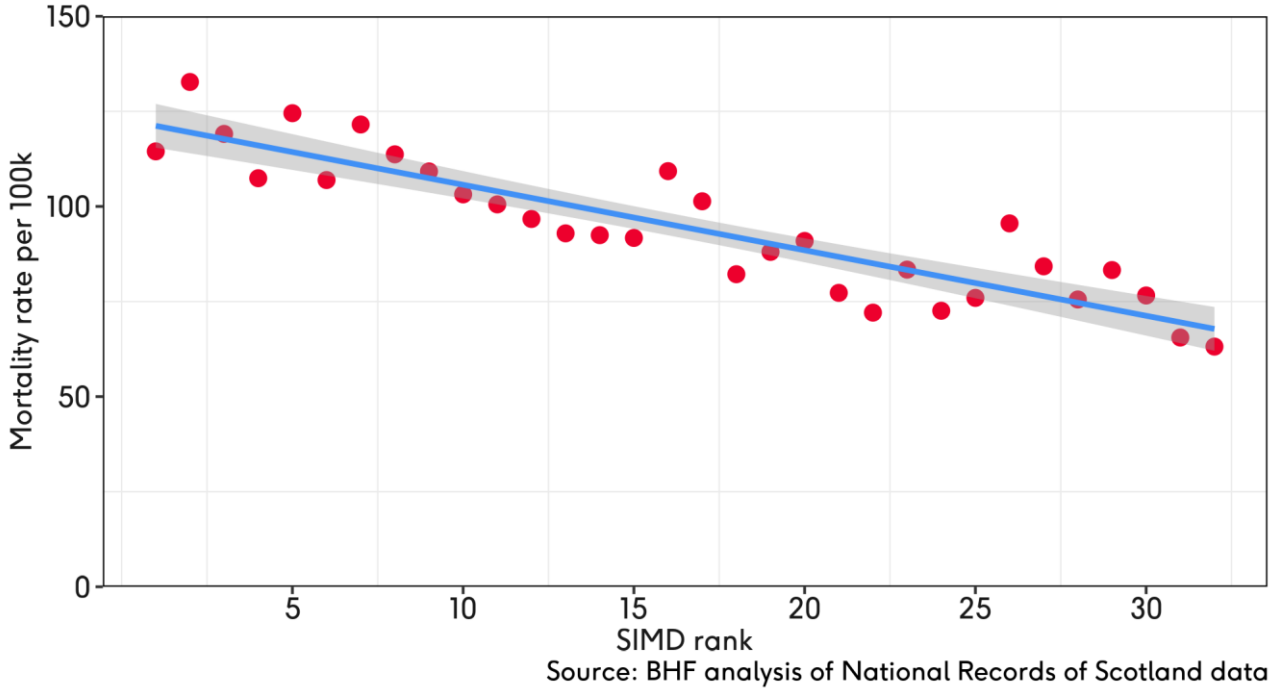
Mortality

People living in more deprived areas of Scotland are far more likely to die from cardiovascular disease at a young age than those living in more well-off areas. This is illustrated in Figure 13, which shows the premature (under-75) age-standardised mortality rate from cardiovascular disease in Scotland's 32 local authorities by SIMD rank in 2022-24. This displays a clear association between local authorities' deprivation levels and their rate of CVD mortality, with more deprived areas having significantly higher premature CVD mortality rates than less deprived areas.

In West Dunbartonshire, the most deprived local authority, the CVD mortality rate is more than 80% greater relative to the rate in East Renfrewshire, the least deprived local authority (115 per 100,000 vs 63 per 100,000). Glasgow City is the second most deprived local authority in Scotland and has the highest rate of premature mortality from CVD, at 133 per 100k.

