NHS Lothian

Director of Public Health Annual Report 2022

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Introduction

Austerity, a pandemic and a cost of living crisis

The Director of Public Health has a responsibility to ensure that the needs of the population are considered regularly as part of local and national policy developments. One of the ways in which this is done is through the production of an annual report that explains who our population are, what affects their health and what the evidence tells us that we should do to improve health outcomes.

It is important that all of us working to improve health understand the issues facing our local population. We want our public health teams locally, and the public and voluntary and community sector partners that we work with, to share our understanding of population health needs and for us all to work together to prevent future ill health and reduce inequalities. Shared understanding of need and what can make a difference is the first step in focusing our efforts on actions that will achieve real change and a positive impact.

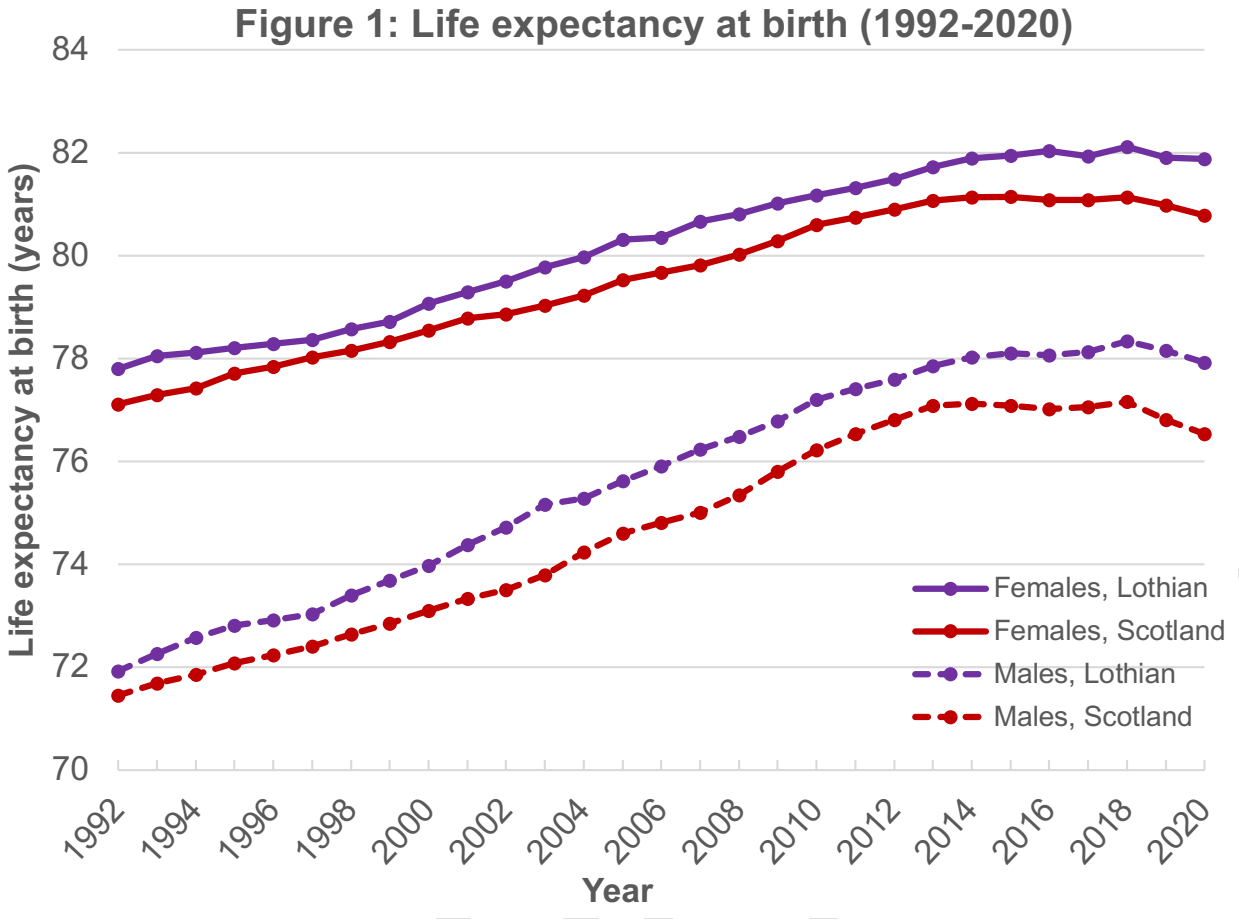
As a Public Health department, our responsibility is to improve and protect the health of everyone living in Lothian. Some people live long, largely healthy lives. But a significant number of people live more difficult lives, have poor health and die younger than they should. We know the things that people need to be healthy: a nurturing, safe, secure childhood, enough money, a decent home, a decent job, a good education and a sense of control and belonging. It is public health specialists' role to recognise what everyone needs for good health and to identify what needs to happen to make a difference for the people whose health is poor.

Unfortunately, the last decade has seen disruption to the lives of people within the UK: the negative impacts of austerity, EU Exit, a pandemic and a cost of living crisis have led to a period of instability and uncertainty for us all. These social and economic trends were evident even before the onset of the COVID-19 pandemic and the associated health impacts have been exacerbated since. These have had a significant impact on people's physical and mental health and these impacts are likely to be seen for some time. There has been a disproportionate impact on those who are socioeconomically disadvantaged and who subsequently bear a higher burden of ill health.

Average life expectancy in Scotland has stalled since 2013,[17] a phenomenon driven mostly by declining life expectancy among the most deprived communities in the country.[21, 22] In Lothian, the trends are broadly similar to what has been happening across Scotland as Figure 1 shows.

Although life expectancy in Lothian is typically slightly above the Scottish average, aggregate figures mask wide inequalities in life expectancy (see Figures 11-14), particularly for males. For instance, in the City of Edinburgh, males living in the most deprived areas live an average of 12 fewer years than those living in the least deprived areas (2016-2020 averages of 71.3 vs 83.1 years respectively).

These outcomes are the result of 'systematic, unfair differences in the health of the population that occur across social classes or population groups'. People from lower socio-economic positions, ethnic minority populations, people living with disabilities, care-experienced people



and other vulnerable populations more commonly experience poor health.[23] The causes of stalling life expectancy have been associated with a number of explanations including a cohort effect relating to drug related deaths, high winter mortality[24] and most compellingly, the impacts of the UK government's austerity programme.[25, 26]

Research highlights that social circumstances rather than behavioural choices are the most influential determinants of health inequalities and are therefore the most promising levers for change. An accumulation of positive and negative effects on health and wellbeing contribute to widening inequalities across the life course.[27] In particular, early years are crucial to health later in life and it is now apparent that adverse childhood experience manifests as multiple negative adult health impacts.[28, 29] The impacts of chronic stress, precipitated by poor quality employment or poverty for example, create many physical and mental health problems. Being homeless also increases the risk of poorer health; during 2021/22, more than 4,200 people in Lothian were assessed as homeless or at risk of homelessness.[30-33] The intersection of different experiences and life circumstances drives inequality and poverty at an individual and population level. This results in differences in individual experiences of, for example, discrimination, prejudice, stigma, low income, and opportunities. We need to move away from perceptions that these circumstances are based on lifestyle choices: they are not and the people most affected have the least control over these circumstances.

COVID-19 pandemic impacts

COVID-19 exacerbated existing health and social inequalities in Lothian and Scotland.[1-4] Those in insecure employment, unable to work from home, experiencing digital exclusion, lacking financial and other resources such as their own transport, were worst equipped to follow isolation and distancing guidelines. In turn this meant they were more exposed to and more susceptible to the negative social and health impacts associated with COVID-19.[5-7] Males, people aged 70 years and older, people working in lower paid jobs [8] and people from some ethnic minority groups are more likely to die from COVID-19 than other population groups.[9-14] The impacts of institutional racism – poorer housing conditions, lower paid jobs, more unemployment – manifest themselves in terms of greater risk from COVID infection and a harder financial and social impact associated with loss of income and unemployment. Crucially, the higher mortality risk for people from ethnic minority groups is not explained by biological differences but social determinants.[2, 9, 10, 15, 16]

National Records of Scotland data indicate that people from the most deprived communities are 2.4 times more likely than the least deprived to die from COVID-19; the size of this gap widened from 2.1 to 2.4 as the pandemic progressed.[18] There is also evidence of longer-term health complications from Long COVID.[19, 20]

This report provides a summary of key demographics of the Lothian population, some key health outcomes and their social determinants. We intend this report to be a useful source of demographic information for public, voluntary and community sector partners in Lothian to shape local policy and service discussions. We have deliberately chosen to focus on inequalities and deprivation at this time as they are the biggest influences on population health. This annual report also has a particular focus on what we can do to reduce inequalities through our immediate response with our partners, to the cost of living crisis and our longer term efforts to improve children's early years and to reduce child poverty as examples of work underway in Lothian to address inequalities and improve population health.

Of course, the work of public health in Lothian spans many more areas of work than we have featured here. We have responsibility for the oversight of significant population health initiatives such as all immunisation programmes, pharmaceutical and dental public health, national screening programmes, delivery of an effective health protection function alongside services such as Healthy Respect, Maternal and Infant Nutrition and Quit Your Way, our smoking cessation service.

There are reports for all of these services available separately.

Those of you that are interested in finding out more about the work of the Public Health Department in Lothian, should visit our webpages at **https://weare.nhslothian.scot/publichealth**.

Dona Milne
Director of Public Health and Health Policy,
NHS Lothian

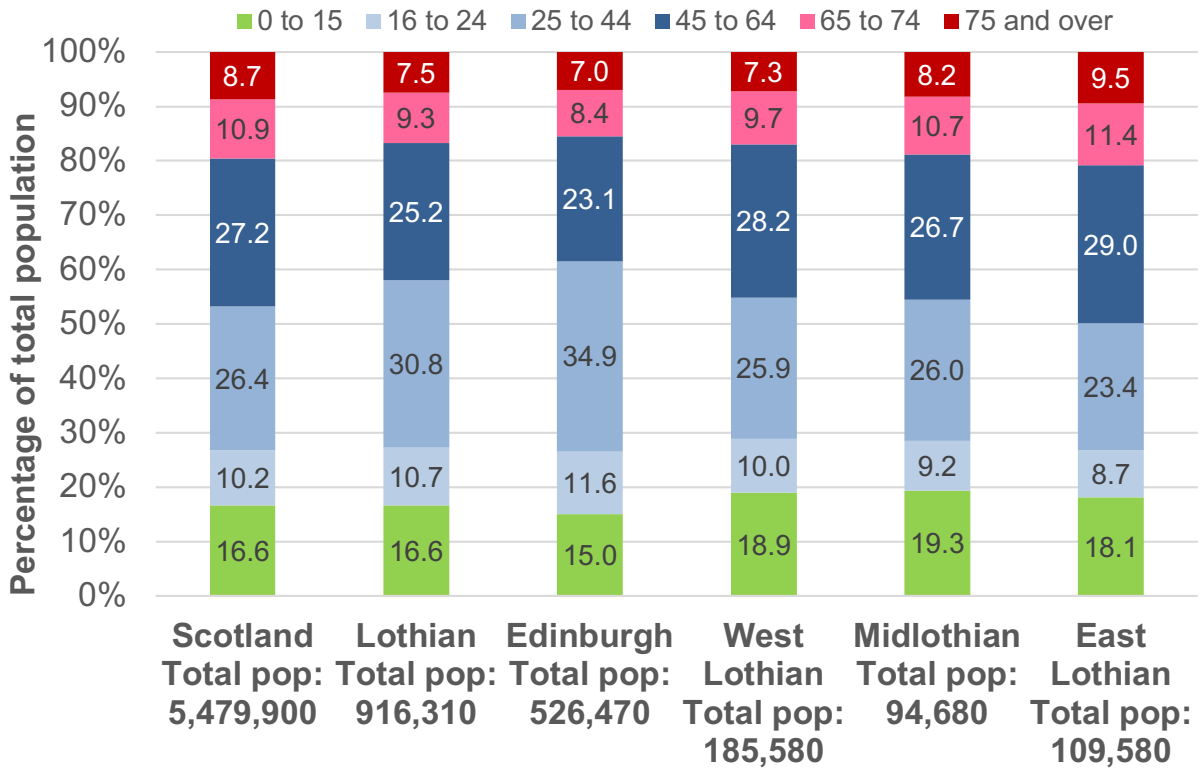
Health and social inequalities in Lothian: understanding the needs of our population

Demography

As of mid-2021, Lothian has a total population of 916,310, representing an increase of around 17.6% since mid-2001.[34] Figure 2 presents a breakdown of Lothian's population by age and local authority.

