



Scottish Health Equity
Research Unit

Insights, analysis and action on the socio-economic factors
that shape health

Scotland's Census

Understanding changes in
health and socioeconomic
inequality since 2011

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Introduction

Scotland in 2001 was remarkably different from Scotland in 2011. Between 2001 and 2011, the population grew by more than 200,000 people. Life expectancies increased by more than three years for men and around two years for women [1]. Household incomes grew by 18% in real terms [2]. These years also marked a massive cultural shift: internet access, for instance, grew from 36% of all households in 2001 to 77% in 2011 [3]. In spite of this, Scotland had remarkable inequalities in health outcomes, with the lowest life expectancy in Western Europe in both 2001 and 2011, and with wide differences between people living in deprived and non-deprived areas.

The Scottish Census, typically taken every ten years, allows the country to take stock of its population and to examine how various cultural, social, and economic factors have changed. Although the most recent census was conducted in 2022, preliminary results have only recently been made available, with publications on various topics rolling out across 2024.

Given the changes that occurred between the 2001 and 2011 censuses, we would expect a to see a very different Scotland in 2022. After all, the decade between the two years saw massive changes in the UK: in 2011, Scotland was only a few months into the UK government's austerity period; 2016 saw the UK exiting the EU; and 2020 was marked by the Covid-19 pandemic.

The Scotland of 2022 continues to be characterised by inequities in health outcomes, with life expectancies in the wealthiest parts of the country exceeding those in the poorest by more than a decade. These inequalities have failed to improve since 2011, growing by only a few months for men and women alike. This stagnation in health outcomes is paralleled by a stagnation in average household incomes, which grew by a paltry 4% in real terms over the decade [2]. The Scottish population has grown, but the growth has slowed compared to the decade prior, driven by an increase in immigration alongside a decrease in births.

The census topic publications offer a high-level picture of changes in health and changes in socioeconomic determinants of health, including demography, disability, housing, education, and work. Data across these topics are available for small areas, which allows us to examine these determinants by area deprivation from the Scottish Index of Multiple Deprivation (SIMD).

Most significantly, people in Scotland in 2022 were more likely to report that they are in poor health than they were in 2011. The number of people with mental health conditions skyrocketed over the decade, especially among young women.

Alongside this trend, people were more likely to exit the labour market to care for their home and family or due to ill health. The burden of unpaid care grew between 2011 and 2022, and people in deprived areas were significantly more likely to provide unpaid care.

Migrants and people from ethnic minority groups were more likely to live in the most deprived 20% of areas than the general population. These groups are frequently absent from Scottish data, making it difficult to understand differences in health outcomes. This is often due to small sample sizes or incomplete record-keeping, yet ethnic minorities (including white minorities) now make up nearly 12% of the Scottish population, and 10% of the Scottish population is foreign-born. In cities, this proportion was much higher.

People in Scotland, on average, were more likely to have earned a degree-level qualification or equivalent, although people in deprived areas are still more likely to have no qualifications than a university degree. Home ownership rates are broadly similar to 2011, while people are less likely to live in overcrowded homes.

We are not yet able to see how health interacts with the other socioeconomic determinants alongside deprivation. In early 2025, the census will release tables which show multiple variables at once, allowing us to understand how health interacts with socioeconomic indicators in addition to and alongside deprivation. The currently available single variable publications nevertheless provide us with an interesting glimpse into how Scotland has changed as a whole, and how life in Scotland's most vulnerable areas have changed.

Key Findings

People living in deprived areas were...

- More likely to report that their health is bad or very bad compared to 2011 and to people living in non-deprived areas. The gap in outcomes between deprived and non-deprived areas widened since 2011.
- More likely to report a health condition or disability, including a mental health condition, than people living in non-deprived areas. They were also more likely to report bad health and mental health conditions than they were in 2011, and gaps in outcomes between deprived and non-deprived areas widened since 2011.
- More likely to be migrants and from minority ethnic backgrounds:
 - Migrants were more likely to live in deprived areas than people born in the UK. Migrants who lived in the UK for 2-10 years were the most likely to live in deprived areas, and a higher proportion of these migrants lived in deprived areas than in 2011.
 - People from Black African and Polish backgrounds were the most likely to live in deprived areas, with well over a third of their communities residing in these neighbourhoods.
- More likely to be economically inactive due to ill health and disability compared to the general population and compared to 2011.
- More likely to be economically inactive to care for their home or family, more likely to provide unpaid care in general, and more likely to spend more than 35 hours a week on caring responsibilities compared to people in non-deprived areas. All of these rates increased since 2011.
- More likely to have no qualifications than the general population, although this improved since 2011. The gap between deprived and non-deprived populations also narrowed.
- Less likely to have a degree level qualification than the general population. This has also improved since 2011, although the gap between people in deprived and non-deprived widened over this time.
- Less likely to own a home than people from non-deprived areas, and slightly less likely to own a home than they were in 2011. The gap between the two areas has stayed roughly the same since 2011.
- More likely to live in overcrowded homes than the general population, although this has dropped substantially since 2011.

