The Health and Wellbeing of people living in Grampian 2022

A report to accompany the Director of Public Health Annual Report 2022

Contents

Introduction

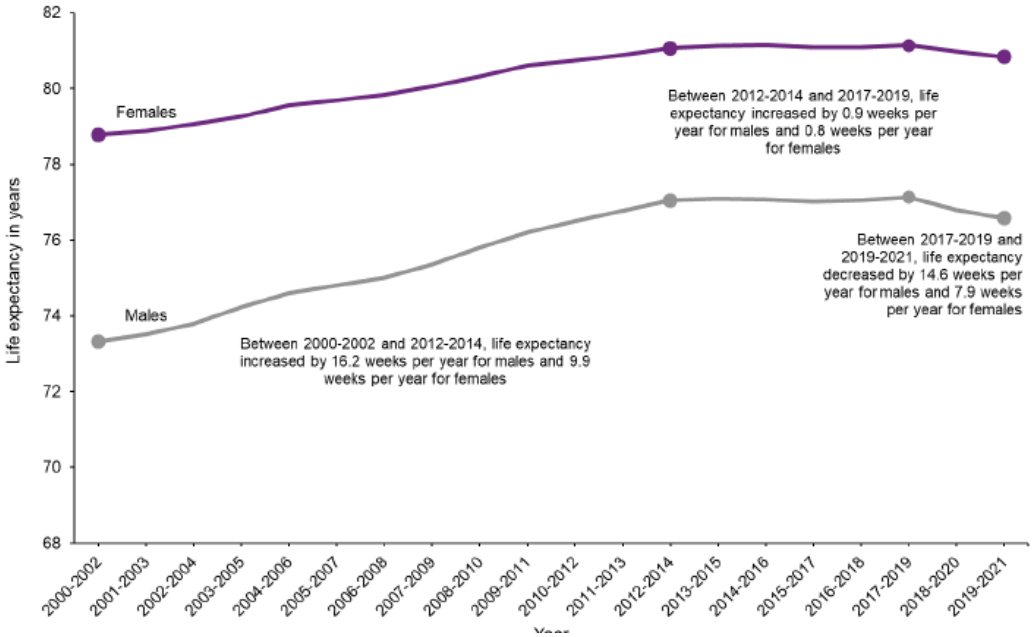
This report brings together an evidence base used to underpin the 2022 Director of Public Health Annual Report. The purpose of the report is to provide the accompanying detail for those seeking more information about Health and Wellbeing in Grampian and the four threats to health discussed in the DPH annual report.

Health Overview

Life Expectancy

Almost a decade before the pandemic began, health gains were stalling. Life expectancy was no longer improving and premature mortality was increasing. The health gap between the most and least vulnerable in our communities was widening.

Life expectancy fell in 2019-2021. Most of that drop was a direct impact of increased mortality due to COVID 19, although drug related deaths also increased and the improvements in cardiovascular death seen over the last 2 decades stalled.



A1 Life expectancy in Scotland has been stalling since 2012-2014 and reduced in 2019-2021[1]

The important trends in life expectancy started long before the pandemic. For the most part of the 20th century, life expectancy increased year on year (with the exception of the impact of the world wars). That steady increase in life expectancy continued across the UK, and Scotland, until 2010. Since 2008-2010, the improvement in life expectancy started to slow and, **from 2012-2014 until 2017-2019, any improvement in life expectancy stalled.**

Scotland has the lowest life expectancy of Western Europe and, over the last decade, the gap has widened with other European countries.

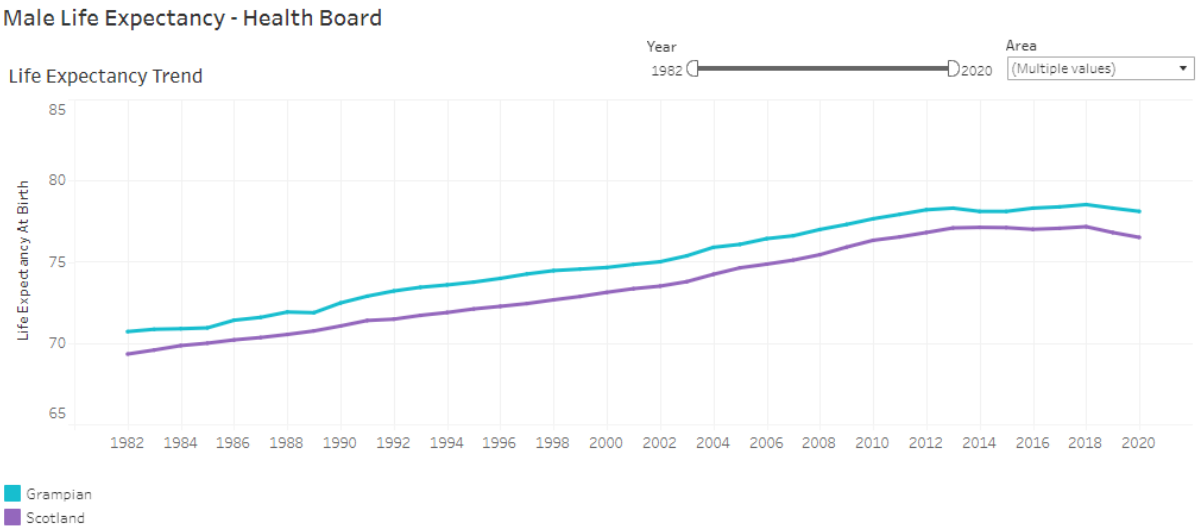
The gap in life expectancy between the most and least vulnerable in Scotland has also widened. For males in 2019-2021 there were 13.7 years difference between the most and least vulnerable. For females the difference was 10.5 years.

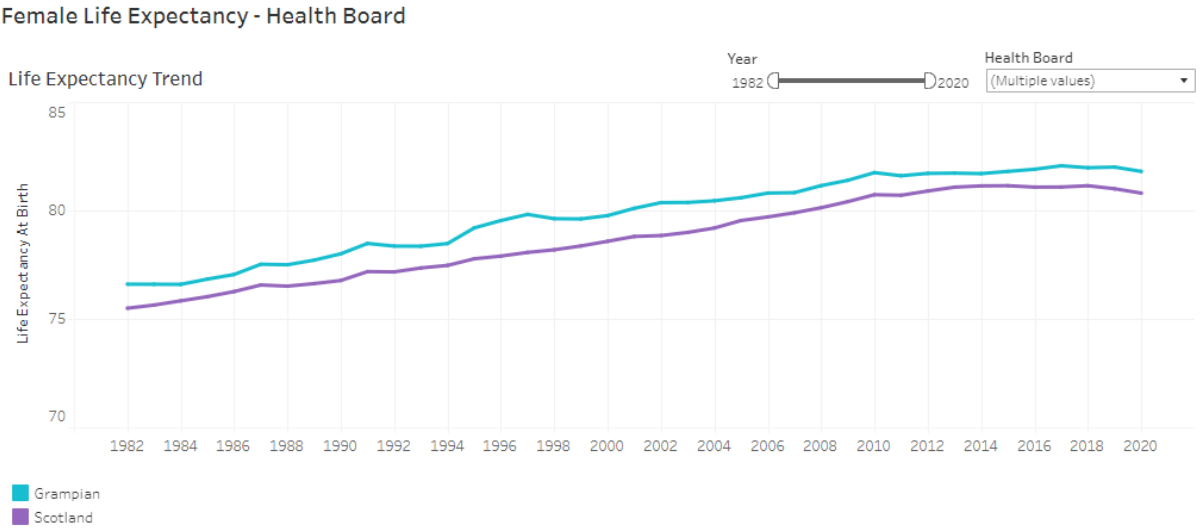
What is life expectancy?

Life expectancy is calculated assuming that mortality rates for each age group in the time period (e.g. 2019-2021) are constant throughout a person's life. Life expectancy is often described as how long a baby born now could expect to live if they experienced today's mortality rates throughout their lifetime. Life expectancy is not an accurate prediction of how long a person born today will actually live, but it is a useful measure of population health at a point in time and is most useful for comparing trends over time, between areas of a country and with other countries.