Lothian has a similar proportion of under 16-year-olds as the rest of Scotland (16.6%), but the population aged 16-64 is slightly larger than seen in Scotland, largely due to the working-age population in and around Edinburgh. The proportion of the population over 64 years old is slightly smaller than seen nationally.

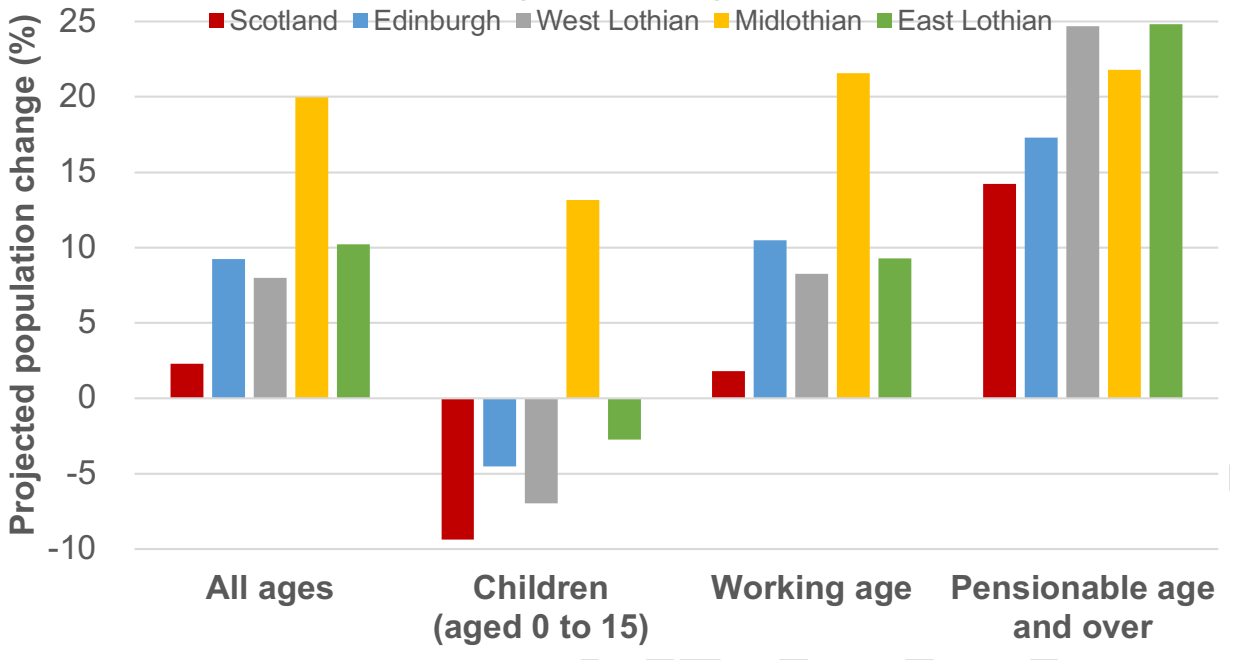
Figure 2: Population age distribution (2021)



National Records of Scotland (NRS) projects that by 2033, the population of Lothian will have risen to 989,285, a rise of 8% compared to 2021.[35] 80% of the population increase in Scotland as a whole between 2021 and 2033 is projected to happen in Lothian. Across Lothian, a small reduction in the under 16 population is projected (-2.8% between 2018 and 2033), with increases in the working age[1] and pensionable age groups of 11.0% and 20.4%, respectively. Figure 3 presents a breakdown of these projected population changes between 2018 and 2023 by age group and local authority.

1. Working age is defined as from the ages of 16 until pensionable age. From 2020, pensionable age will be defined from as 65 years for both men and women. A further rise in pension age to 67 years is expected to take place between 2026 and 2028.

Figure 3: Projected population change, by age (2018-2033)



These projections highlight potential reductions in the under 16 population (owing to reductions in birth rate) for most of Lothian's local authority areas except Midlothian, where the proportion of this age group is expected to rise by 13%. The proportion of the population that is working-age is not expected to rise considerably across Scotland; however, the size of this age group is projected to rise by 11% across Lothian. This reflects migration to the region for study and work, particularly from overseas (NRS projects net migration of 57,379 into Lothian between 2018 and 2028, of which 45,523 are expected from overseas). Across Lothian's local authority areas, increases of at least 17% are projected in the proportion of the population aged 65 and over. These projections highlight ongoing change in the demographic profile of Lothian, and a shift in the ratio of economically active to economically inactive individuals. This will necessitate adaptation of health and social care services and increased focus on the prevention and management of long-term illnesses.

People experiencing deprivation in Lothian

In comparison with the rest of Scotland, Lothian has proportionately fewer areas classified among the most deprived in the country. Around 11% of Lothian's population, just over 100,000 people, live in areas categorised as among the 20% most deprived in Scotland. The greatest number of these areas are located within Edinburgh (approximately 62,000 individuals) but proportionately West Lothian has the highest share of its population (26,500) living in the most deprived communities (14.3%).

Table 1. SIMD 2020 datazones by population share in Lothian (2021)[36]

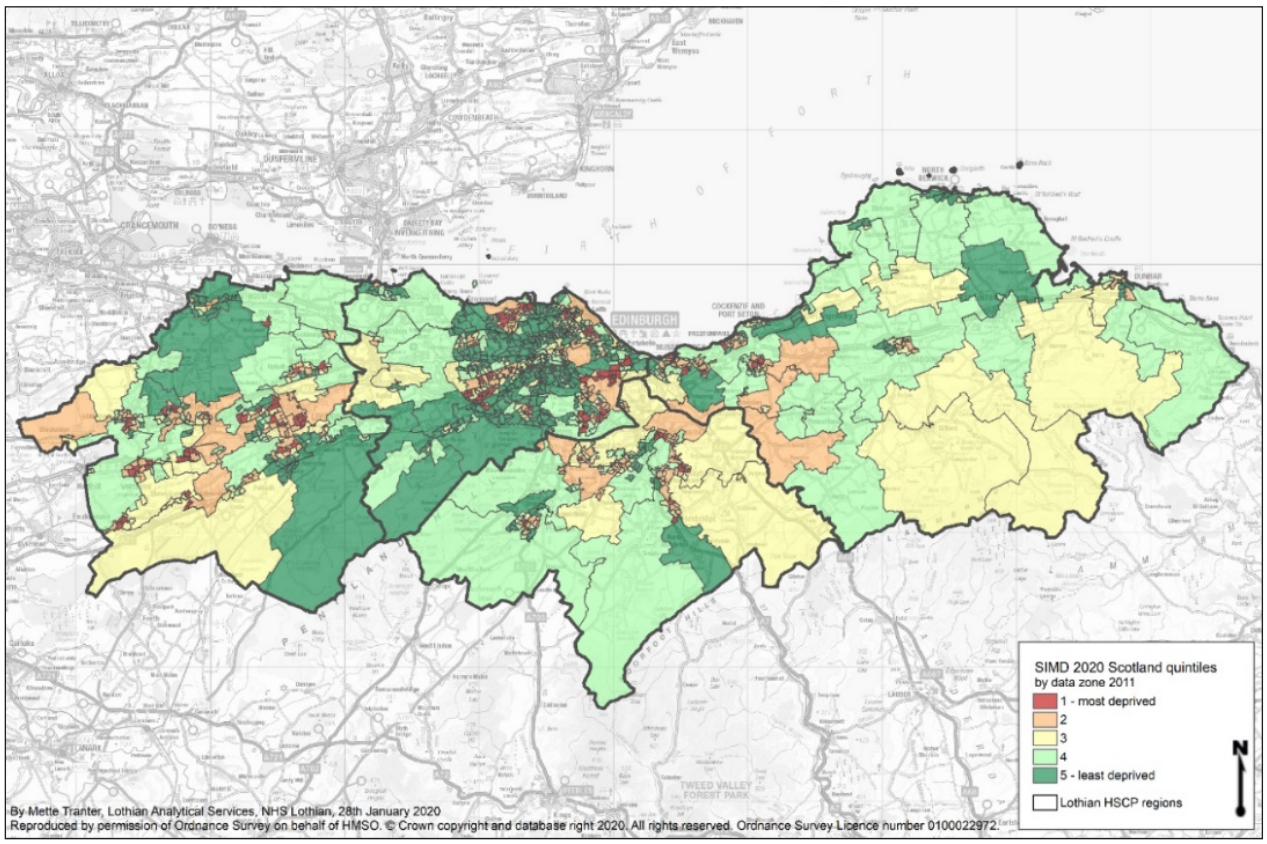
	SIMD 1 (Most Deprived 20% data zones)	SIMD 2	SIMD 3	SIMD 4	SIMD 5 (Least Deprived 20% data zones)
Edinburgh	11.8	14.3	14.3	17.5	42.0
East Lothian	4.8	28.1	22.3	25.5	19.3
Midlothian	7.5	32.8	23.9	21.4	14.4
West Lothian	14.3	27.8	18.9	20.6	18.4
Lothian	**11.0**	**20.6**	**17.2**	**19.5**	**31.7**

Although area-level deprivation is helpful for understanding how concentrations of disadvantage or need can occur, it is important to note that many people experiencing socio economic disadvantage in Lothian live outside areas categorised as the most deprived communities, which are shaded dark red in Figure 4, which maps Scottish Index of Multiple Deprivation (SIMD)[2] in the region.[37]

2. The Scottish Index of Multiple Deprivation is a relative measure of deprivation across 6,976 small areas (called data zones). If an area is identified as 'deprived', this can relate to people having a low income but it can also mean fewer resources or opportunities. SIMD looks at the extent to which an area is deprived across seven domains: income, employment, education, health, access to services, crime and housing. SIMD is an area-based measure of relative deprivation: not every person in a highly deprived area will themselves be experiencing high levels of deprivation.

   SIMD ranks data zones from most deprived (ranked 1) to least deprived (ranked 6,976). People using SIMD will often focus on the data zones below a certain rank, for example, the 5%, 10%, 15% or 20% most deprived data zones in Scotland. Deciles (10%) and quintiles (20%) are common units of analysis. (Scottish Index of Multiple Deprivation 2020 - gov.scot (www.gov.scot))