Demographic Changes

	Total			Proportion of total population		Proportion of group population living in deprived areas	
	2011	2022	Growth	2011	2022	2011	2022
Total population	5,295,403	5,439,618	3%	100%	100%	19%	19%
Population under 16	916,331	891,050	-3%	17%	16%	22%	21%
Population age 16 and over	4,379,072	4,548,568	4%	83%	84%	19%	19%
Migrant population	369,284	554,740	50%	7%	10%	20%	23%
Ethnic minority population (including white minorities)	432,616	702,095	62%	8%	13%	21%	24%
Disabled population	2,217,384	2,847,915	28%	42%	52%	24%	24%

Methodology

This paper matches 2011 census data to the 2012 Scottish Index of Multiple Deprivation (SIMD) and 2022 census data to the 2020 SIMD. The SIMD ranks small areas, called “data zones,” across a variety of indicators to get an overall picture of how deprived these small areas are relative to each other. The Scottish Government releases an update to the SIMD roughly every four years, with the most recent release in 2020 [4][5].

The 2011 census outputs and the 2012 SIMD used data zone boundaries established in 2001. The 2022 census and 2020 SIMD used data zone boundaries established in 2011, which were not in effect at the time that the 2012 SIMD was being prepared, hence the use of different geographies. The shape, population, and deprivation levels of data zones changed between these two periods, so a person may have lived in a deprived data zone in 2011 and a non-deprived data zone in 2022 without ever moving. Using the closest deprivation index to the census therefore gives us the best possible picture of how these neighbourhoods looked at the time of the census, although some caution should be taken comparing the results, as these two geographical boundaries are not directly comparable with each other. Nevertheless, this methodology allows us to understand the composition of deprived communities and their experiences face in both time periods.

Census year	2011	2022
SIMD year	2012	2020
SIMD data zone year	2001	2011
Number of data zones in SIMD year	6,505	6,976
Number of populated data zones in source year	6,500	6,972
Median data zone population	777	738
Mean data zone population	815	780

Health and disability

Between 2011 and 2022, the proportion of people in Scotland reporting...

- “Bad” or “very bad” health **increased**
- A disability or long term health condition **increased**
- A physical health disability **increased**
- A mental health disability **increased**

The gap between deprived and non-deprived people reporting...

- “Bad” or “very bad” health **widened**
- A disability or long term health condition **widened**
- A physical health disability **widened**
- A mental health disability **widened**