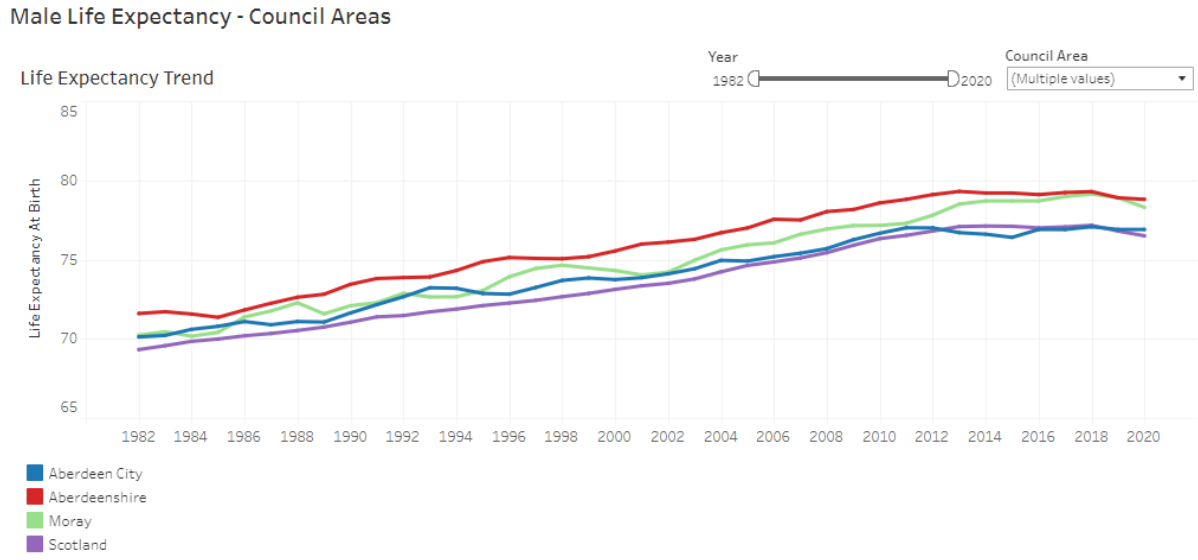
Life expectancy in Grampian

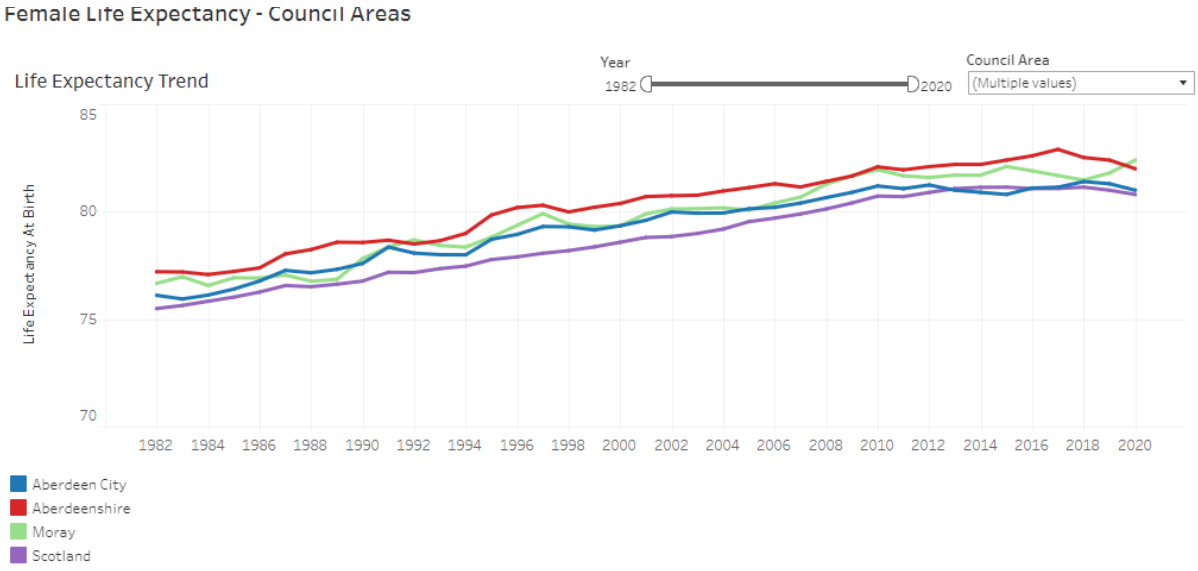
Life expectancy in Grampian and Aberdeen City, Aberdeenshire and Moray has followed a pattern similar to Scotland. The stalling in life expectancy is apparent. The three local authorities rank towards the middle for all local authorities in Scotland. The gradient across socio-economic deprivation is present.





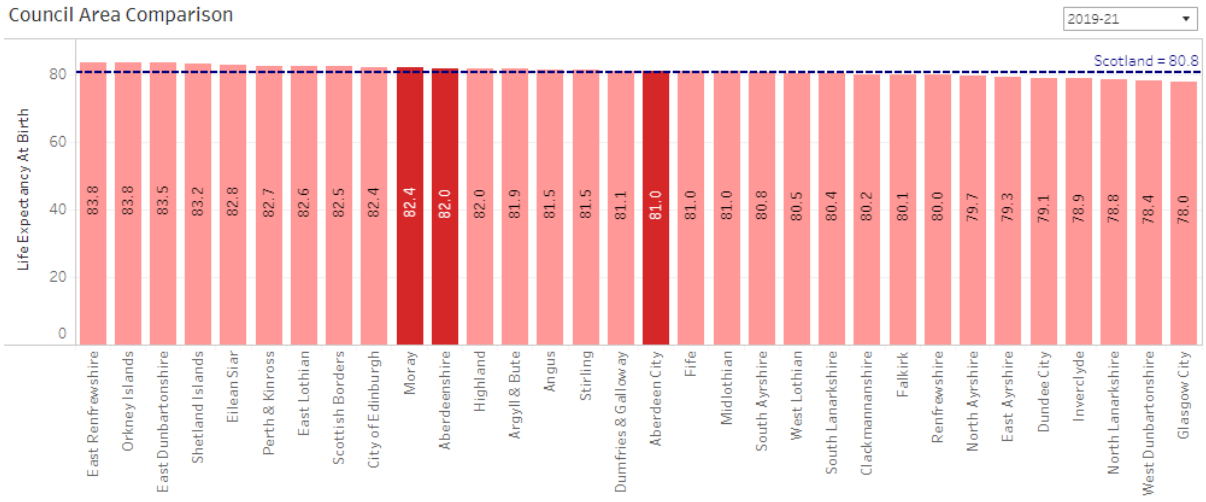
A2 Life expectancy for Grampian 1982 to 2020 for males and females