Figure 13: Age-standardised premature (under-75) mortality rate from cardiovascular disease in Scottish local authorities, 2022-24

The 32 local authorites are ranked by SIMD score. 1 = most deprived, 32 = least deprived



Source: BHF analysis of National Records of Scotland data

Blue line represents linear regression with standard error

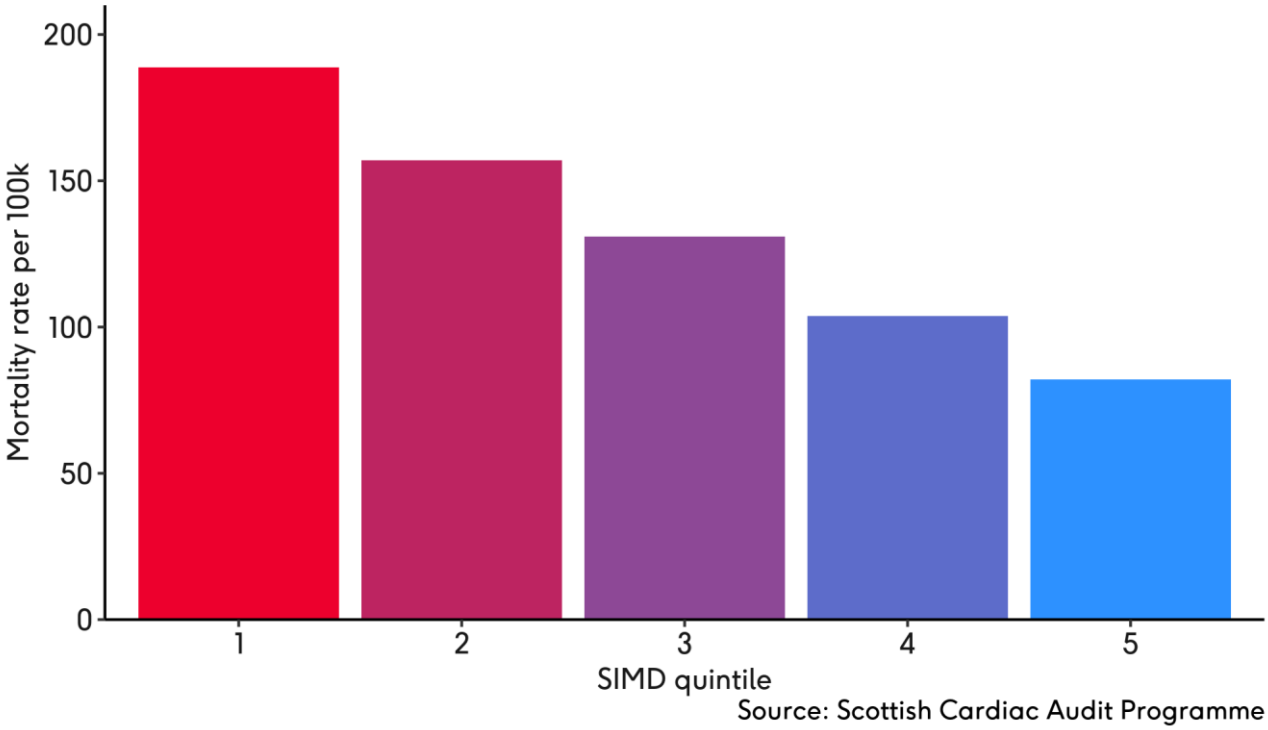
Coronary heart disease

CHD is responsible for around 6,900 deaths in Scotland each year, including 2,800 before the age of 75. One in seven men and one in twelve women in Scotland die from CHD.[25] Figure 14 shows the age-standardised rate of death from CHD in Scotland in 2024 by SIMD quintile. The data comes from Public Health Scotland's Scottish Cardiac Audit Programme (SCAP).[26]

Figure 14 shows a clear link between CHD mortality and deprivation, with the most deprived quintile experiencing the highest rates of mortality. In 2024, the age-standardised rate of mortality from CHD in the least deprived quintile was 82 per 100,000 population. The mortality rate in the most deprived quintile was 2.3 times greater, at 189 per 100,000. The age-standardised rate of mortality from CHD has changed very little over the past 12 years across all levels of deprivation (see figure A2).