Figure 4: Scottish Index of Multiple Deprivation 2020 quintiles for Lothian

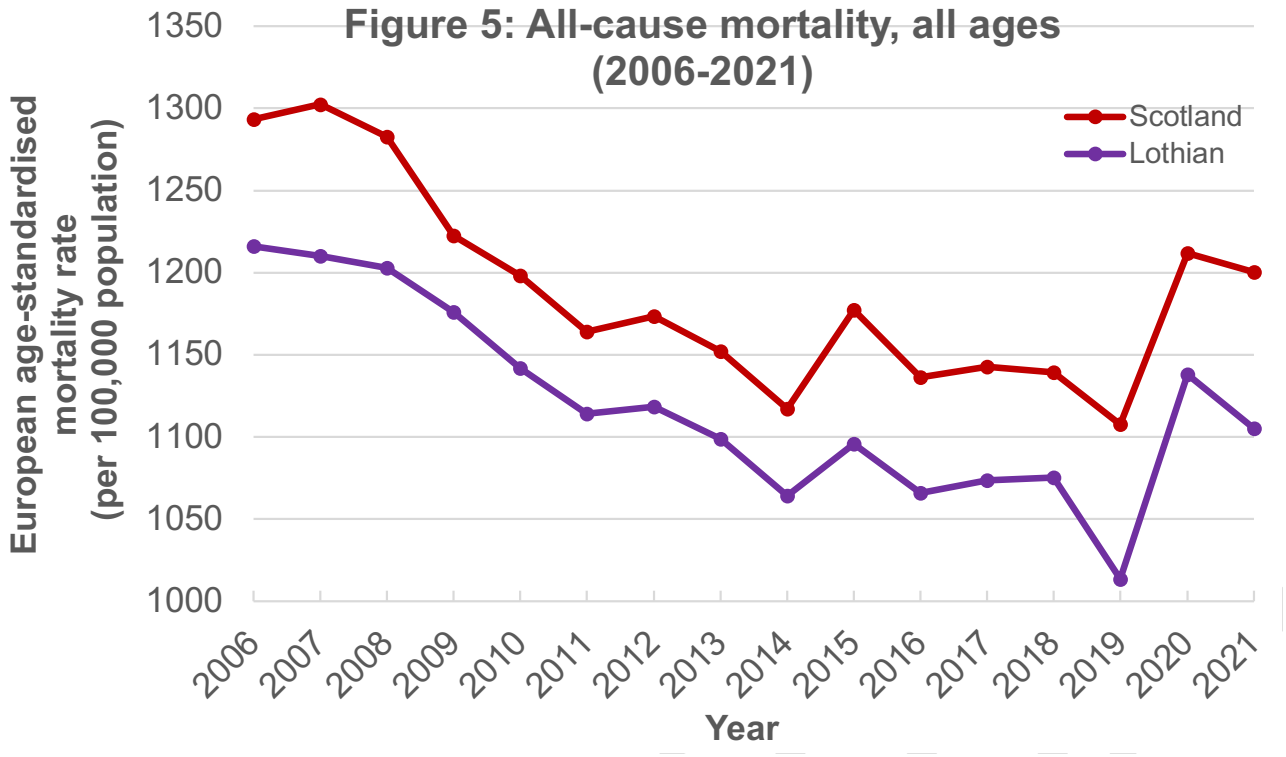


Mortality

In 2021, 8,595 people died in Lothian[38] (there were 8,426 births).[39] Figure 5 shows the age standardised mortality rate for Lothian and its constituent local authority areas between 2006 and 2021. Lothian's all-cause mortality rates are typically around 5-10% lower than national rates. In 2021, Scotland's rate was 1,200 deaths per 100,000, whereas Lothian's was 1,105 deaths per 100,000.

Mirroring the national picture, the all-cause mortality rate in Lothian had seen reductions in the 13 years after 2006. This downward trend was interrupted by a spike in mortality in 2020 across Lothian's constituent areas. This reflects the direct and indirect impacts of the COVID-19 pandemic, and was particularly the case in West Lothian which saw its all-cause mortality rate increase by nearly 20% between 2019 and 2020, potentially reflecting a larger proportion of socioeconomic deprivation in this local authority area.

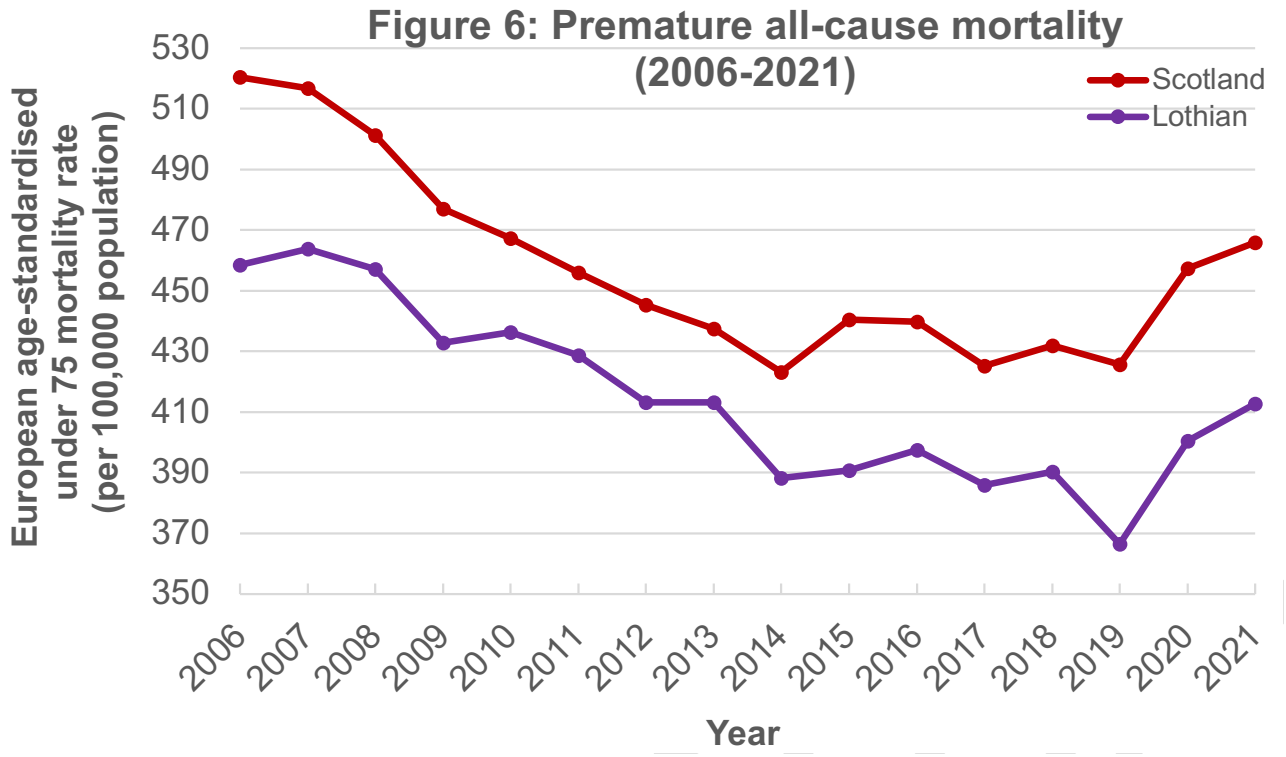
In 2021, the leading causes of death in Scotland were ischaemic heart disease, dementia, COVID-19, lung cancers and cerebrovascular disease (stroke), together accounting for around 40% of all deaths nationally. In Lothian, instances of these common causes of death are approximately equivalent to national rates, or slightly lower, likely reflecting that Lothian's population as a whole is less deprived than the national average.



Premature All-Cause Mortality

Over a third (38%) of the deaths in Lothian in 2021 occurred among those aged under 75 years.[38] Each of the 3,213 deaths in Lothian occurring before the age of 75 constitute early mortalities, reflecting unfulfilled life expectancy. A substantial proportion of these premature mortalities are due to what some authors call 'deaths of despair' (suicide, alcohol- and drug-related mortality) which are heavily patterned by age, sex and socioeconomic status (see below for examples of health outcomes by the Scottish Index of Multiple Deprivation).[24, 40] Males aged 35-54 are, for instance, particularly likely to experience a drug-related death, with 44% of all deaths involving drugs occurring among this group. The number of deaths from such causes has increased sharply in recent years with a 98% increase in drug-related deaths in Lothian since 2014. Lothian recorded 197 drug-related deaths in 2021, its highest ever total.

Figure 6 shows, similarly to overall mortality, that premature mortality rates in Lothian are around 5-10% lower than those observed nationally most likely due to the higher proportion of people in Lothian living in less deprived communities. Also mirroring overall mortality, the early mortality rate reduced in the decade after 2006, but this trend reversed following the onset of the COVID-19 pandemic. In 2020 and 2021 there were a total of 1,565 deaths from COVID-19 in Lothian, of which 24% (381) were amongst those aged under 75.



Morbidity

While mortality data represent a useful objective barometer of population health, the role of public health professionals is to improve and protect the health of Lothian's population in its broadest sense. We want people not just to live longer, but to live longer, healthier lives. Fuller definitions of health go beyond the ultimate endpoint of death and encompass individual's subjective experience, mental health and wellbeing.

> Health is defined by the World Health Organisation as "a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity".

Similarly to the observed stagnation in overall life expectancy, there is evidence that the number of years we live in good health is not improving over time. Figures 7 and 8 below present trends in Scotland's and Lothian's healthy life expectancy[3], for females and males respectively.

3. Healthy life expectancy is estimated by combining objective mortality records with subjective assessments of individuals' self-rated health. Stagnation in healthy life expectancy therefore reflects a combination of stalling life expectancy and reductions in the number of people self-assessing their health as "very good" or "good".

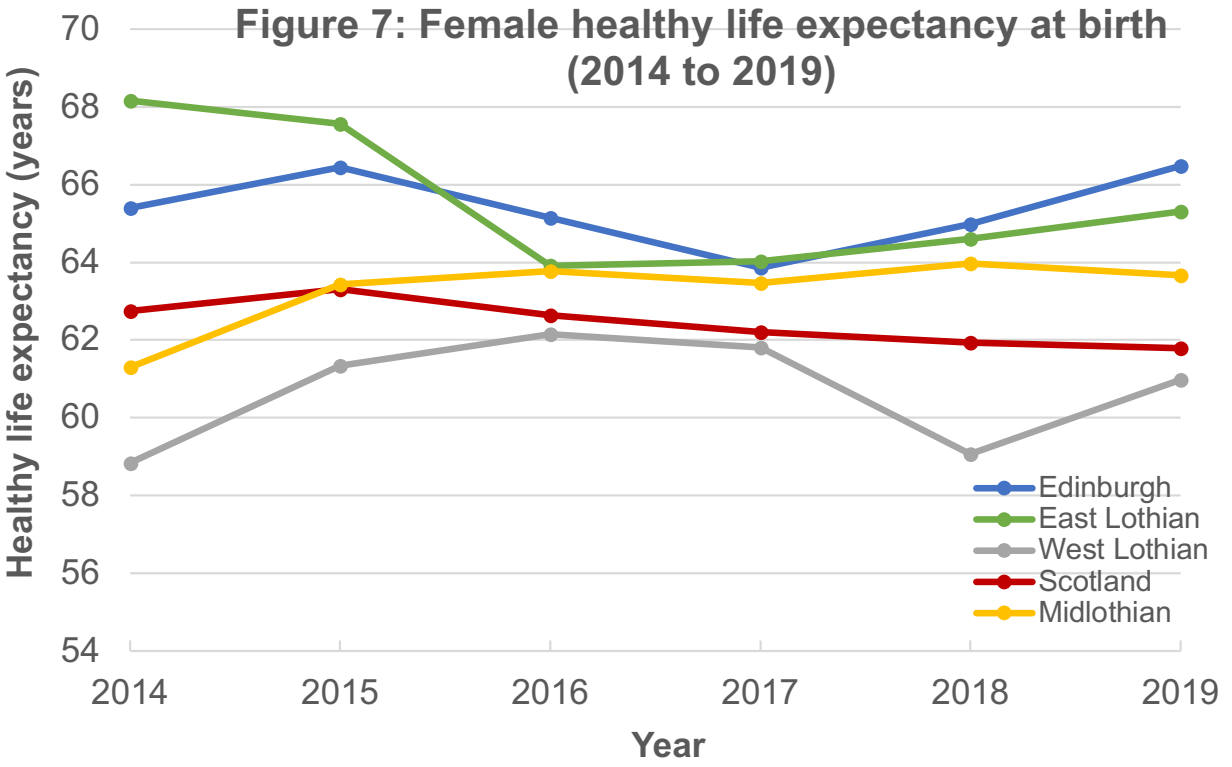


Figure 7: Female healthy life expectancy at birth (2014 to 2019)
Healthy life expectancy (years)
70
68
66
64
62
60
58
56
54
2014
2015
2016
2017
2018
2019
Year
Edinburgh
East Lothian
West Lothian
Scotland
Midlothian