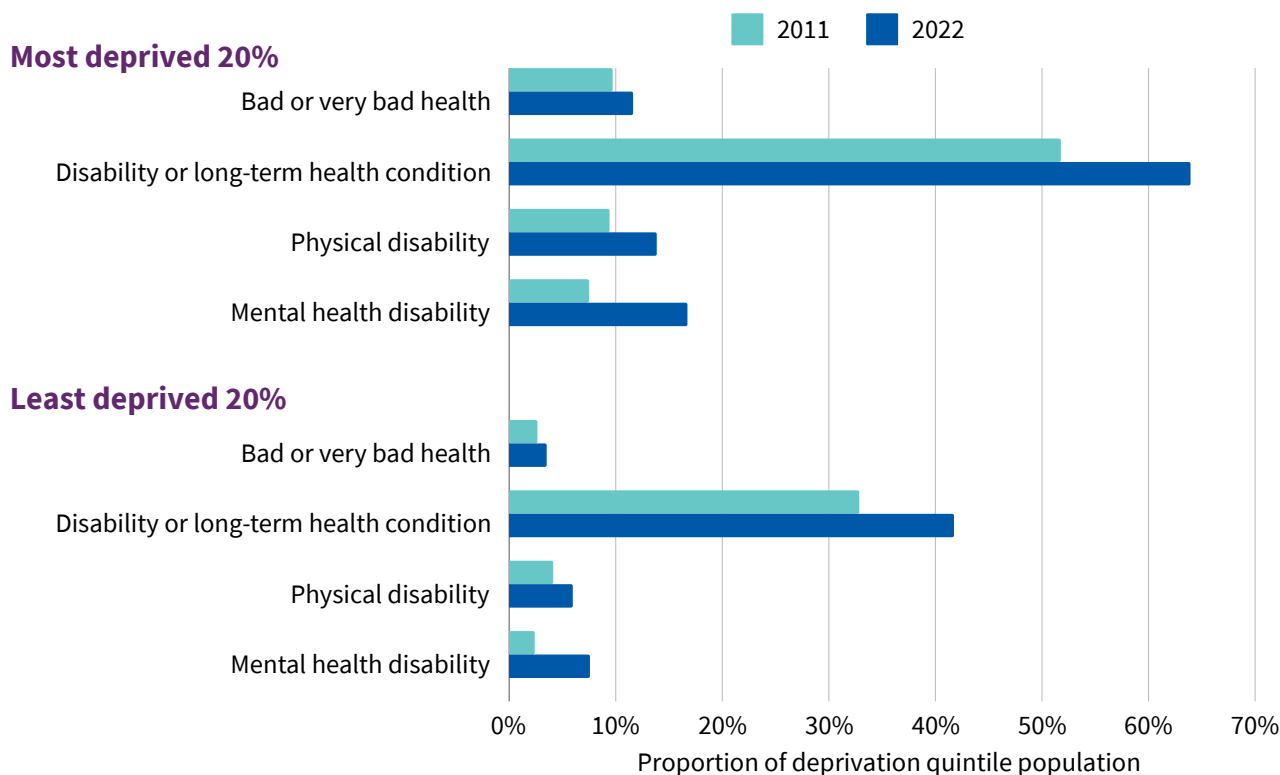
Between 2011 and 2022, self-reported health worsened for the entirety of Scotland, with the number of people citing bad health increasing as deprivation levels rise. This coincided with an increase in the number of people claiming a long-term health condition or disability, with mental health conditions becoming especially prevalent. In all cases, these increases were driven by rises in self-reported health and disability among women, and especially young women.

In 2011, 7% of the Scottish population considered themselves to be in “bad” or “very bad” health. This increased to 8% of the population in 2022, driven by worse self-reported health among women, especially young adult women. On average, 5% of women reported a mental health condition in 2011 compared to 13% in 2022. Over 20% of women between age 16 to 34 reported a mental health condition in 2022 compared to around 5% of that same age group in 2011.

The 2022 census data also showed an increase in men reporting mental health conditions compared to 2011, from 4% to 9% of the male population. This means that the gap in reporting mental health conditions between men and women increased over the decade. It does not, however, mean that men’s numbers are not concerning. Men often under-report mental health challenges [6]. Men are were also 2-3 times more likely to experience so-called “deaths of despair,” which cover deaths related to alcohol, drug misuse, and suicide compared to women in both 2011 and 2022.

It is important to note that reporting a condition and experiencing a condition are not necessarily the same thing. It is not entirely clear why rates of reporting mental health conditions have increased so dramatically, but it may be due in part to an increased cultural awareness and destigmatisation of these conditions [7].

Area deprivation and self-reported health and disability



People living in deprived areas are in general more likely to report that they are in poor health or have a disability or long-term health condition. The entire deprivation spectrum reported higher rates of these health concerns in 2022 compared to 2011, although the growth in these concerns was highest amongst people in deprived areas.

This means that gaps in negative health outcomes between deprived and non-deprived areas were wider than they were in 2011. Nearly two-thirds of people living in deprived areas cited a long-term health condition or disability, with rates of mental health conditions rising from 7% to 17% of the population in these areas.

Immigration and ethnicity

In 2022...

- The immigrant population was **more likely** to live in highly deprived areas compared to the non-migrant population
- People from ethnic minority backgrounds were **more likely** to live in highly deprived areas compared to people from White Scottish or British backgrounds
- People from Black minority backgrounds were the **most likely** to live in deprived areas

Between 2011 and 2022...

- The immigrant population **increased** as a proportion of the total population
- The ethnic minority population **increased** as a proportion of the total population
- The proportion of the migrant population living in deprived areas **increased**
- The proportion of people from ethnic minority backgrounds living in deprived areas **increased**
- The gap between the proportion of immigrants living in deprived areas and the population average **increased**