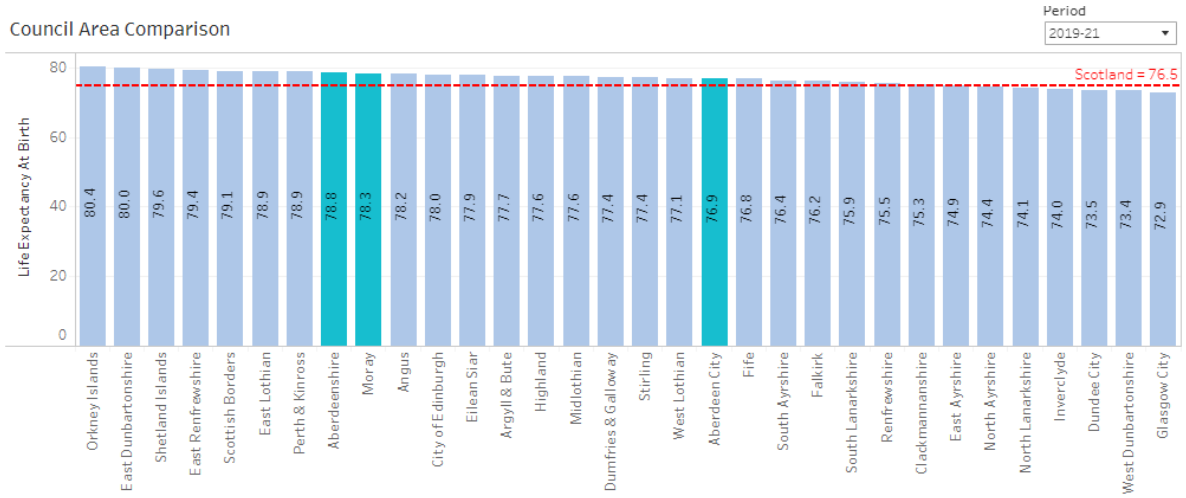


A3 Life Expectancy by Local Authority for males and females 1982 to 2020

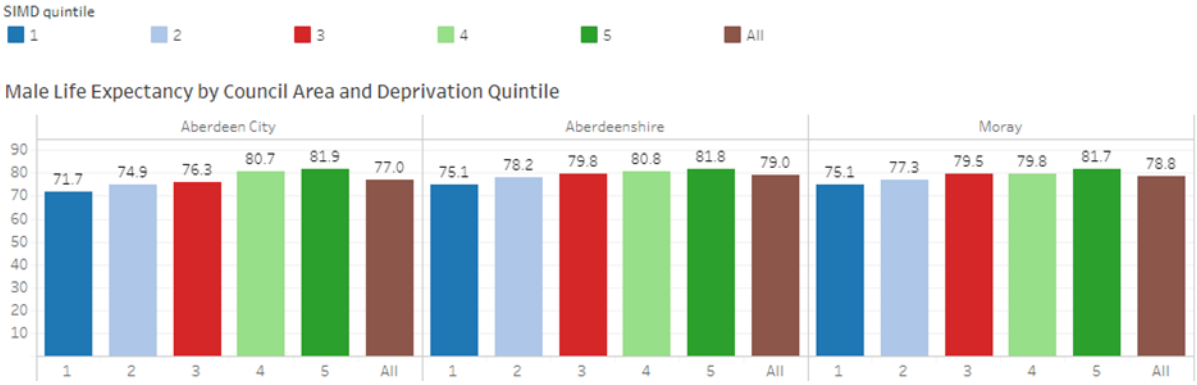
Females



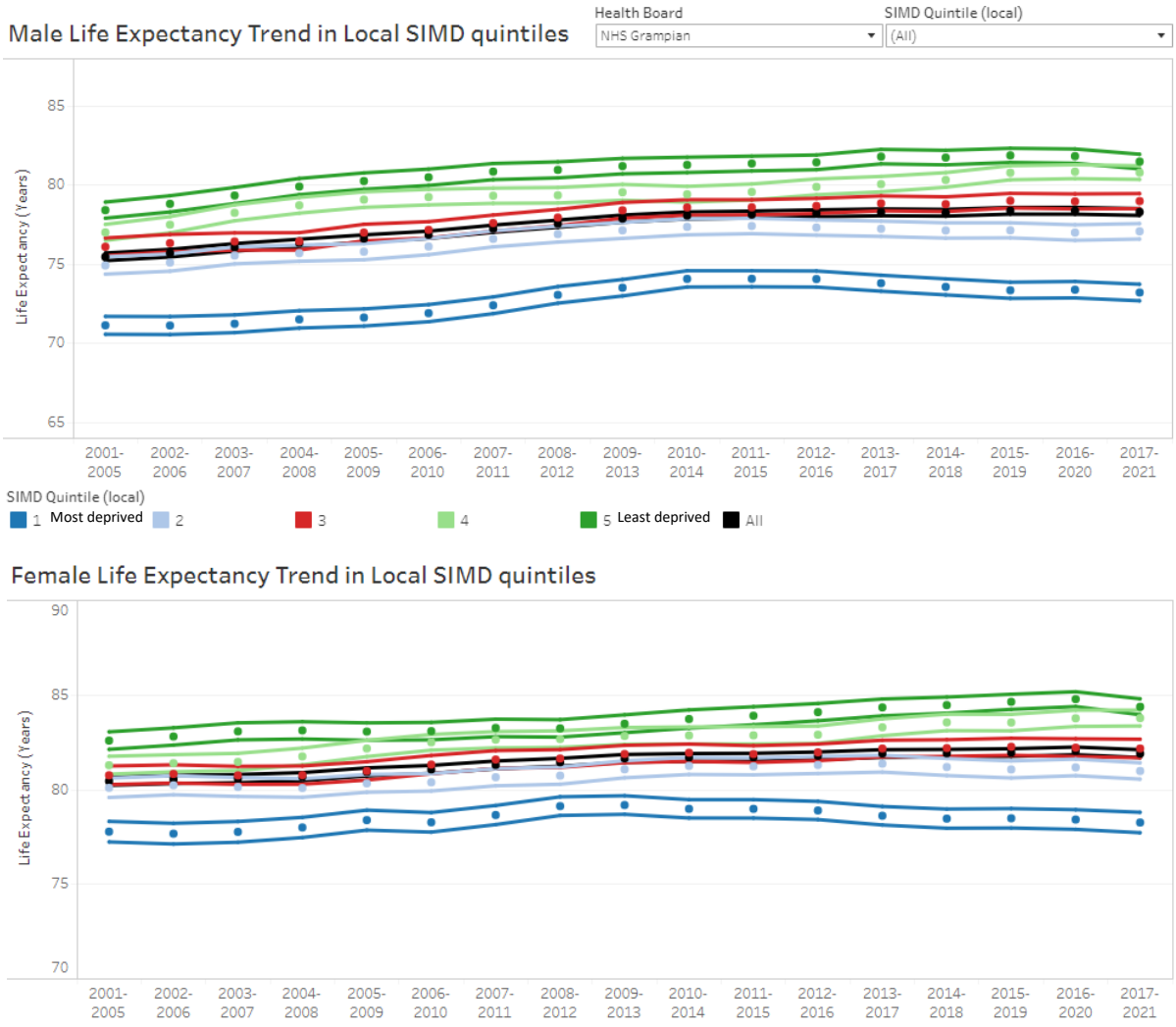
Males



A4 Life Expectancy 2019-2021 by ranked Local Authority for females and males



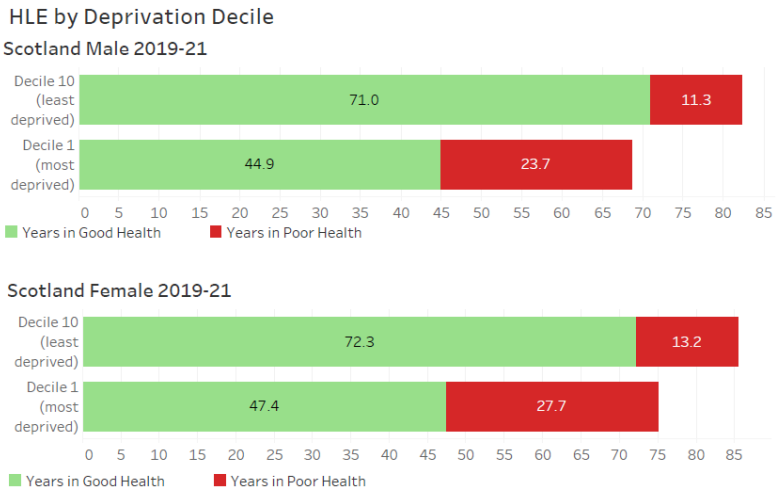
A5 Life Expectancy by Local Authority and local SIMD quintile 2019-2021



A6 Life Expectancy trend for Grampian by SIMD quintile for males and females

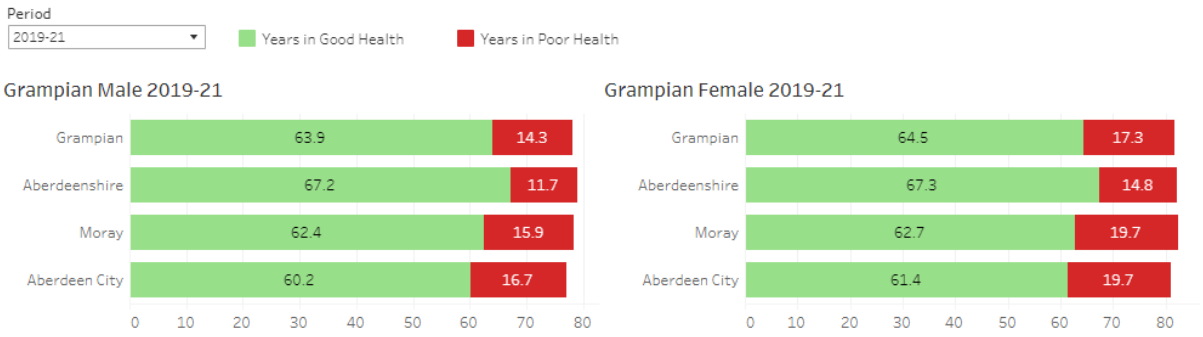
Healthy Life Expectancy

The amount of time people spend in good health has been decreasing. Healthy life expectancy is the average number of years that an individual is expected to live in a state of self-assessed good or very good health, based on current mortality rates and prevalence of good or very good health. In Scotland this has fallen over the last decade.