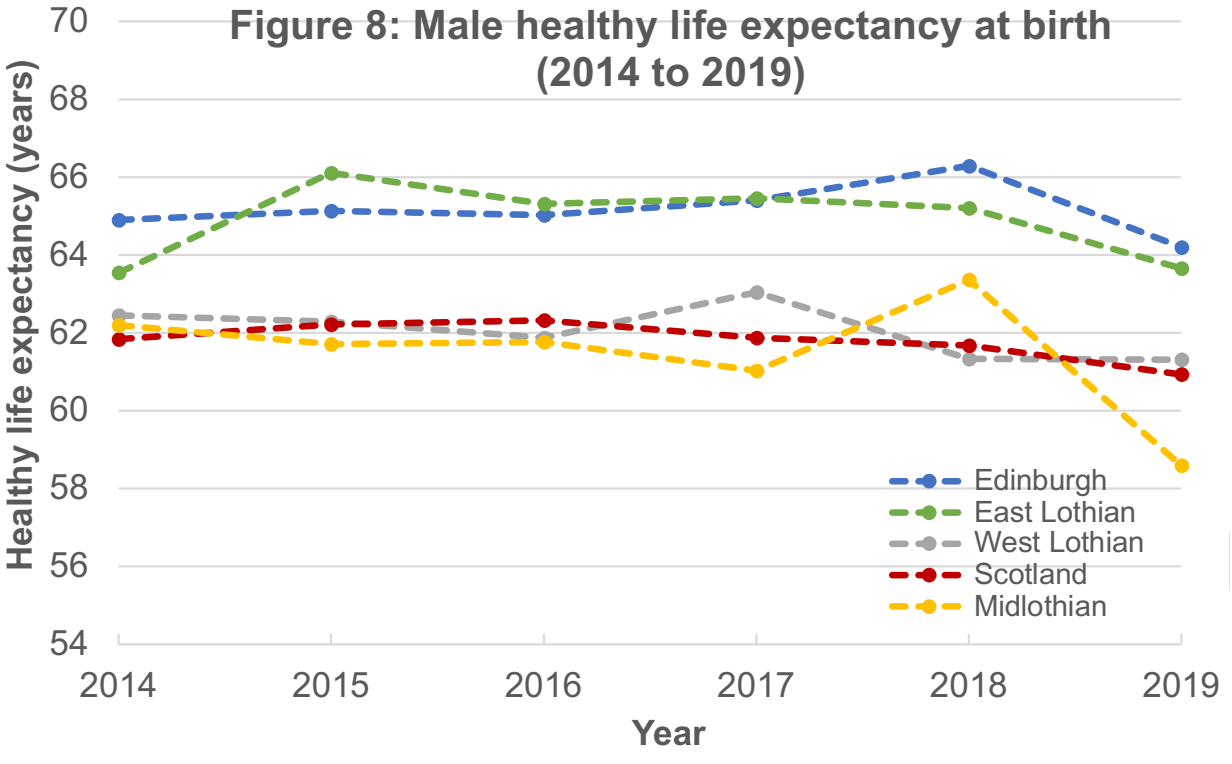
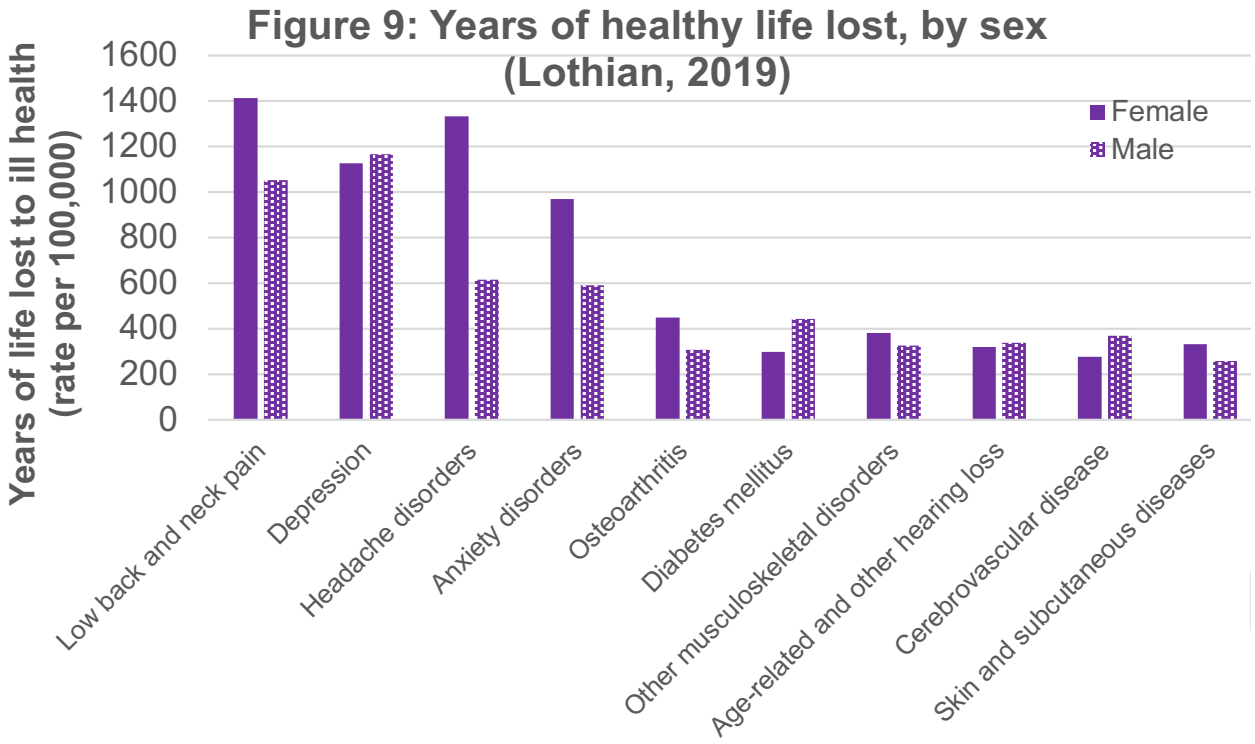


Figure 8: Male healthy life expectancy at birth (2014 to 2019)
Healthy life expectancy (years)
70
68
66
64
62
60
58
56
54
2014
2015
2016
2017
2018
2019
Year
Edinburgh
East Lothian
West Lothian
Scotland
Midlothian

Figure 9 shows the rate of healthy years of life lost to illness[4] for the top 10 causes in Lothian in 2019, by sex.[41] While males typically have lower life expectancy and higher mortality rates, Figure 9 also demonstrates that females have a higher burden for many of the leading causes of ill health. This is particularly true for headache disorders and anxiety disorders, where females' rate of years lost to ill health is over double that experienced by males. Males have a higher burden for relatively few of the top causes of ill-health, with the most notable exception being for diabetes where males' rate of years lost to ill health is around 1.5 times that experienced by females.



The total burden of illness increases with age, and the nature of ill health changes qualitatively throughout the life course. In Lothian in 2019, the estimated total amount of healthy years of life lost for those under 15 is a rate of 2,805 years per 100,000. This increases around ten times among those aged 85 and older (24,253 years of healthy life lost per 100,000). Figures 10a and 10b present data on healthy years of life lost, presenting the top five causes within each age and sex group for Lothian in 2019. The figures highlight a high and persistent burden of mental health disorders (depression, anxiety disorders) from a relatively early age in both males and females. Indeed, collectively, mental health disorders were estimated to be responsible for over 19,431 years of healthy life lost in Lothian in 2019, around 20% of the total burden of ill health.

The figures also highlight a gendered burden of ill health due to drug use for males between the ages of 15-44, which is not captured fully within drug-related death statistics.

4. (YLDs: years lost to disability)

Figure 10a: Years of healthy life lost, top causes by age (Lothian females, 2019)

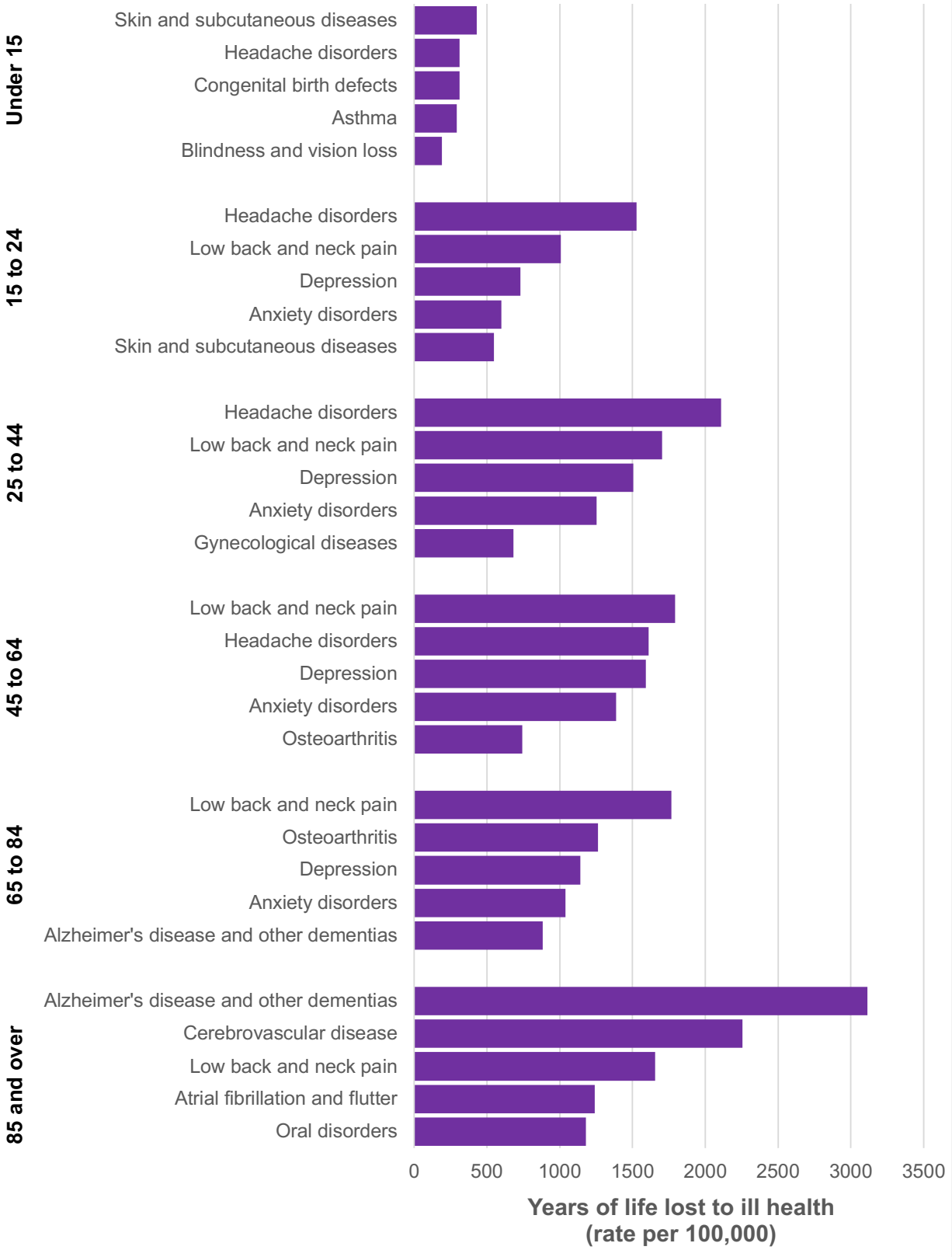
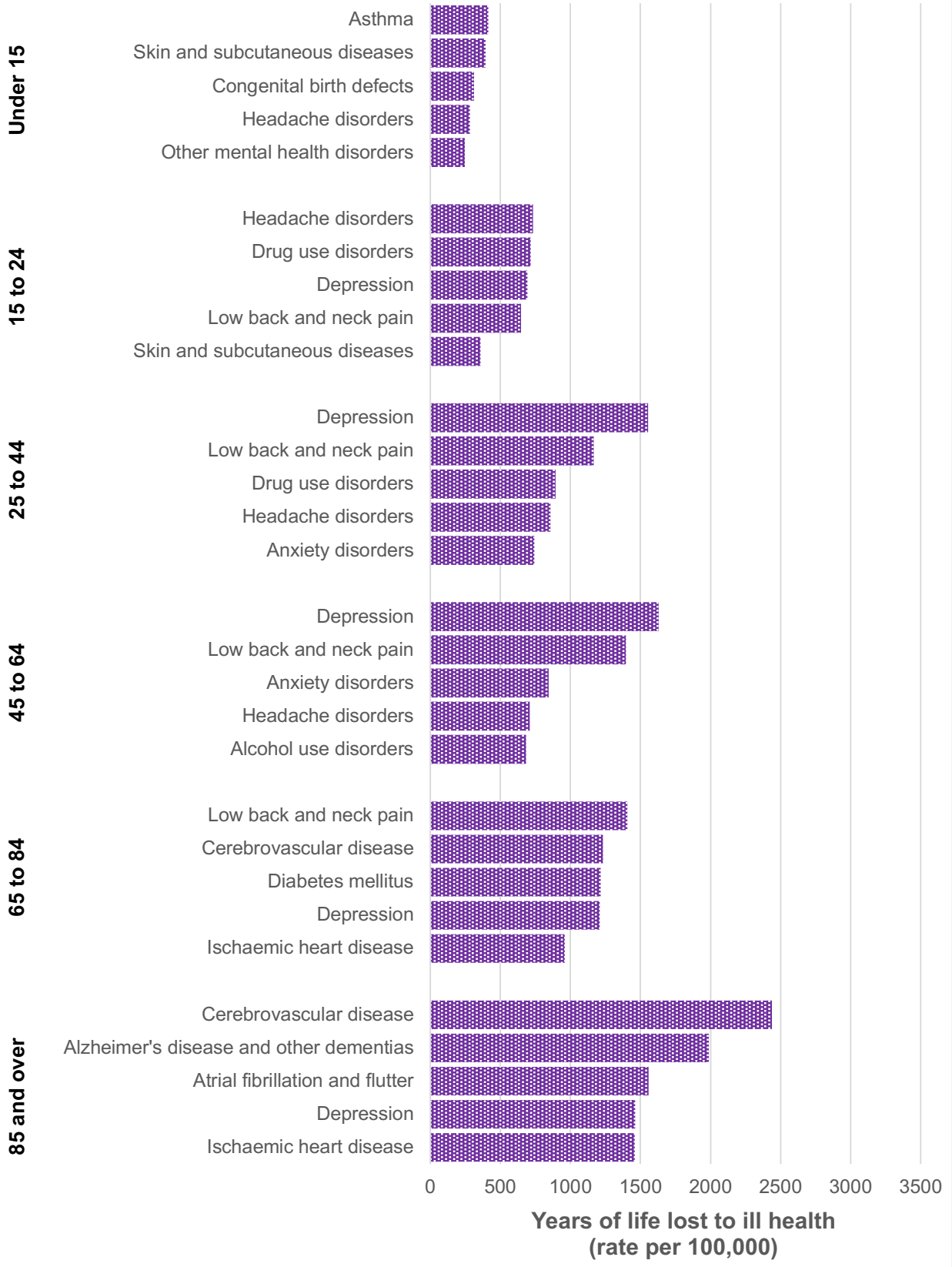