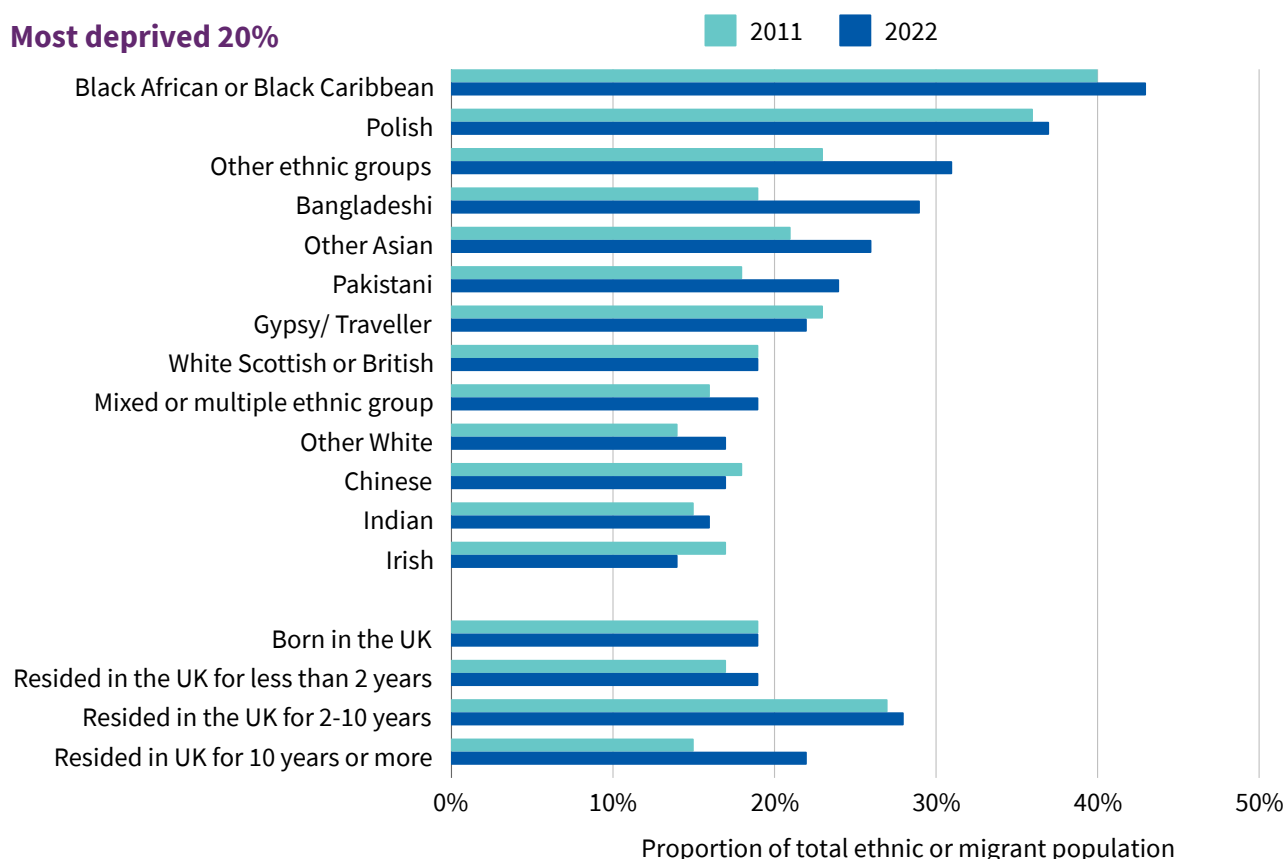
The overall growth in the Scottish population from 2011 to 2022 was driven by migration, with the foreign-born population in Scotland growing by 50% whilst the UK-born population shrank. At the same time, the number of people identifying as a member of a minority ethnic group (including white minorities) grew from 8.2% of the Scottish population in 2011 to 12.9% in 2022. Around a third of the nearly 270,000 additional people from minority ethnic backgrounds reported either White Polish or other white ethnicities (a category which includes people, typically from European backgrounds, that is not covered by British, Scottish, Polish, Irish, or Gypsy/Traveller ethnicities). The population of people from Mixed or Multiple backgrounds also grew substantially, from under 20,000 individuals in 2011 to over 60,000 in 2022.

Migrants living in the UK for two to ten years were more likely to reside in deprived areas than the general population and more likely to reside in deprived areas than in 2011. Meanwhile, immigrants who have lived in the UK for less than 2 years were more likely to live in the least deprived areas: around 27% of these recent migrant populations lived in the least deprived quintile in both 2011 and 2022.

Recent migrants are often younger, in better health, and have higher levels of education than the general population. This phenomenon is known as the “Healthy Immigrant Effect,” where younger, healthier, and more educated choose or have the ability to migrate. They tend to have better health upon first moving to a new country, although this deteriorates to meet population averages over time [8][9]. In the 2011 census, for instance, migrants had significantly higher levels of education and were more likely to be economically active compared to the UK-born population. Nevertheless, these groups were more likely to live in highly deprived areas.