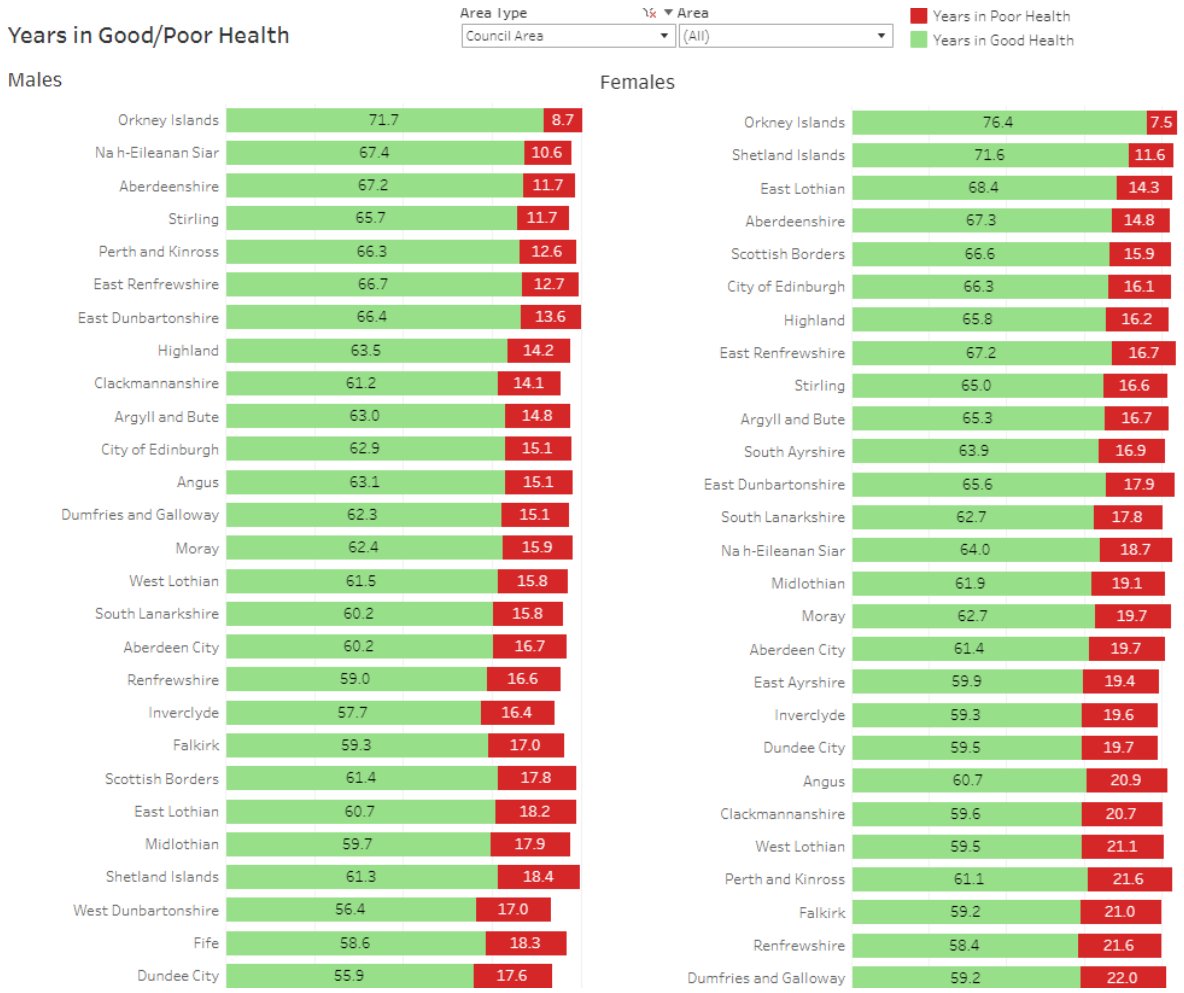


A7 Healthy Life Expectancy in Scotland 2019-2021 for males and females by deprivation decile

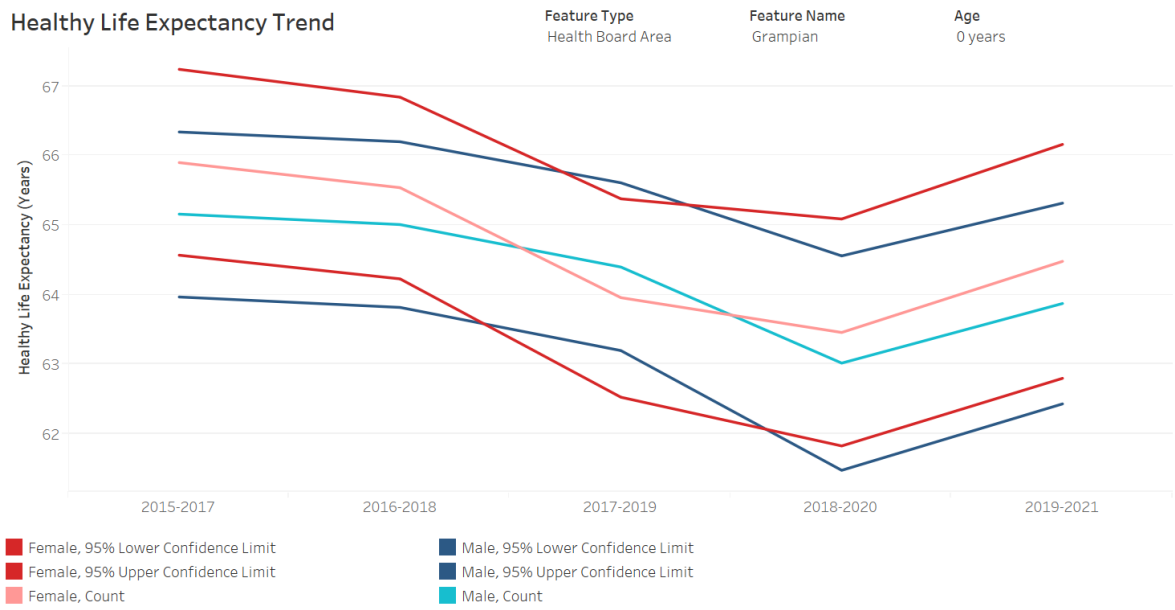
Healthy life expectancy has fallen and stagnated in the last decade in Grampian. The same pattern is seen for each of the local authorities. On average, in Grampian a man might expect to spend 14.3 years in poor health and a woman 17.3 years.