Figure 10b: Years of healthy life lost, top causes by age (Lothian males, 2019)



Inequalities in mortality and morbidity

The above aggregate figures mask significant socioeconomic inequalities in mortality and morbidity. A wide range of health outcomes are patterned by socioeconomic status, with people living in more deprived communities consistently experiencing worse outcomes than those living in less deprived areas, for practically any conceivable health-related outcome. Figures 11-14 below present examples of these outcomes by deprivation quintile. Figures 12 and 13 highlight particularly steep inequalities in premature mortalities, with premature deaths in those aged 15-44 being 4.5 times more likely in the most deprived areas compared to the least deprived.

Figure 14 highlights that steep inequalities in health-related outcomes are evident from as early as infants' 27-30 month review. Concerns raised in the development of speech, language and communication skills reiterates that socioeconomic disadvantage can precipitate impairment in the skills that young people need to thrive socially, professionally, and academically, reinforcing cycles of deprivation.

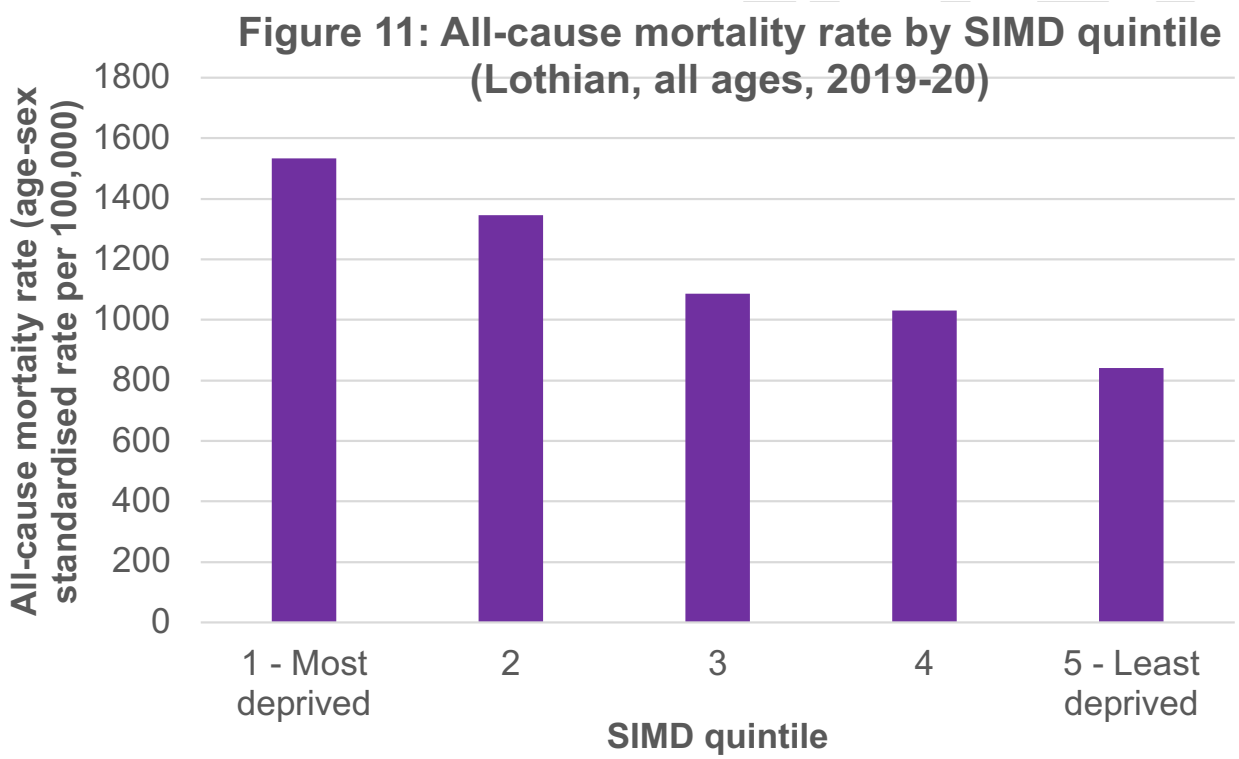


Figure 12: Deaths, aged 15-44 years, by SIMD quintile (Lothian, 2019-20)

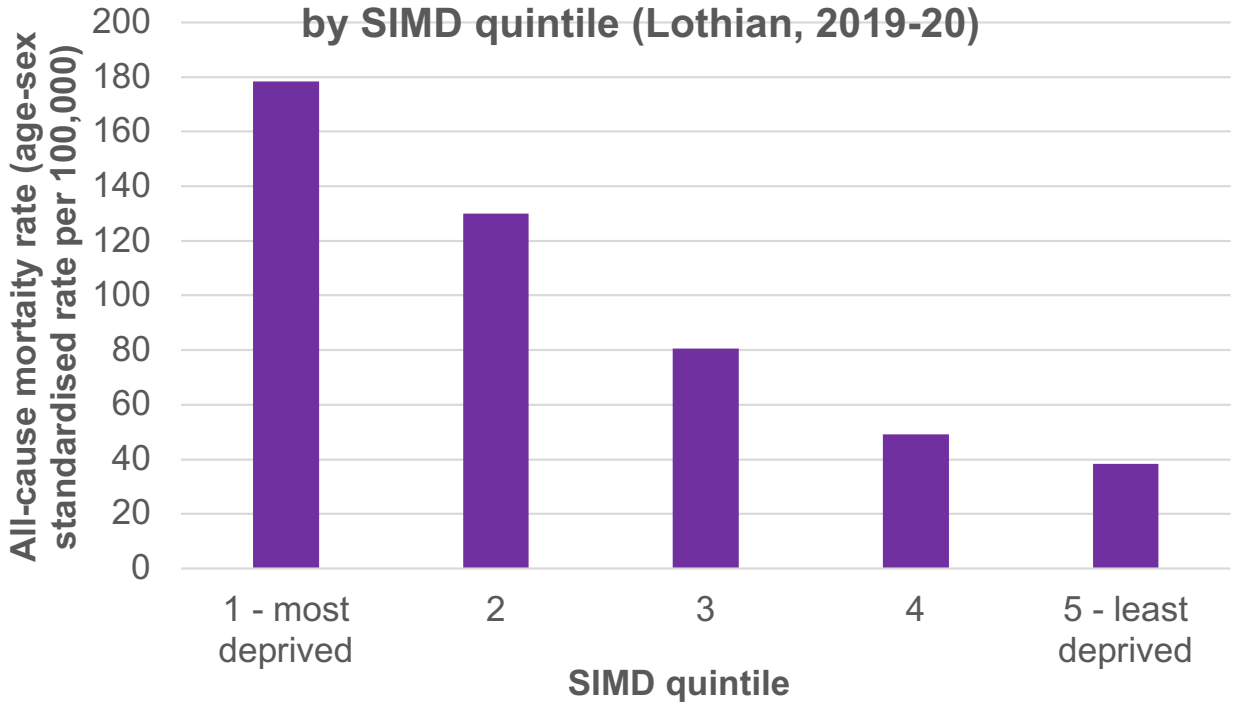


Figure 13: Early deaths from cancer (under 75 years), by SIMD quintile (Lothian, 2018-20)

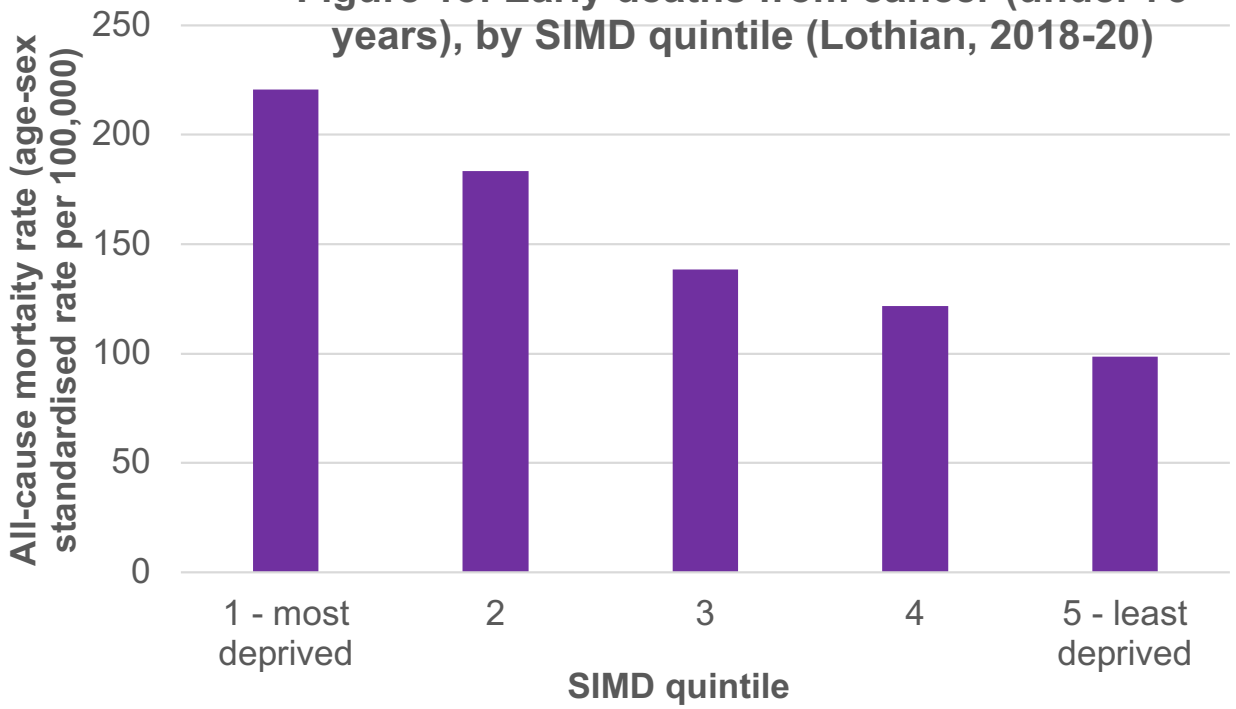
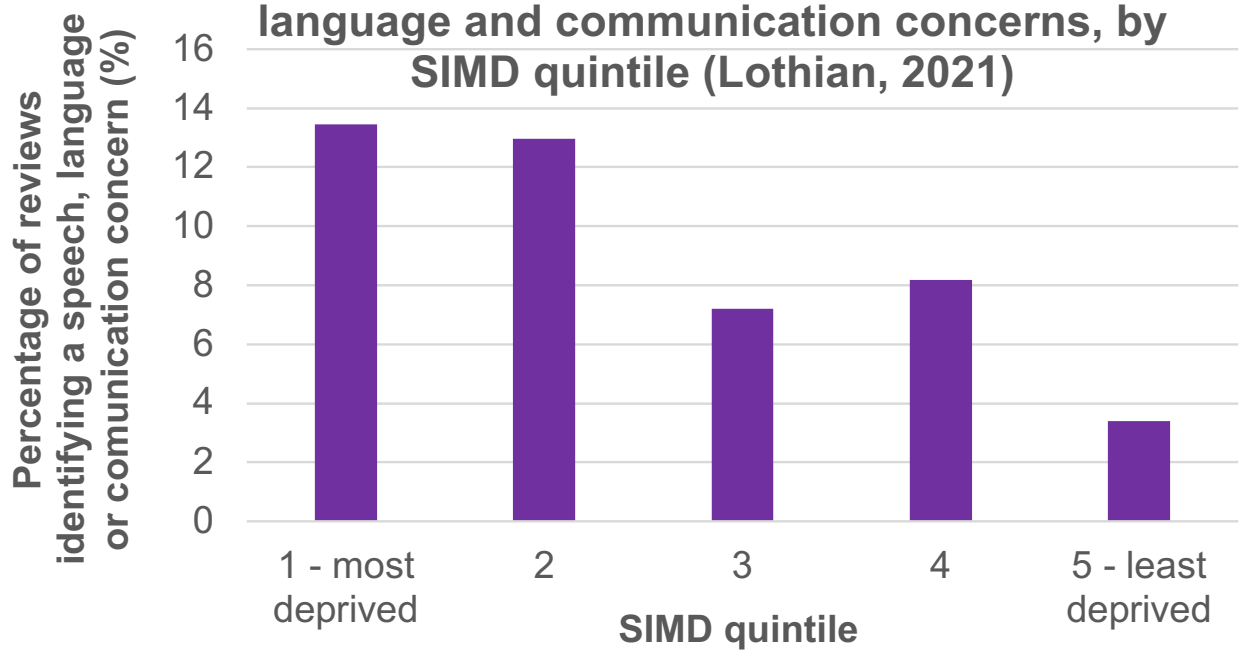