Minority and immigrant populations living in deprived areas

Most deprived 20%



People from ethnic minority backgrounds were also more likely to live in deprived areas than people from white Scottish and British backgrounds. People from Black African and Polish backgrounds were the most likely to live in deprived areas, with well over a third of their communities residing in these neighbourhoods in both 2011 and 2022.

The disproportionate level of deprivation among people from both Black African and Caribbean backgrounds is particularly concerning. In addition to the potential health outcomes associated with socioeconomic deprivation, people from Black backgrounds are overwhelmingly likely to experience racism in using and accessing healthcare services in the UK [10]. Furthermore, people from Polish backgrounds were the largest single ethnic minority group, making up around 13% of the minority population in 2022. Poland was also the most common country of birth outside the UK.

There were also large differences among Asian minorities. People from Chinese and Indian backgrounds were in roughly the same position as they were in 2011, and were much less likely than the White Scottish population to live in deprived areas. Meanwhile, people from Bangladeshi, Pakistani, and Other Asian backgrounds were more likely to live in deprived areas than they were in 2011. They were also more likely than the White Scottish population to live in deprived areas, which was not the case in 2011.

Finally, whilst people from mixed or multiple ethnic backgrounds are as likely to live in deprived areas as the average, although the proportion living in these areas has grown.

Work and unpaid care

Between 2011 and 2022, the proportion of people in Scotland that were...

- Economically inactive **increased**
- Retired **increased**
- Inactive due to long term illness or disability **increased**
- Inactive to look after family or the home **stayed the same**
- Unpaid carers **increased**
- Providing unpaid care for more than 35 hours per week **increased**

The gap between deprived and non-deprived people reporting that they were...

- Economically inactive **narrowed**
- Retired **widened**
- Inactive due to long term illness or disability **widened**
- Inactive to look after family or the home **widened**
- Unpaid carers **widened**
- Providing unpaid care for more than 50 hours per week **widened**

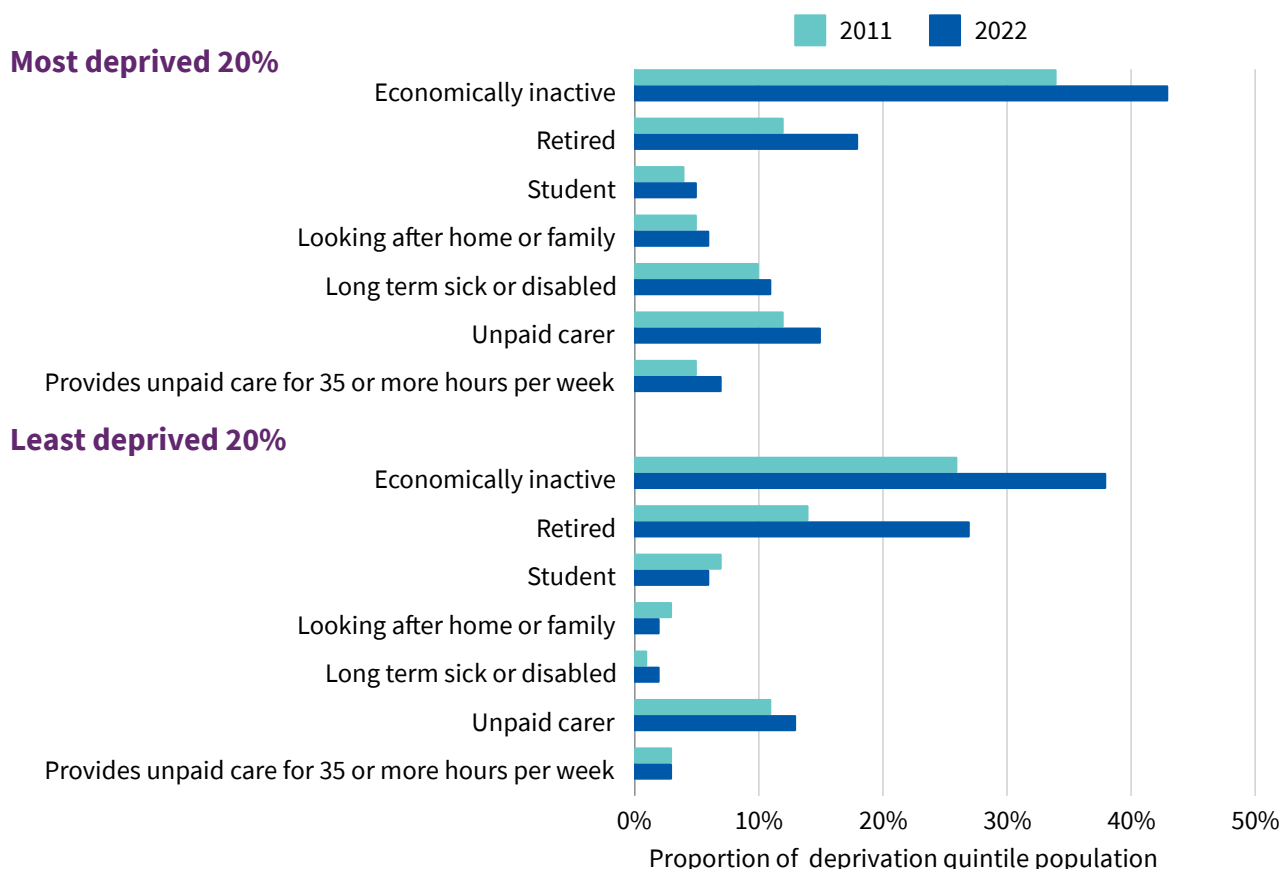
Being in work is associated with being in better health than not, with people who are unemployed or economically inactive generally having worse health than average. It is not always clear why this is, however: people may be out of work because of their health; people may also experience poor mental health due to the stress of being out of work [11]. Family members' health can also affect the work patterns of people in Scotland, as people may choose to leave work or be unable to work in order to care for someone else's health.