A8 Healthy life expectancy for Grampian and by Local Authority 2019-2021



A9 Healthy Life Expectancy by Local Authority areas in Scotland

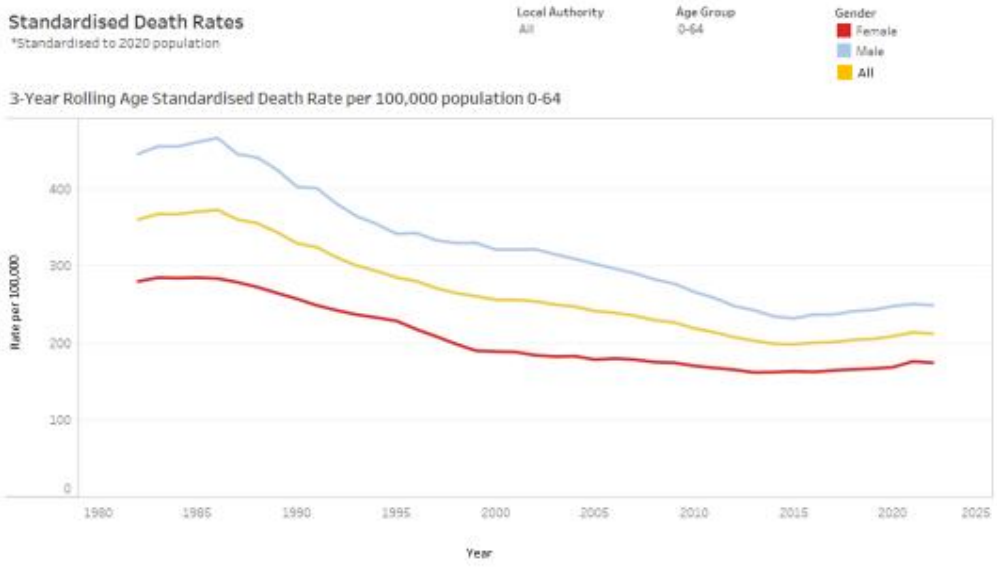


A10 Health life expectancy trends in Grampian 2015 to 2021

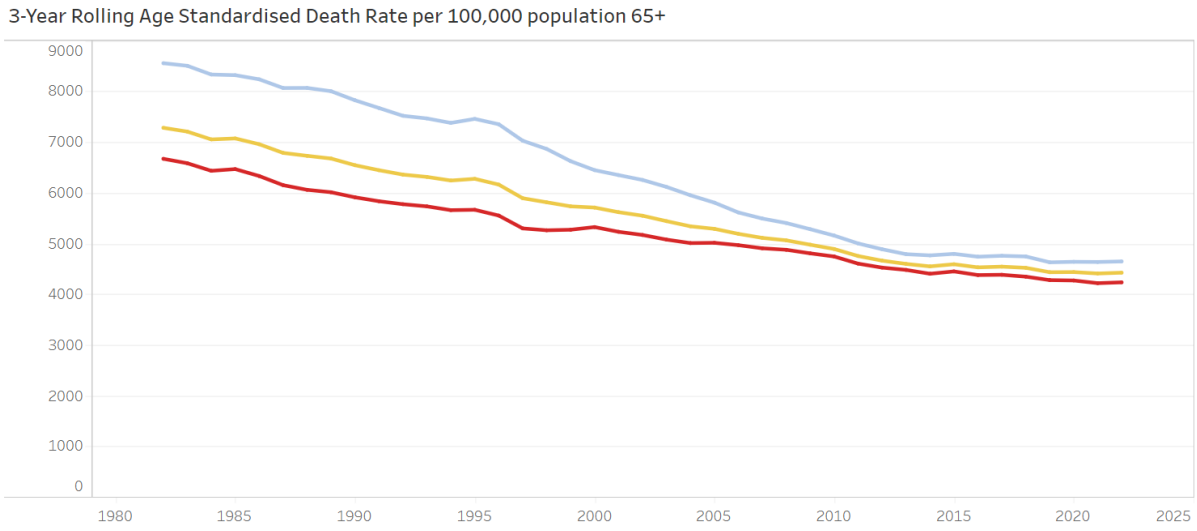
Mortality

The fall in life expectancy is because of excess deaths. Between 2000 and 2012, progress was being made in preventing deaths from cancer and cardiovascular disease, alcohol related deaths, and suicide. In line with these improvements, absolute inequalities in mortality outcomes were generally reducing. However, in the decade since we have seen a stagnation and, in some cases, a worsening of outcomes and inequalities. For example, among men aged 15-44yrs, drug related deaths and suicides predominate as the leading cause of death, and both have risen over the last decade. Even infant mortality, which is traditionally very low in Scotland, has risen in the most deprived communities since 2012-14.[2]

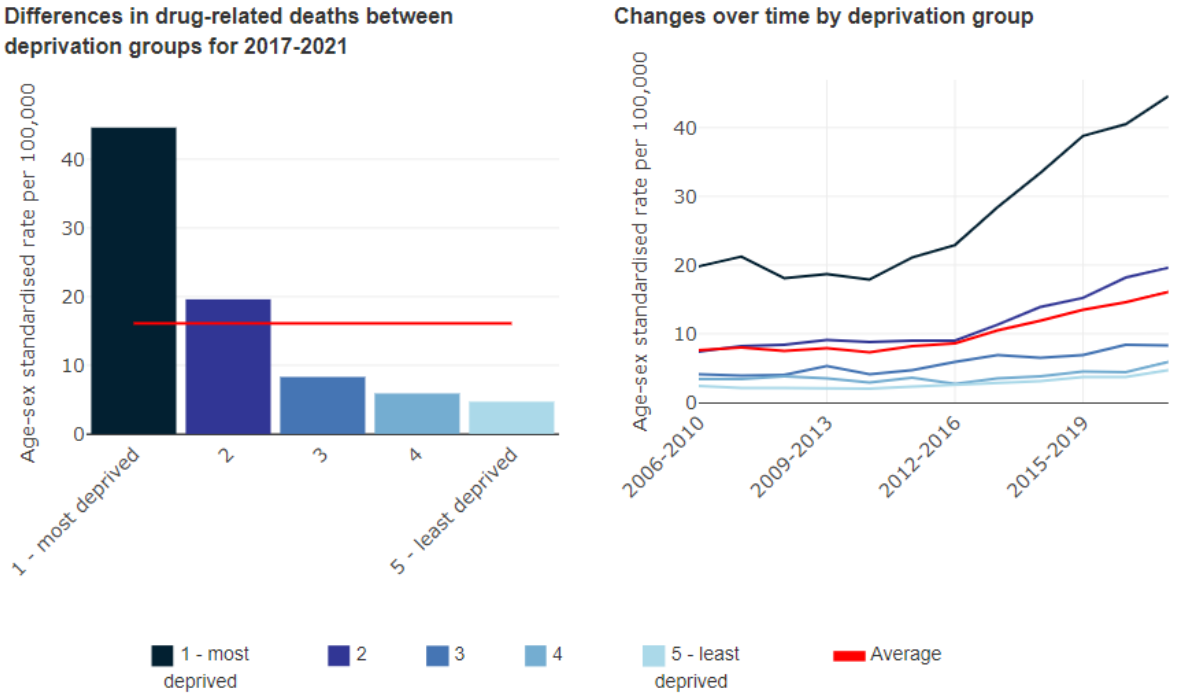
In Grampian, mortality in those under the age of 65 years (premature mortality) was falling until 2012-15, but since then has been rising. The gains in mortality have stagnated for people over 65 years of age.

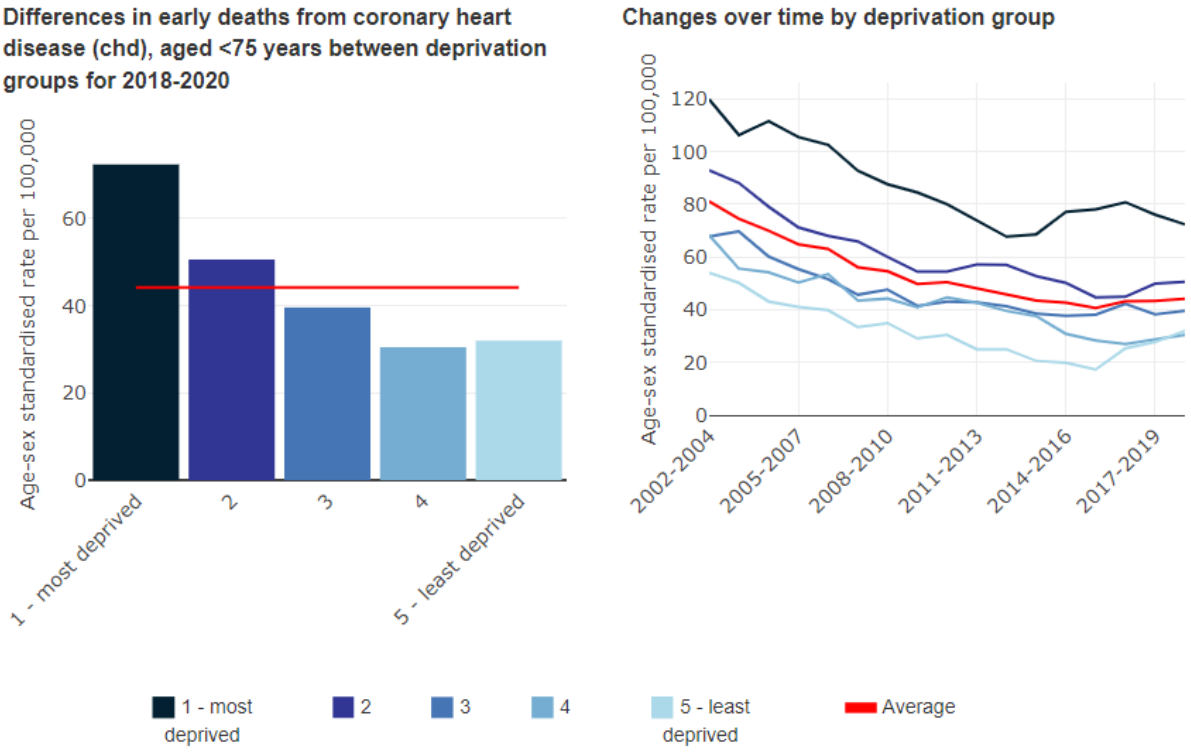


A11 Premature mortality (under 65yrs) for Grampian. Three year rolling age standardised death rates per 100,000 population (male, female and overall)