Figure 14: 27-30 Month Review: Speech, language and communication concerns, by SIMD quintile (Lothian, 2021)



The role of public health partnerships in improving population health and reducing inequalities

The impacts of austerity, the COVID-19 pandemic and the cost of living crisis have made life even more difficult for many people and has reinforced the need to challenge existing inequalities. The pandemic highlighted the continued risks from infectious and communicable diseases. A strong, co-ordinated response to new or emerging diseases is essential. The design and delivery of health and care – and other public services – should reflect levels of need in populations and should be focused on improving the health of the most disadvantaged groups as well as reducing the entire social gradient of health outcomes across the population.[42] There is a large body of evidence that shows that allocation of resources is not always determined by population health need.[43, 44]

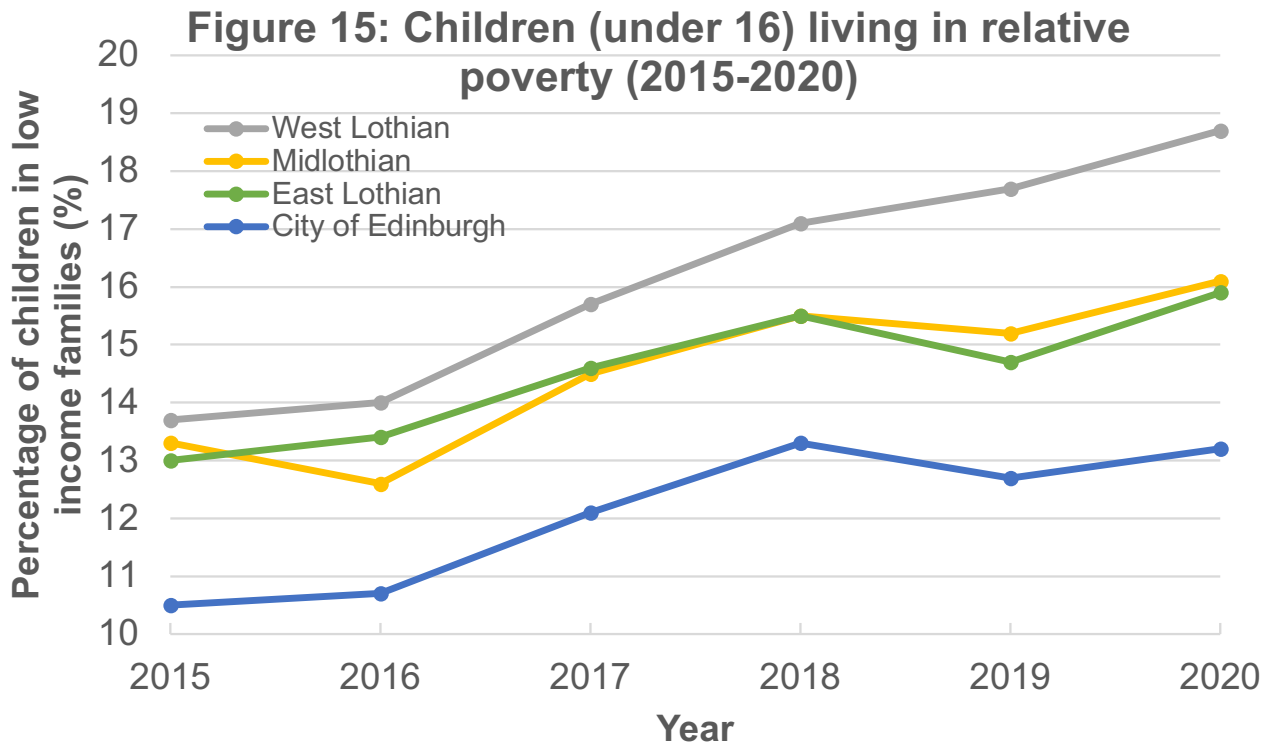
But population health improvement and measures to reduce inequalities is a task extending beyond the public health department and the wider NHS – it requires coordination of effort across the public and voluntary and community sectors. The fundamental causes of health inequalities such as power and wealth affect the distribution of wider environmental influences such as the availability of jobs, good quality housing, education and learning opportunities, access to services and social status.[45] But it is necessary to tackle social causes of ill health such as low income, homelessness, poor housing, in-work poverty, unemployment, worklessness, and poor education to improve overall health and, especially, to tackle health inequalities. The old adage that prevention is better than cure still holds true.

> "Why treat people and send them back to the conditions that made them sick?"
>
> **Michael Marmot, The Health Gap (2015)**

Public, community and voluntary sector agencies must work closely with local communities to focus on these determinants to improve health. And during an ongoing period of social, economic and political change, there are some issues that present an urgent challenge. Work with our community planning partners must focus on short-term mitigation of the cost of living and child poverty crises while also focusing on preventative policy solutions that have greatest potential to change longer-term trends in health inequalities. The rest of this report focuses on actions that need to be taken by all of us to tackle the cost of living crisis and work we can do to support children and young people in Lothian facing some of the most severe challenges.

Cost of living crisis: a partnership response

The last fifteen years have seen a series of economic shocks as well as a pandemic and now a cost of living crisis; each of these have caused stresses to the labour market and the housing market as well as individuals' resilience. Cumulatively, the impacts on health have been devastating. As poverty levels in Scotland – and in Lothian – have increased in recent years so too health inequalities have increased. At least 13% of children in Lothian now live in relative poverty, rising to nearly one in five in West Lothian (Figure 15).[5] The most disadvantaged people are those who have experienced the worst outcomes. Research into the causes of health inequalities highlights many contributory factors. But having enough money, good quality affordable housing and secure, fairly-paid jobs are the foundations of good health; without these, people's ability to live a long and healthy life will continue to decline.



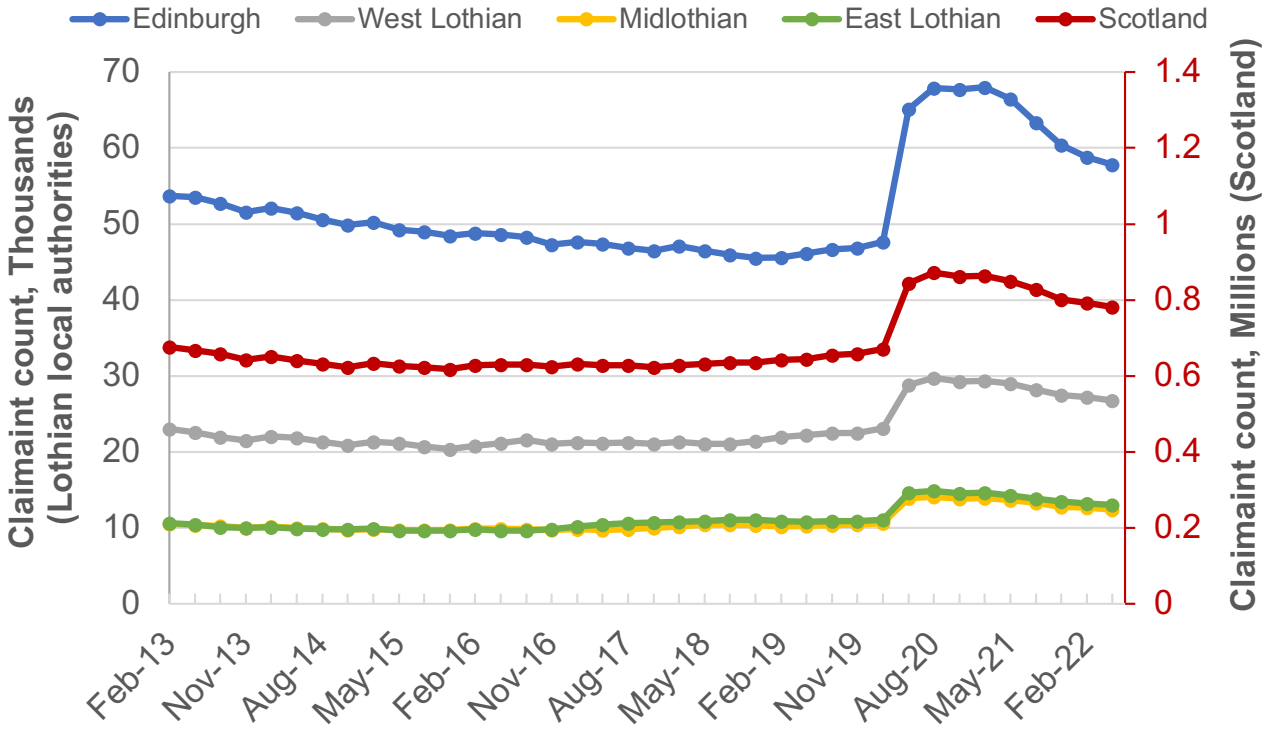
Background

Work by the Poverty Commissions in East Lothian and Edinburgh has highlighted the extent of poverty in each area. More recently, anti-poverty groups in each Community Planning Partnership have championed actions to counter the impacts of poverty. The pandemic and the cost of living crisis are notable for the greater proportion of the population affected by

5 Relative low income is defined as a family in low income Before Housing Costs (BHC) in the reference year. A family must have claimed Child Benefit and at least one other household benefit (Universal Credit, tax credits, or Housing Benefit) at any point in the year to be classed as low income in these statistics. NB Figure 15 omits provisional data from 2021. Given that housing costs are a substantial and growing contribution to household expenditure, it is important, where possible, to consider estimates of child poverty after housing costs. The University of Loughborough's estimates of child poverty rates after housing costs in 2019/20 are around 10% higher than the equivalent estimates before housing costs (West Lothian: 25%, East Lothian: 25% , Midlothian: 24%, City of Edinburgh: 20%) - https://www.jrf.org.uk/data/child-poverty-rates-local-authority.

daily and weekly struggles to pay bills and provide food. Community resilience was tested throughout the pandemic and the cost of living crisis is another major threat to population health. The increase in emergency Scottish Welfare Fund payments and the ongoing demand for food banks were other manifestations of extreme poverty.