Figure 14: Age-standardised mortality rate from coronary heart disease by deprivation quintile, 2024 (all ages)

SIMD 1 = most deprived, SIMD 5 = least deprived



Source: Scottish Cardiac Audit Programme

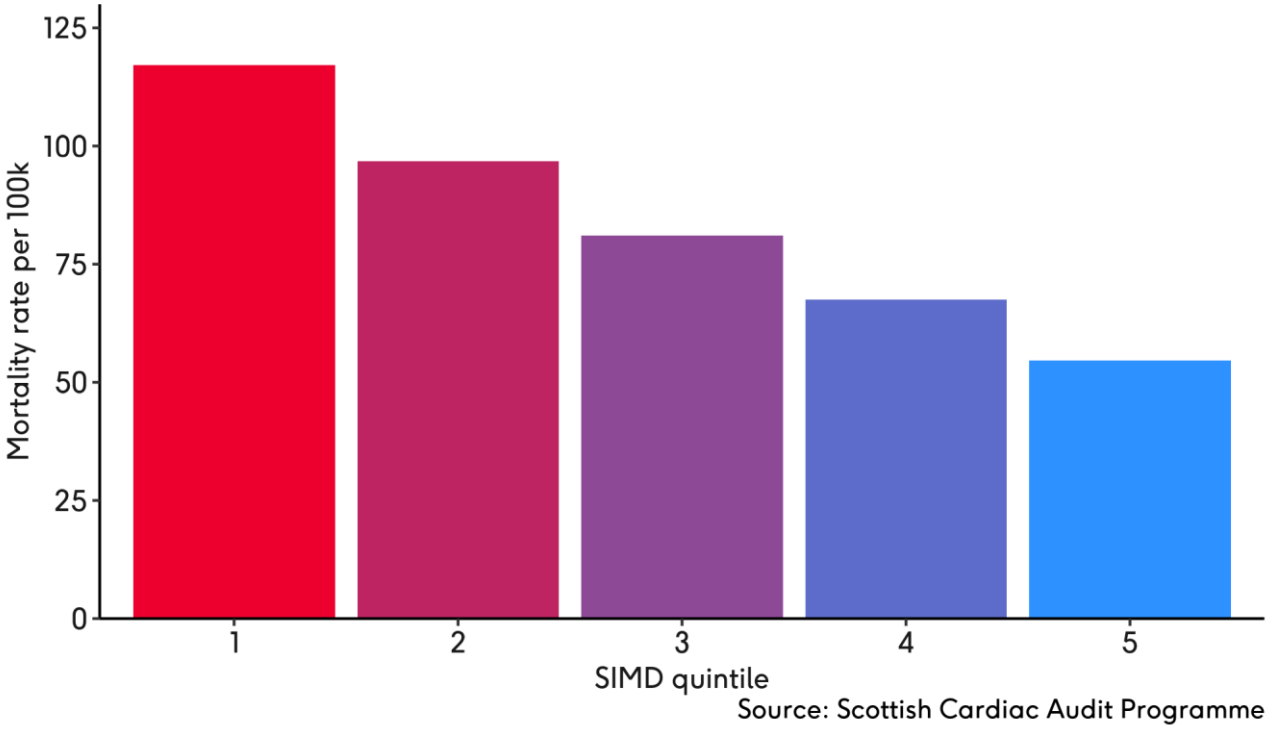
[25] British Heart Foundation Statistics. (2025) Scotland factsheet
[26] Scottish Cardiac Audit Programme (SCAP) (2025) Annual Report

Heart attack

A similar trend is seen in heart attack mortality rates. Figure 15 shows the age-standardised mortality rate from heart attack in Scotland in 2024. In 2024, the mortality rate from heart attack in the least deprived quintile was 55 per 100,000 population. The mortality rate in the most deprived quintile was over 2 times greater, at 117 per 100,000.

Figure 15: Age-standardised mortality rate from heart attack by deprivation quintile, 2024 (all ages)

SIMD 1 = most deprived, SIMD 5 = least deprived



Source: Scottish Cardiac Audit Programme

4. Discussion

Health inequalities are complex and the pathway for cardiovascular disease patients is no exception. In Scotland, there are clear and consistent gaps between the most and least deprived areas across the cardiovascular pathway. From the unequal presence of risk factors to higher prevalence of cardiovascular diseases, and stark differences in mortality, the more deprived areas of Scotland are at a significant disadvantage when it comes to their heart health. The breadth of publicly available data measuring CVD inequalities in Scotland has improved significantly in recent years. With the arrival of SCAP and GP prevalence data, it is possible to paint a clearer picture of the impact of socio-economic deprivation on cardiovascular health in Scotland than was previously possible, particularly relating to the differing incidence and

prevalence of CVD by deprivation. Our findings relating to this mirror those found by the Institute for Public Policy Research (IPPR), who also found evidence of stark inequalities in the burden of CVD and its risk factors in Scotland, across the cardiac pathway.[27]