Given the rise in reported health issues among the Scottish population, it is unsurprising that more people are economically inactive due to health problems.

In Scotland, 40% of the adult population was inactive in 2022, a massive increase compared to 2011, when 28% of the population was inactive. This change is partly due to Scotland's aging population, as census coverage for inactivity includes adults that are older than the traditional retirement age. Unsurprisingly, retirement is therefore the largest driver in the increase in economic inactivity. There were almost half a million more retired people in 2022 compared to 2011; 14% of Scotland's adult population was inactive due to retirement in 2011, this grew to 23% of the adult population in 2022.

Meanwhile, rates of inactivity for other reasons, including ill health and caring responsibilities, stayed roughly the same between 2011 and 2022, at around 5% and 3% of the adult population respectively.

Area deprivation, economic inactivity, and unpaid caring responsibilities



Within deprived areas, rates of inactivity - especially due to ill health and caring responsibilities - were higher than in non-deprived areas in both 2011 and in 2022. The difference in rates of inactivity between these deprivation quintiles also increased over the decade.

Retirement was the most common reason for inactivity across all deprivation quintiles, although people living in deprived areas were the least likely to cite this reason for inactivity. This is probably a reflection of the age mix in deprived areas, where younger people are more likely to live. People living in deprived areas were also less likely to be inactive due to being a student.

People in deprived areas were around 6.5x more likely to be inactive due to a long-term illness or disability compared to people in non-deprived areas in 2011 and in 2022. The gap between the two deprivation quintiles widened over this time: previously, around 8 percentage points separated the rates of inactivity among the populations in these two areas, this grew slightly to 9 percentage points in 2022.

In 2011, the proportion of people providing unpaid care was roughly consistent across Scotland. In 2022, this proportion grew for everyone, although it grew the most among people living in the most deprived areas. Furthermore, in 2022, people in the most deprived areas were about twice as likely to spend more than 50 hours per week on unpaid care compared to the least deprived.

Qualifications

Between 2011 and 2022, the proportion of adults in Scotland that...

- Did not have any educational or professional qualifications **decreased**
- Had a degree level qualification or above **increased**

The gap between adults living in deprived and non-deprived areas...