A12 3 year rolling age standardised death rate per 100,000 population for 65+years

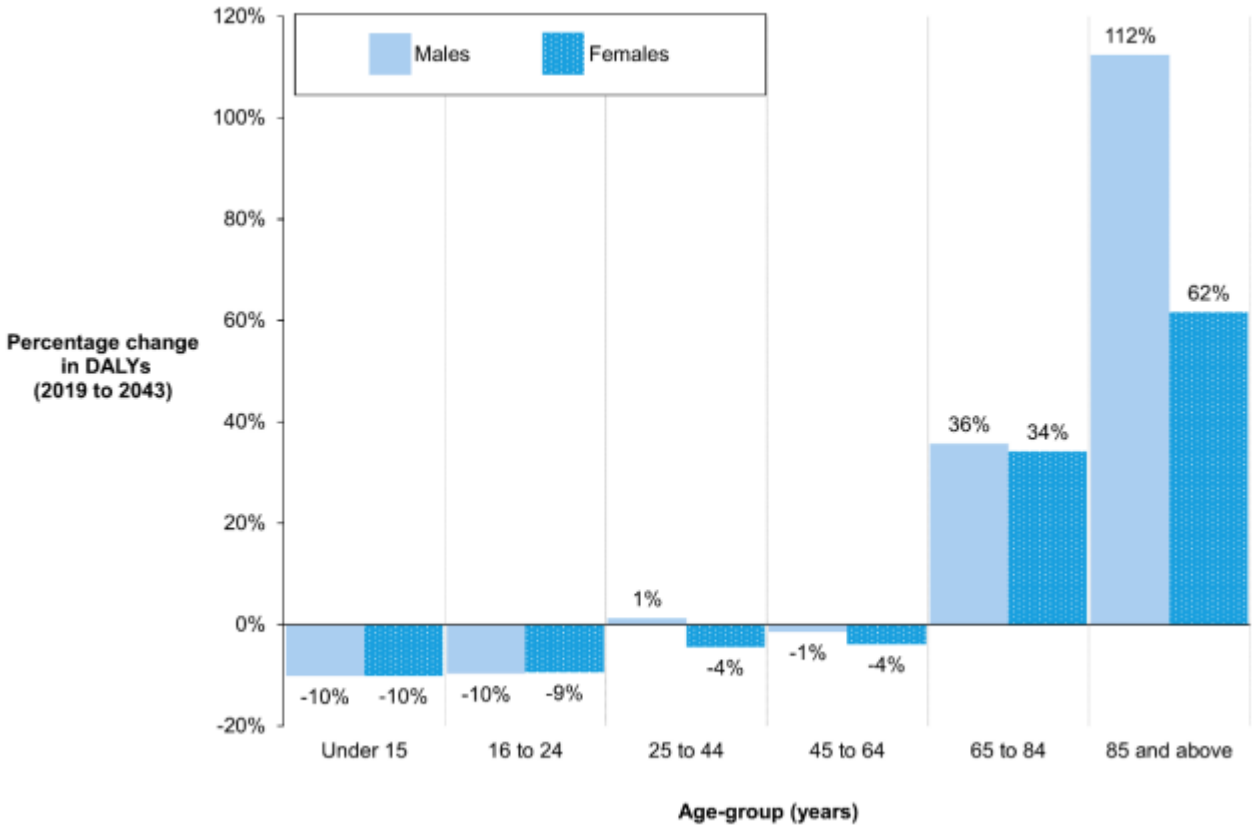




A13 Deaths from a) drugs and b) premature deaths from coronary heart disease for Grampian by local SIMD quintile

The burden of disease in Scotland: Forecast

Despite projections indicating that the Scottish population is set to decline over the next 20 years, the annual disease burden is forecast to increase 21% between 2019 and 2043. The largest increases are forecast to be in those age 65 years and above.[3]



A14 Change in the number of all-cause disability adjusted life years by age and sex, 2019 to 2043

The largest absolute increases in burden are forecast to be driven by cardiovascular diseases; cancers; neurological disorders; chronic respiratory diseases; diabetes and kidney diseases; and common infectious diseases.

The ill health that we experience is not equally distributed in our communities. Those who are most vulnerable have the highest levels of poor health. And poor health increases vulnerability to social inequalities, reducing your ability to engage in education and work, and increasing household costs.

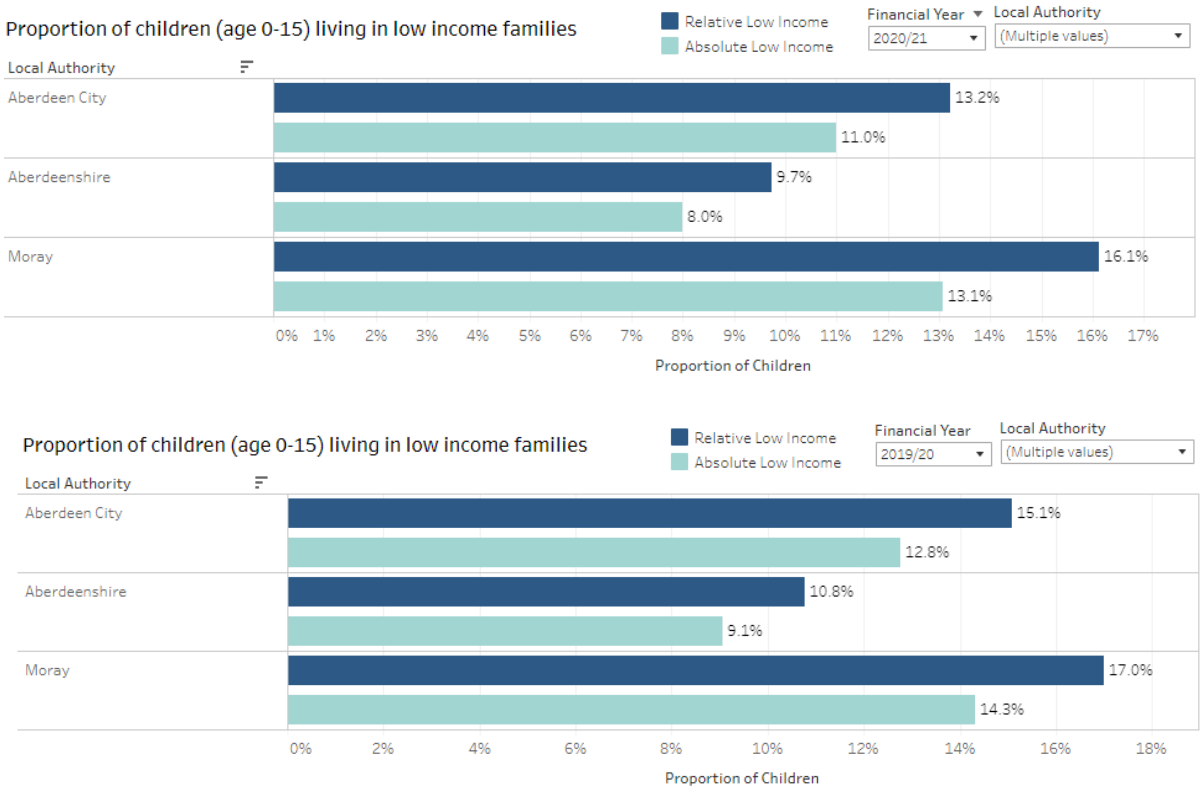
Health related behaviours are also not equally distributed in our communities. Those who are most vulnerable have poorer health related behaviours; higher levels of smoking, lower levels of breast feeding, lower levels of physical activity.