Modifiable risk factors play a large role in determining a person's risk of developing or dying from a cardiovascular disease. In this report, data from GP practices and the Scottish Health Survey show that people in the most deprived areas have the highest prevalence for hypertension, diabetes, smoking, and obesity. This demonstrates the need for prevention interventions that are targeted at specific groups or areas where the risk factor burden for CVD is higher, as well as interventions aimed at broader groups.

The higher prevalence of modifiable risk factors undoubtedly contributes to higher prevalence of cardiovascular diseases in Scotland's most deprived populations. Granular prevalence data from GP practices has made it possible to calculate age-standardised prevalence rates of coronary heart disease, heart failure, peripheral arterial disease, and stroke. Age-standardisation is particularly important when comparing cardiovascular disease burden between groups due to the increased risk in older age groups. As the focus of this report is the effect of deprivation on health inequality, we have chosen to present the prevalence statistics in people aged under-75, with the exception of heart failure which is presented for all ages.

The prevalence of CHD, heart failure, and PAD were all highest in the most deprived areas and lowest in the least deprived. The relative difference in prevalence between least and most deprived deciles was large, ranging from almost two times higher for CHD to almost four times higher for PAD. The prevalence of people who had survived stroke or TIA was also greater in the most deprived areas, being 85% higher in the most deprived decile relative to the least deprived.

Inequality in cardiovascular health in Scotland also extends to mortality. Analysis of age-standardised premature cardiovascular mortality in local authorities ranked by SIMD score showed a clear association between deprivation and early death from cardiovascular disease. This was also the case for specific diseases and all-age mortality, including coronary heart disease, for which the mortality rate in the least deprived decile was less than half the mortality rate in the most deprived decile.

The absence of deprivation data in several indicators related to cardiovascular disease in Scotland prevents us commenting on some aspects of the cardiac pathway. This is the case for secondary care, where the absence of deprivation data makes it impossible to robustly ascertain whether patient deprivation is associated with the number and length of elective and emergency care episodes. There is also an absence of data published on cardiac rehabilitation. The planned expansion of SCAP to report on cardiac rehabilitation should include deprivation-level data, which would allow us to assess whether referrals to – and uptake of – cardiac rehab are influenced by deprivation. Beyond cardiac rehab, there is also a lack of data at a deprivation

[27] Institute for Public Policy Research, 2025. Taken to Heart

level on how confident people feel managing their cardiovascular condition, and thus condition management is a broader area where deprivation data is sparse.

Likewise, unlike in England, in Scotland (and indeed the other devolved nations) there is no data quantifying the extent to which differences in life expectancy between people in the most and least deprived areas can be attributed to different diseases. In England, data from the Office for Health Improvement and Disparities estimate that from 2022 to 2023, 26% of the life expectancy gap for men, and 22% of the gap for women, could be attributed to circulatory disease (including heart disease and stroke).[28] This made cardiovascular disease the single-largest contributor for both men and women. The absence of comparable data for Scotland, despite its higher mortality burden from CVD, could inhibit the case for wider action to tackle the drivers of the life expectancy gap in Scotland – to which CVD is undoubtedly a key contributor.

5. Limitations

There are several limitations to this analysis. First, whilst in many areas of our analysis we were able to look at deprivation using national deciles or quintiles via SIMD, in some areas (specifically in the analysis of mortality by local authority) we had to gauge deprivation at a larger geographical level. There can be large disparities in the wider determinants of health within these geographies.

Data from the Scottish Health Survey was used to analyse the relationship between deprivation and risk factor prevalence, namely smoking, physical activity, and overweight and obesity. The 2024 survey sample included interviews with 4,591 adults. This data was collected through interviews, and the results may be subject to self-reporting bias.