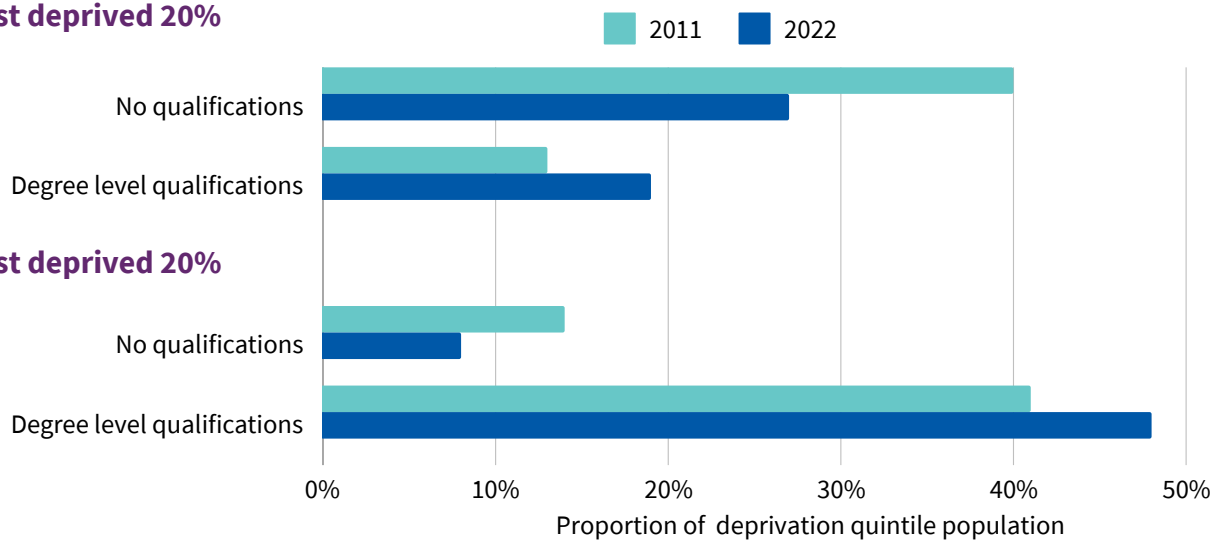
- Without any qualifications **narrowed**
- With degree level qualifications or above **widened**

Higher educational attainment is associated with better health outcomes, so it is encouraging to see that, on average, Scotland had higher rates of qualified adults in 2022 compared to 2011 [11].

In total, the proportion of people over 16 with no qualifications decreased for all of Scotland, and the proportion of people over 16 with degree-level qualifications or above has increased. In 2011, 27% of adults over 16 had no qualifications. In 2022, this dropped to 17%. At the same time, the population with degree-level qualifications or higher increased from 26% to 32%.

Area deprivation and qualifications

Most deprived 20%



Deprived areas saw a tremendous amount of growth in the proportion of the population with qualifications: 40% of people living in deprived areas were unqualified in 2011, compared to 27% in 2022.

Deprived areas still lag behind non-deprived areas with regards to having degree-level qualifications. The proportion of the population in non-deprived areas with degrees grew by 7 percentage points between 2011 and 2022 compared to 5 percentage points in deprived areas.

Housing

Between 2011 and 2022...

- The proportion of people that lived in homes that they owned **stayed the same**
- The proportion of households that were overcrowded **decreased**
- The proportion of people living in private rentals **increased** while social rentals **decreased**

The gap between deprived and non-deprived areas...

- For rates of homeownership **stayed the same**
- For the proportion of households that were overcrowded **narrowed**

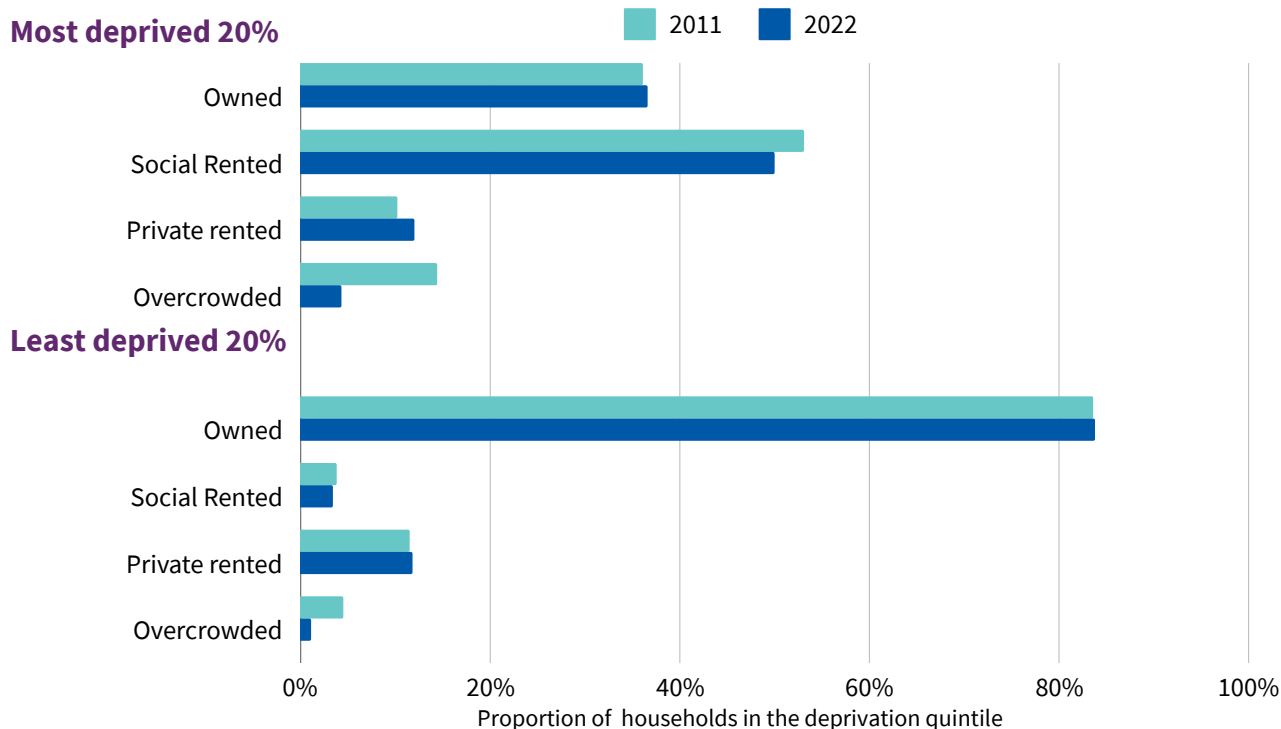
Housing is also associated with better health outcomes. Housing quality can directly impact people's health: things like damp and mould can impact respiratory health and childhood development, for instance. Tenure can also impact health in a variety of ways. For instance, private rentals are often more expensive and lower quality than home ownership and social rentals. Living in a private rental may also contribute to increased stress and anxiety, particularly among low-income families. At the same time, homeownership is often associated with greater financial stability and improved health outcomes [11].