Health inequalities in Grampian

The health gap between the most and least vulnerable in our communities already existed prior to the pandemic. The health inequalities gap, for many conditions has been widening over the last decade.[2] We see this inequality in almost all areas including coronary heart disease, respiratory diseases such as asthma and chronic obstructive pulmonary disease, cancer and mental health and it is widening in some areas such as alcohol specific and drug related deaths. There are also widening inequalities in health risk factors such as smoking during pregnancy, maternal obesity and uptake of HPV vaccination among girls.

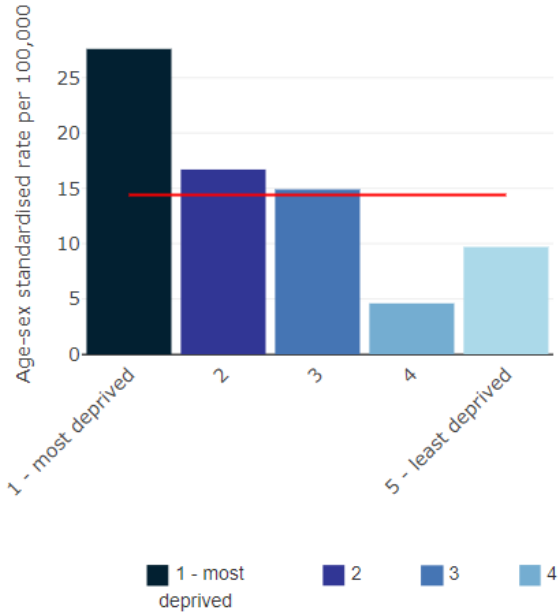
In Grampian, 1 in 8 children are living in poverty.

Department of Works and Pensions (DWP) data shows that in 2020/2021, the risk of the pandemic to escalate child poverty had been mitigated. The cost of living crisis will have caused further financial strain for families in 2022/2023.

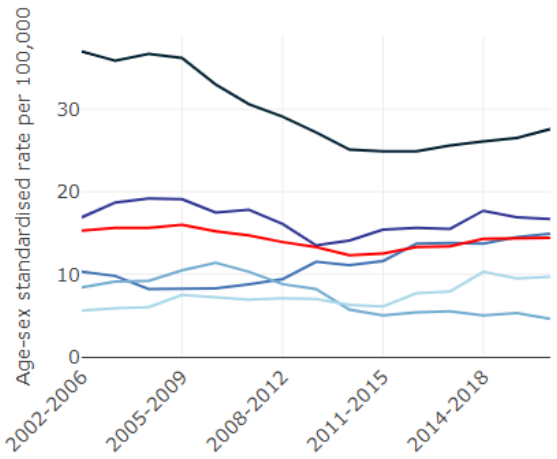


A15 Proportion of children living in low income families 2020/21 and 2019/20 by Local Authority area

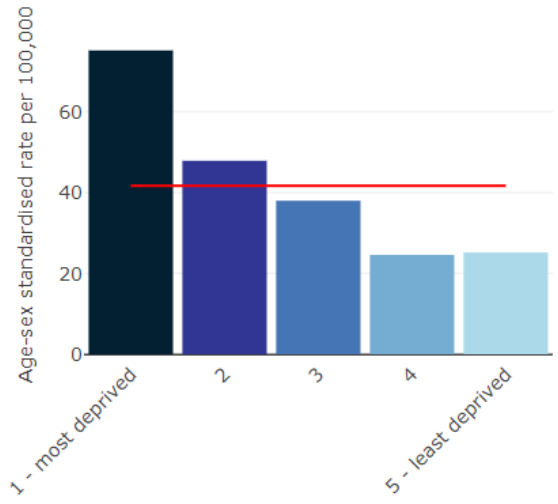
Differences in alcohol-specific deaths between deprivation groups for 2016-2020



Changes over time by deprivation group



Differences in asthma patient hospitalisations between deprivation groups for 2019/20-2021/22



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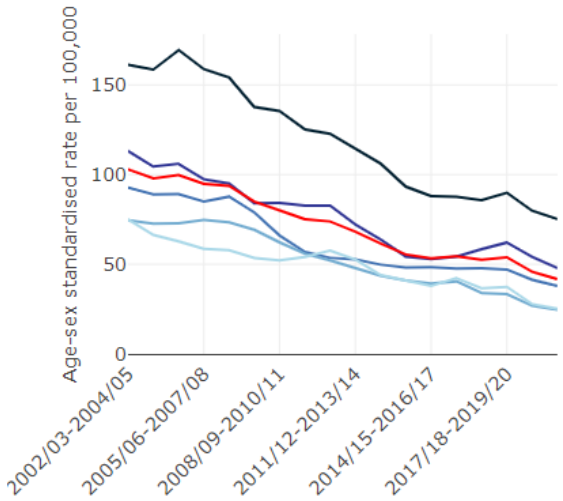
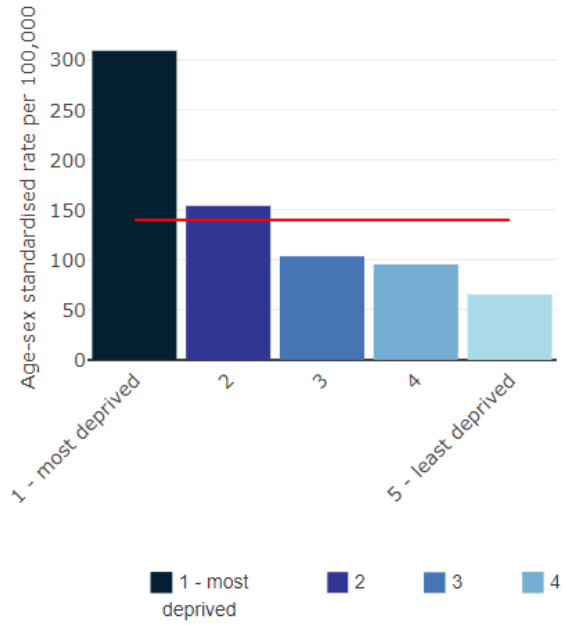
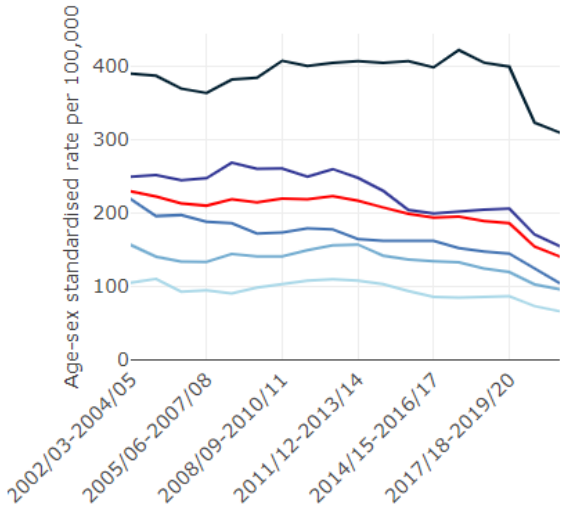


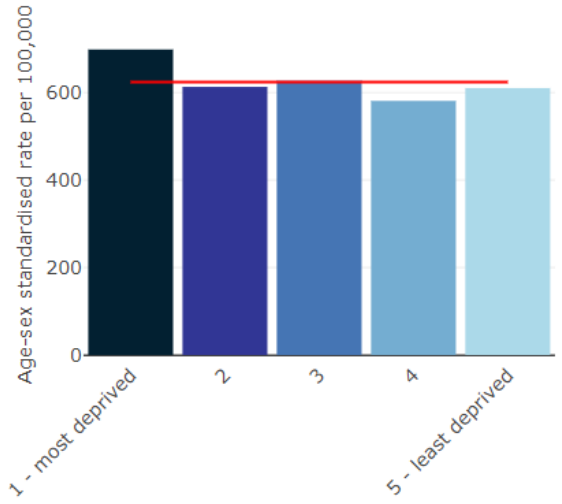
Differences in chronic obstructive pulmonary disease (copd) patient hospitalisations between deprivation groups for 2019/20-2021/22