The method used for determining SIMD decile for GP prevalence data presents several limitations. We assigned each GP practice to a new deprivation decile based on the average SIMD decile of their registered patients. We opted to do this to better reflect the typical level of deprivation experienced by practices' patients, as opposed to just the deprivation level of the practices' postcode. However, this does not account for variation in deprivation levels within both pre-assigned SIMD deciles and the deprivation deciles to which we assigned each practice, because the most granular SIMD data we had access to was aggregated at decile level. Additionally, the data on prevalent cases was provided at practice level, stratified by age band, and not itself stratified by patient SIMD. This means that, for example, we can compare the prevalence of heart failure between *GP practices* with a higher or lower average patient deprivation decile. But this may differ from the *true* prevalence of diagnosed heart failure between national SIMD deciles.

The data used in this analysis were not granular enough to stratify by other patient demographics, which we recognise as another limitation. The effects of deprivation may be

[28] Office for Health Improvement and Disparities, 2025.

compounded by other social factors.[29] Our UK-wide Bridging Hearts report highlights the significant role played by sex/gender and ethnicity in influencing cardiovascular health. Intersectionality is a word used to describe how race, class, sex, and other individual characteristics overlap or combine with one another, which can affect outcomes.

6. Conclusions

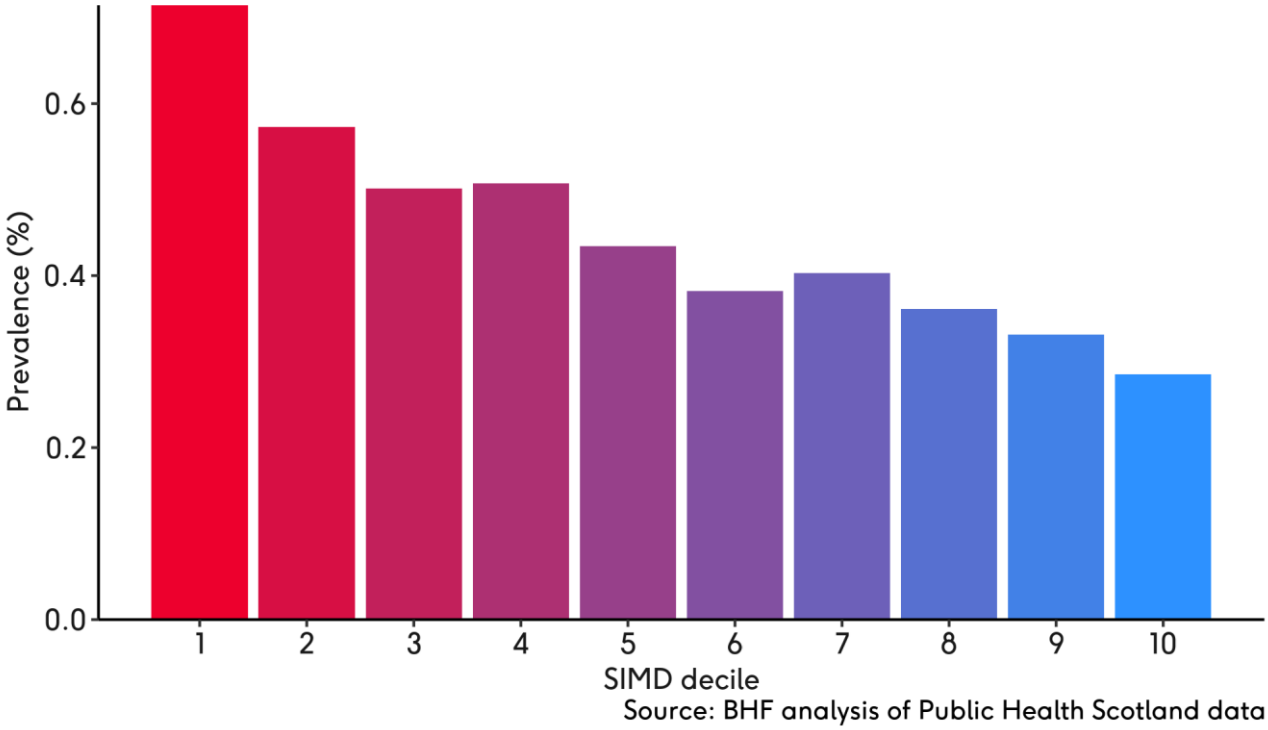
In summary, there is a clear association between deprivation and cardiovascular disease in Scotland. This is the case across the cardiac pathway, from prevention to outcomes, and the higher rates of CVD risk factors in more deprived areas are a clear contributor to the stark differences in premature CVD mortality between the most and least deprived areas in Scotland. The persistent gap in the prevalence and incidence of CVD and its risk factors according to deprivation, despite significant advances in the treatment of CVD over recent decades, is also testament to just how much of the CVD burden is driven by socioeconomic conditions – and not just individual differences in lifestyle, and what happens within a narrower conception of 'healthcare'.