Since 2011, the rates of people living in homes that they owned stayed roughly the same, changing from 64.3% of the population to 64.8% in 2022. At the same time, people were slightly more likely to live in private rentals and slightly less likely to live in social rentals.

On a positive note, Scotland significantly reduced the proportion of households that were overcrowded. Reducing overcrowding is crucial for improving health outcomes, as overcrowded living conditions are associated with higher risks of respiratory diseases, mental health issues, and communicable diseases. Overcrowding can also impact well-being, leading to increased stress, decreased privacy, and a lack of personal space.

It is not clear why the proportion of households that are overcrowded has reduced so dramatically, although it may be due to Scotland's aging population: there has been a significant rise in single person households, especially among people over 50, since 2011, alongside a reduction in the number of children. That said, over 59,000 households in Scotland continue to be overcrowded, 38% of which are in deprived areas.

Area deprivation and housing



Regarding housing tenure, there have been few changes for people living in deprived areas since 2011, although people in deprived areas have a slightly higher rate of living in private rentals and less likely to live in social housing. In 2011, there were 576,400 social households, which was nearly 12,000 more than in 2022. This is in spite of the social housing stock actually increasing over this time period: according to the Scottish Government, in March 2022, there were around 619,600 social dwellings [12].

On a positive note, households in deprived areas had significantly lower rates of overcrowding in 2022 compared to 2011. Around 72,000 households in deprived areas were overcrowded in 2011; this dropped to 22,300 in 2022.

Conclusion

From 2011 to 2022, people living in Scotland reported significantly worse health. Rates of reporting disability - especially due to mental health concerns - skyrocketed during this time. People living in deprived areas are significantly more likely to report health concerns, with gaps in health outcomes between deprived and non-deprived areas growing over the decade.

Alongside this increase in poor health, a number of socioeconomic trends worsened. More people are economically inactive, and rates of economic inactivity due to illness or caring responsibilities have increased, especially in deprived areas, who bear the largest unpaid caring burden. Homeownership rates have not improved, and while rates of degree-level qualifications have grown, growth has been slower in deprived areas.

These health trends are especially concerning for different demographics. People from immigrant and minority ethnic groups are much more likely to live in deprived areas than the general population, yet are largely absent in Scottish health data, meaning that it is difficult for us to understand how health varies for these population groups.

Given these changes, a key question is how they link together. While we can isolate each variable explored in this report based on deprivation in turn, we cannot look at how they interact with each other, gender, age, and deprivation. As a result, there is a limit to what we were able to understand with this report.

Notably, we do not yet know how health outcomes vary for people based on their qualifications, ethnicity, migration status, gender or age. We also do not know how other determinants of health - such as qualifications, employment, or housing - vary based on these characteristics.

However, in the coming months, the census is set to release datasets which combine multiple census variables. This will allow us to expand upon this report, creating a fuller picture of how health and the socioeconomic determinants of health changed over a decade.

Citation

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The Scottish Health Equity Research Unit is supported by the Health Foundation, an independent charitable organisation working to build a healthier UK, as part of its Driving improving health and reducing health inequalities in Scotland programme.

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