Figure 16: Working age benefit claimants (Feb 2013-May 2022)



The number of people experiencing in-work poverty has increased even since the height of the pandemic. By October 2022 the number of people in Lothian claiming Universal Credit while working has more than doubled since February 2020 from 11,320 to 26,462. This increase in claims has been happening at the same time as the unemployment rate has declined, inflation has been rising and job vacancies are high. Figure 16 shows that the number of working-age benefit claimants increased by at least 25% in each of Lothian's council areas between February and May 2020. These increases reached as high as a 43% increase (in City of Edinburgh) relative to levels immediately prior to the pandemic and as of May 2022 had not returned to pre-pandemic levels (remaining at least 16% higher than levels in February 2020).

What does a public health partnership response look like?

There is consistent evidence that shows the relationship between lower income and poor health outcomes.[46] Although cash transfers do not address the range of economic factors that contribute to people's levels of income inequality, immediate assistance is an effective way to help people in greatest need. This does not prevent long-term poverty but it mitigates against the worst outcomes.

Most British anti-poverty groups are now supportive of direct payments and measures that increase the amount of money in people's pockets rather than alternative ways of providing cash. In recent years, research has highlighted that conditional and unconditional cash transfers are effective ways of providing control and ownership for recipients of funds to determine their own essential spending.[47, 48] The moral economy of social security has in the past framed poor people as undeserving and careless with money resulting in high levels of stigma being experienced by those most in need. But there is minimal evidence that people choose to spend their money on luxuries instead of essentials and we should stop treating people in this way as it is discriminatory, unfair and unwarranted. In Scotland, existing systems such as The Scottish Welfare Fund or Child Poverty Payment have provided effective channels for getting money to people in greatest need during lockdown. Cash payments also avoid the stigma associated with other forms of welfare support.

Welfare advice, debt advice, support for social security claims and income maximisation are all important forms of short-term support. The immediate purpose of these types of intervention is basic survival. More preventative work – budgeting, support around employment and education and so on - is important to help people once basic needs have been secured and must be part of our anti-poverty strategies. But meeting basic needs is now a priority during this cost of living crisis. So, we need to do both.

The expertise around income maximisation exists in specialist teams based in local authorities, the Department of Work and Pensions, Social Security Scotland and the voluntary and community sectors[6]. These teams can provide full support for their clients and link them to other forms of support such as food banks or pantries and advice about housing, childcare and employment and training. Our Public Health Partnership and Place teams are supporting statutory and voluntary and community sector colleagues to deliver these services by providing some funding, supporting training programmes and contributing to wider anti-poverty work of which income maximisation is a core activity.

NHS Lothian has also secured five years of funding from the NHS Lothian Charity for income maximisation services based in six hospitals across the region. Our services will operate at the Western General Hospital, Royal Infirmary of Edinburgh and Royal Hospital for Children and Young People, an expansion of the service at St John's Hospital and new services at Midlothian Community Hospital and East Lothian Community Hospital.

These services are delivered by voluntary and community sector partners due to the expertise they have to support our patients and their families and carers. Hospital Income Maximisation can also have benefits for patient care by releasing trained clinical staff to do vital patient care. There is evidence that welfare issues contribute to delayed discharges. For patients, financial stress may increase recovery time and may be the root cause of readmission to hospital.

Hospital Income Maximisation services puts money in people's pockets

- At our adult hospitals in Edinburgh during 2020-21, each contact identified entitlement to an extra £1,800 per person
- £1,600 per contact was achieved for people accessing the service at The Royal Hospital for Children and Young People.

NHS Lothian Charity

6 For example, Citizens Advice Edinburgh, Citizens Advice West Lothian, Penicuik Citizens Advice, Musselburgh Citizens Advice, Haddington Citizens Advice, Granton Information Centre

Child poverty and early years

Since the Fair Society Healthy Lives, Marmot Review in 2010, health inequalities research in the UK has consistently emphasised that cognitive, social and emotional development in the early years is a priority for public health. The reasons why are straightforward:

> "Such is the strength of evidence linking experiences in the early years to later health outcomes that this was the priority area for the 2010 Marmot Review, for three main reasons. Firstly, inequalities in the early years have lifelong impacts, secondly, it is the period of life when interventions to disrupt inequalities are most effective, and thirdly and related to the first two points, interventions in the early years have been shown to be cost-effective and to yield significant returns on investment."

It has also become evident that adverse childhood experiences play a major constraining role in shaping adults' abilities to cope with later life. Early life trauma is increasingly recognised as a factor in adverse outcomes in adulthood. Care experienced children in particular are among the most vulnerable of all our populations.[49] Getting childhood right means better lives for everyone.

Background

One of the more troubling trends of the early twenty first century has been data showing decline in indicators of health and growing health inequalities among children. Since 2000, we have seen

- an increase in mental health concerns for children[50]
- increasing inequalities in child overweight and obesity[51]
- low child physical activity rates[52]
- increasing mortality rates and still birth in the most deprived communities[53]
- poor health outcomes for mothers and babies from ethnic minority communities;[54] and
- evidence that social deprivation is affecting babies' speech and language development systematically by 30 months (see Figure 14).[55]

Although COVID-19 did not affect children directly to the extent of older population groups there is emerging evidence of longer-term impacts associated with lockdown and mitigation necessitated by the pandemic.

Furthermore, austerity and the cost of living crisis mean that there have been increases in the number of households across Scotland and Lothian where children experience poverty (see Figure 15).

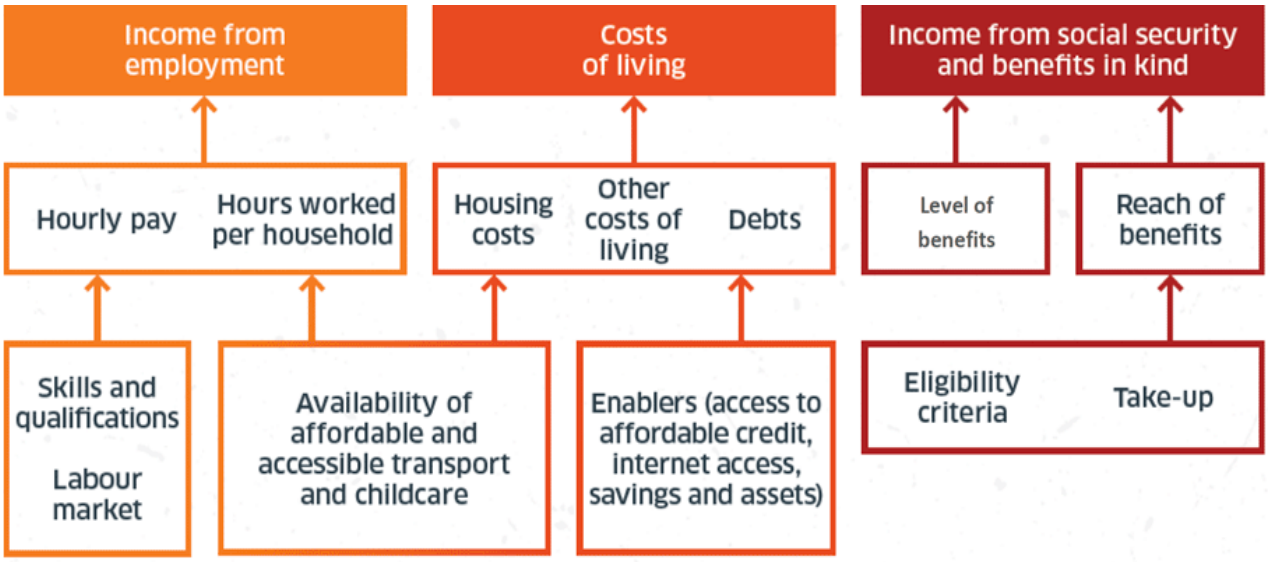
What does a public health partnership response look like?

Public Health teams support work in Children's Partnerships alongside NHS, local authority and Voluntary and community sector colleagues to ensure that children across Lothian are given the best start in life. In particular, teams work to support initiatives focusing on reducing child poverty, improving early years linguistic, cognitive, physical and emotional outcomes, building children's confidence and wellbeing, investing in maternity services, early years education (including parenting) and delivering the commitment encapsulated by The Promise to all children who have experience with the care sector.

Child poverty

NHS Lothian's child poverty work is part of a wider commitment to tackling inequalities and the effects of poverty with partners. The Child Poverty (Scotland) Act 2017 requires each local authority and NHS Board partnership in Scotland to produce annual Local Child Poverty Action Reports. The legislation includes targets for reducing child poverty. Work across Scotland should focus on three key drivers of poverty: income from employment, costs of living, and income from social security and benefits in kind as illustrated in the diagram below.

Figure 17: Drivers of Child Poverty (The Scottish Government)



Partners in Lothian have committed to a series of poverty focused measures to support families in the region. Public Health teams are working with the NHS and local partners to support a more consistent approach to delivery of these actions in each Lothian local authority area:

- Strengthening financial wellbeing pathways across midwifery, health visiting and Family Nurse Partnership services to increase identification of, and support to, those most in need
- Reviewing current provision of income maximisation services to inform future provision, strengthen communication to front-line staff and service users, and improve reach and impact of income maximisation service provision, including in community health settings

- Ensuring NHS/HSCP staff and services have the knowledge and skills to support increased take-up of both Social Security Scotland's package of five family benefits and Early Learning and Childcare places for eligible two-year-olds.

Early Years

NHS Lothian's Maternal and Infant Nutrition Service is based in Public Health. This allows our teams to link more effectively with midwives and health visitors to deliver the preventative approach that underpins the universal health visiting pathway. The team provides expert advice and support for preconception and early pregnancy health, breastfeeding (including support for UNICEF Baby Friendly accreditation) and infant nutrition. The HENRY (Health, Exercise, Nutrition for the Really Young) training programme to increase staff knowledge, confidence and skills has been shared with community learning and development, education, children and family centres, health visiting teams, and community-based food projects through 2021 and 2022 as an aid to support early intervention and prevention of childhood obesity.

No Wrong Door

Public Health teams are working with Children's Partnerships to expand the No Wrong Door Approach. This approach is based on a single point of access which simplifies the referral process for support for children and young people with mental health and wellbeing related needs and ensures that they are being matched with the most appropriate service for them. The approach ensures that children and young people are able to access the right support, at the right time, and in the right place, be that through universal services such as school nursing or youth work, community health or voluntary and community sector services, or where more specialist input may be required.

Conclusion

The importance of acting on common partnership goals

The lives of Lothian's population are being cut short, with some dying over a decade earlier than others, owing to the circumstances in which they live.

We can, and must, create a society where everybody has an opportunity to thrive by making sure the necessary building blocks for health are in place. More than ever, it is important that people have jobs that are secure and rewarding, an affordable, comfortable home, a nurturing upbringing and a good education, as these elements set the foundation for good health outcomes.

NHS Lothian is working closely with local communities and the voluntary and community sector to ensure that more people have these building blocks, and we are doing so with a focus on early years, child poverty and the cost of living. We are using our role as an Anchor organisation to reduce inequalities through ensuring all our contractors pay the living wage, that we provide local employment opportunities, that we procure local services and use our land and estates well for the common good.

Local partnerships can address local population health needs through combining our efforts across the public and voluntary and community sectors and beyond to invest in local areas, but we also need Scottish and UK Governments to address the factors that are outwith our control. We need to see rates of benefits maintained to cope with increased inflation to protect and increase incomes for low income households. We would like to see the real living wage and the minimum wage uprated for those under the age of 22 to ensure that younger adults receive equal pay for equal work. And we would like to see wellbeing prioritised in national and local economic policies and strategies.

Improving and protecting the health of the people of Lothian

The Role of the Public Health Department in Lothian

Approximately 200 people are employed in the department. We operate four divisions as illustrated below. We provide specialist advice and leadership to NHS Lothian, the four Lothian local authorities and the voluntary and community sector to shape services and create healthy communities for everyone.