[29] Bridging Hearts, British Heart Foundation, 2025.

Appendix

Figure A1: Age-standardised prevalence of heart failure in Scottish GP practices, by deprivation decile, 2025 (under-75s)

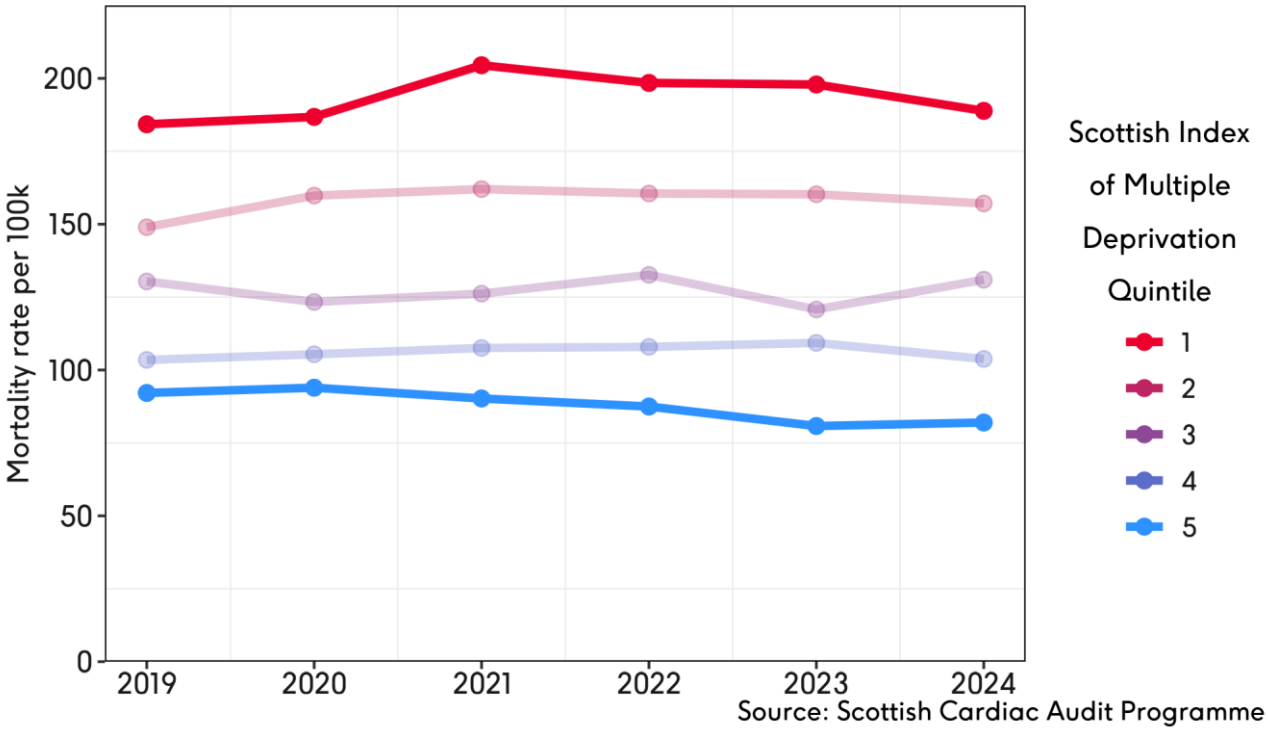
SIMD 1 = most deprived, SIMD 10 = least deprived



Source: BHF analysis of Public Health Scotland data

Figure A2: Age-standardised mortality rate from coronary heart disease, by deprivation quintile (all ages)

SIMD 1 = most deprived, SIMD 5 = least deprived



Source: Scottish Cardiac Audit Programme