- **Health Care Public Health**

  The Health Care Public Health team provide:
  > Leadership and oversight across the pathways of the six National Screening Programmes (breast cancer, bowel cancer, cervical cancer, diabetic eye screening, abdominal aortic aneurysm, pregnancy and new-born)
  > Dental Public Health expertise to assess and improve the oral health needs of the population
  > Strategic leadership and assurance for Immunisation Programmes
  > Professional expertise on pharmaceutical public health

- **Business and Administration**

  The Business and Administration team provide flexible administrative and clerical support across the Department. They play a critical governance role ensuring that the Department has robust processes and business procedures to meet strategic and operational objectives and priorities. The team also monitor and track workforce performance.

- **Health Protection**

  The Health Protection team work to protect the health of the local population from communicable and infectious diseases and environmental hazards. The team provides specialist public health advice, direction and operational support to NHS Lothian, local authorities and other agencies.

- **Population Health**

  The Population Health division includes:
  > Partnership and Place teams for each of Lothian's four local authority areas focusing on tackling inequalities and improving population health

  Other population health functions cover the whole of Lothian:
  > a Public Health Intelligence Team providing high-quality, rigorous evidence and data for public health strategy and policy
  > Maternal and Children's Public Health, including the Maternal and Infant Nutrition team and Child Health Commissioner.
  > a Sexual Health Improvement team (Healthy Respect) and
  > a Tobacco Control team which includes NHS Lothian's Quit Your Way smoking cessation service.

- **Board wide hosted programmes**

  Public Health and Health Policy hosts three services that deliver Board-wide remits: (i) Resilience (ii) Equalities and Human Rights, and (iii) Safe Haven.

References

1. Marmot, M. and J. Allen, COVID-19: exposing and amplifying inequalities. Journal of Epidemiology and Community Health, 2020. 74(9): p. 681-682.
2. Marmot, M., et al., Build Back Fairer: The COVID-19 Marmot Review. The Pandemic, Socioeconomic and Health Inequalities in England. 2020, Institute of Health Equity: London.
3. Woodward, M., S.A.E. Peters, and K. Harris, Social deprivation as a risk factor for COVID-19 mortality among women and men in the UK Biobank: nature of risk and context suggests that social interventions are essential to mitigate the effects of future pandemics. Journal of Epidemiology and Community Health, 2021. 75(11): p. 1050-1055.
4. Wyper, G.M.A., et al., Inequalities in population health loss by multiple deprivation: COVID-19 and pre-pandemic all-cause disability-adjusted life years (DALYs) in Scotland. International Journal for Equity in Health, 2021. 20(1): p. 214.
5. Burström, B. and W. Tao, Social determinants of health and inequalities in COVID-19. European Journal of Public Health, 2020.
6. Mutambudzi, M., et al., Occupation and risk of severe COVID-19: prospective cohort study of 120 075 UK Biobank participants. Occupational and Environmental Medicine, 2021. 78(5): p. 307-314.
7. Rhodes, S., et al., Occupational differences in SARS-CoV-2 infection: analysis of the UK ONS COVID-19 infection survey. Journal of Epidemiology and Community Health, 2022. 76(10): p. 841-846.
8. Williamson, E.J., et al., Factors associated with COVID-19-related death using OpenSAFELY. Nature, 2020. 584(7821): p. 430-436.
9. Harrison, E., et al., Ethnicity and Outcomes from COVID-19: The ISARIC CCP-UK Prospective Observational Cohort Study of Hospitalised Patients. SSRN Electronic Journal, 2020.
10. Aldridge, R., et al., Black, Asian and Minority Ethnic groups in England are at increased risk of death from COVID-19: indirect standardisation of NHS mortality data Wellcome Open Research, 2020. 5(88).
11. Gruer, L.D., et al., Complex differences in infection rates between ethnic groups in Scotland: a retrospective, national census-linked cohort study of 1.65 million cases. Journal of Public Health, 2021.
12. Mathur, R., et al., Ethnic differences in SARS-CoV-2 infection and COVID-19-related hospitalisation, intensive care unit admission, and death in 17 million adults in England: an observational cohort study using the OpenSAFELY platform. The Lancet, 2021. 397(10286): p. 1711-1724.
13. Sze, S., et al., Ethnicity and clinical outcomes in COVID-19: A systematic review and meta-analysis. EClinicalMedicine, 2020. 29-30: p. 100630.
14. Nafilyan, V., et al., Ethnic differences in COVID-19 mortality during the first two waves of the Coronavirus Pandemic: a nationwide cohort study of 29 million adults in England. European Journal of Epidemiology, 2021. 36(6): p. 605-617.
15. Raisi-Estabragh, Z., et al., Greater risk of severe COVID-19 in Black, Asian and Minority Ethnic populations is not explained by cardiometabolic, socioeconomic or behavioural factors, or by 25(OH)-vitamin D status: study of 1326 cases from the UK Biobank. Journal of Public Health, 2020.

16. Razai, M.S., et al., Mitigating ethnic disparities in covid-19 and beyond. BMJ, 2021. 372: p. m4921.
17. Ramsay, J., et al., How have changes in death by cause and age group contributed to the recent stalling of life expectancy gains in Scotland? Comparative decomposition analysis of mortality data, 2000–2002 to 2015–2017. BMJ Open, 2020. 10(10): p. e036529.
18. National Records of Scotland, Deaths involving coronavirus (COVID-19) in Scotland, Week 45 (25-31 October). 2022, NRS: Edinburgh
19. Ayoubkhani, D., et al., Post-covid syndrome in individuals admitted to hospital with covid-19: retrospective cohort study. BMJ, 2021. 372: p. n693.
20. Drake, T.M., et al., Characterisation of in-hospital complications associated with COVID-19 using the ISARIC WHO Clinical Characterisation Protocol UK: a prospective, multicentre cohort study. The Lancet, 2021. 398(10296): p. 223-237.
21. Fenton, L., et al., Socioeconomic inequality in recent adverse all-cause mortality trends in Scotland. Journal of Epidemiology and Community Health, 2019. 73(10): p. 971-974.
22. McCartney, G., et al., Resetting the course for population health: evidence and recommendations to address stalled mortality improvements in Scotland and the rest of the UK. 2022, Glasgow Centre for Population Health and University of Glasgow: Glasgow.
23. Braveman, P. and L. Gottlieb, The social determinants of health: it's time to consider the causes of the causes. Public health reports (Washington, D.C. : 1974), 2014. 129 Suppl 2(Suppl 2): p. 19-31.
24. Allik, M., et al., Deaths of despair: cause-specific mortality and socioeconomic inequalities in cause-specific mortality among young men in Scotland. International Journal for Equity in Health, 2020. 19(1): p. 215.
25. Walsh, D., G.M.A. Wyper, and G. McCartney, Trends in healthy life expectancy in the age of austerity. Journal of Epidemiology and Community Health, 2022: p. jech-2022-219011.
26. McCartney, G., et al., Is austerity a cause of slower improvements in mortality in high-income countries? A panel analysis. Social Science & Medicine, 2022. 313: p. 115397.
27. Gondek, D., et al., Prevalence and early-life determinants of mid-life multimorbidity: evidence from the 1970 British birth cohort. BMC Public Health, 2021. 21(1): p. 1319.
28. Bellis, M.A., et al., Measuring mortality and the burden of adult disease associated with adverse childhood experiences in England: a national survey. Journal of Public Health, 2014.
29. Hughes, K., et al., The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. The Lancet Public Health, 2017. 2(8): p. e356-e366.
30. Tweed, E.J., et al., Health of people experiencing co-occurring homelessness, imprisonment, substance use, sex work and/or severe mental illness in high-income countries: a systematic review and meta-analysis. Journal of Epidemiology and Community Health, 2021: p. jech-2020-215975.
31. Aldridge, R.W., et al., Morbidity and mortality in homeless individuals, prisoners, sex workers, and individuals with substance use disorders in high-income countries: a systematic review and meta-analysis. The Lancet, 2018. 391(10117): p. 241 - 250.
32. Scottish Government, Homelessness in Scotland: 2021/22, 2022, Scottish Government: Edinburgh.
33. Waugh, A., et al., Health and Homelessness in Scotland, 2018, Scottish Government: Edinburgh.

34. National Records of Scotland, Mid-2021 Population Estimates Scotland. 2022, NRS: Edinburgh
35. National Records of Scotland, Population Projections for Scottish Areas 2018-based. 2020, NRS: Edinburgh
36. National Records of Scotland. Population Estimates by Scottish Index of Multiple Deprivation (SIMD) (Table 3). 2022 [cited 2022 14 November]; Available from: https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/2011-based-special-area-population-estimates/population-estimates-by-simd-2016.
37. Robertson, L., Poverty in Edinburgh: The Key Issues. 2019, Edinburgh Poverty Commission: Edinburgh.
38. National Records of Scotland. Age-standardised Death Rates Calculated Using the European Standard Population. 2022 [cited 2022 14 November]; Available from: https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths/age-standardised-death-rates-calculated-using-the-esp.
39. National Records of Scotland. Births by sex, year and post-April 2014 NHS Board area, 1991 to 2021. Vital Events 2022 [cited 2022 14 November]; Available from: https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/births/births-time-series-data.
40. Walsh, D., et al., Deaths from 'diseases of despair' in Britain: comparing suicide, alcohol-related and drug-related mortality for birth cohorts in Scotland, England and Wales, and selected cities. Journal of Epidemiology and Community Health, 2021: p. jech-2020-216220.
41. Scottish Public Health Observatory. Scottish Burden of Disease Study 2016: local area burden of disease profiles for disease groups. [Spreadsheet] 2021 18 March 2021 [cited 2021 05 August]; An excel workbook detailing burden of disease estimates (DALYs, YLD, YLL and deaths) for 21 broad disease groupings, stratified by: Local authority, Gender, Age-group]. Available from: https://www.scotpho.org.uk/comparative-health/burden-of-disease/sbod-local-2016/.
42. NHS Health Scotland, Proportionate universalism and health inequalities, 2014, NHS Health Scotland: Edinburgh.
43. McLean, G., et al., General practice funding underpins the persistence of the inverse care law: cross-sectional study in Scotland. British Journal of General Practice, 2015. 65(641): p. e799-e805.
44. Tudor Hart, J., The Inverse Care Law. The Lancet, 1971. 297(7696): p. 405-412.
45. Macintyre, S., Inequalities in health in Scotland: what are they and what can we do about them?, in MRC Social and Public Health Sciences Unit Occasional Papers. 2007, MRC Social and Public Health Sciences Unit: Glasgow.
46. Pickett, K.E. and R.G. Wilkinson, Income inequality and health: A causal review. Social Science & Medicine, 2015. 128(0): p. 316–326.
47. Crossley, T.F. and F. Zilio, The health benefits of a targeted cash transfer: The UK Winter Fuel Payment. Health Economics, 2018. 27(9): p. 1354-1365.
48. Beatty, T.K.M., et al., Cash by any other name? Evidence on labeling from the UK Winter Fuel Payment. Journal of Public Economics, 2014. 118: p. 86-96.

49. Fleming, M., et al., Educational and health outcomes of schoolchildren in local authority care in Scotland: A retrospective record linkage study. PLOS Medicine, 2021. 18(11): p. e1003832.
50. Inchley, J., et al., Health Behaviour in School-Aged Children (HBSC). Growing up unequal: HBSC, 2016.
51. Stewart, R., et al., Trends in socioeconomic inequalities in underweight and obesity in 5-year-old children, 2011–2018: a population-based, repeated cross-sectional study. BMJ Open, 2021. 11(3): p. e042023.
52. Bardid, F., et al., Results from Scotland's 2021 report card on physical activity and health for children and youth: Grades, secular trends, and socio-economic inequalities. Journal of Exercise Science & Fitness, 2022. 20(4): p. 317-322.
53. Harpur, A., et al., Trends in infant mortality and stillbirth rates in Scotland by socio-economic position, 2000–2018: a longitudinal ecological study. BMC Public Health, 2021. 21(1): p. 995.
54. Knight, M., et al., Saving Lives, Improving Mothers' Care Core Report - Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2018-20. 2022, National Perinatal Epidemiology Unit, University of Oxford: Oxford.
55. Ene, D., et al., Associations of Socioeconomic Deprivation and Preterm Birth With Speech, Language, and Communication Concerns Among Children Aged 27 to 30 Months. JAMA Network Open, 2019. 2(9): p. e1911027-e1911027.

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