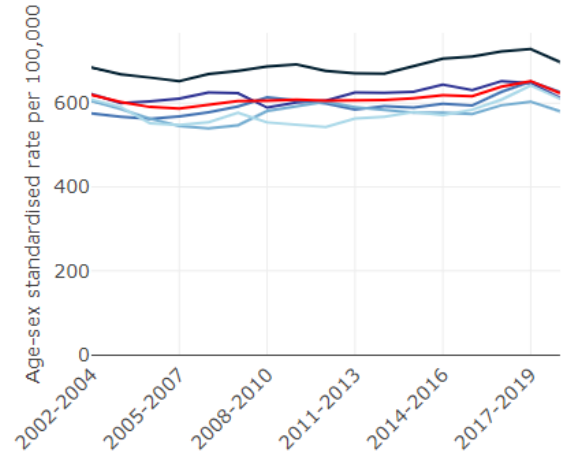
Changes over time by deprivation group



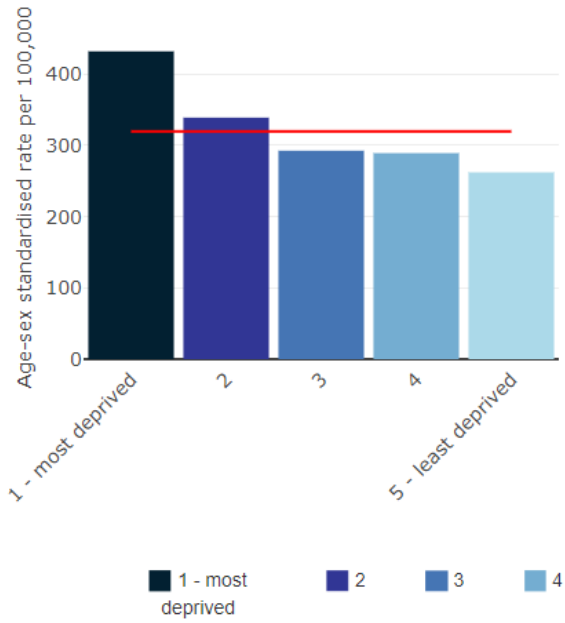
Differences in cancer registrations between deprivation groups for 2018-2020



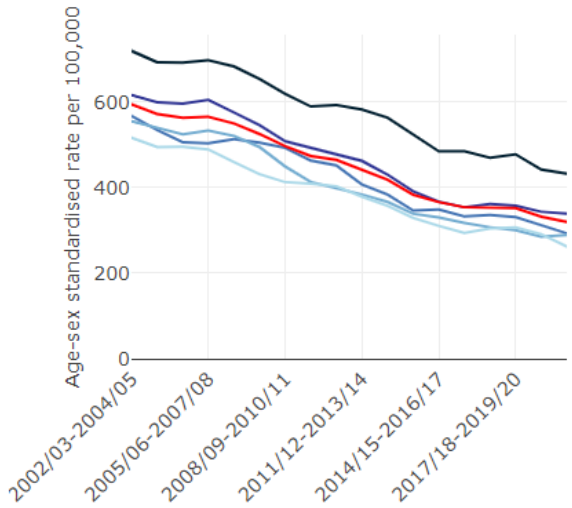
Changes over time by deprivation group



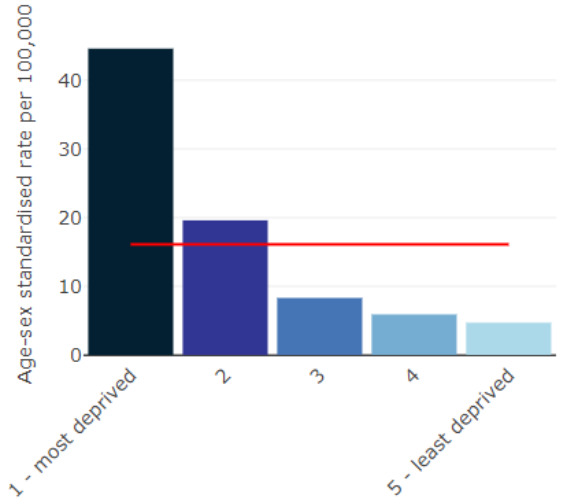
Differences in coronary heart disease (chd) patient hospitalisations between deprivation groups for 2019/20-2021/22



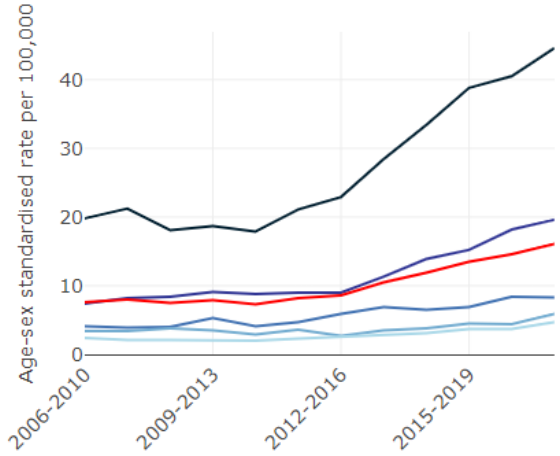
Changes over time by deprivation group



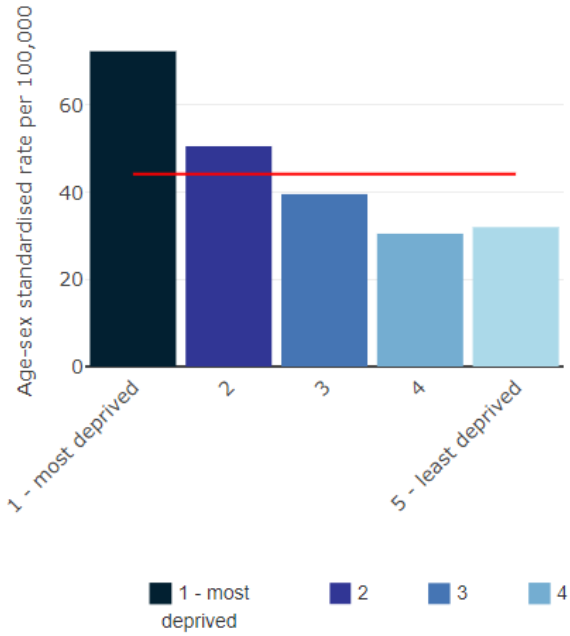
Differences in drug-related deaths between deprivation groups for 2017-2021



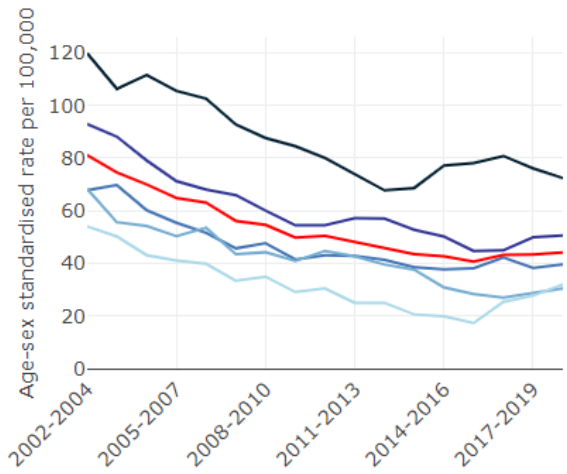
Changes over time by deprivation group



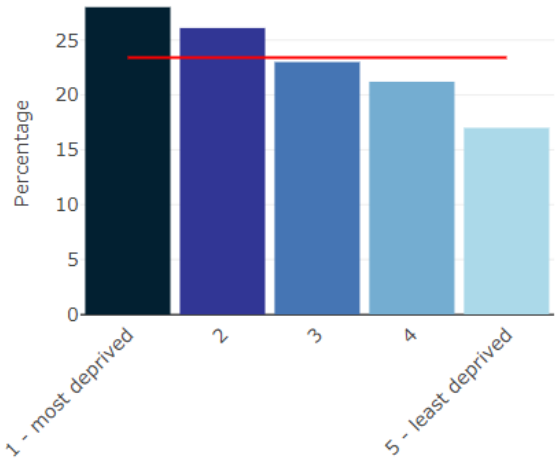
Differences in early deaths from coronary heart disease (chd), aged <75 years between deprivation groups for 2018-2020



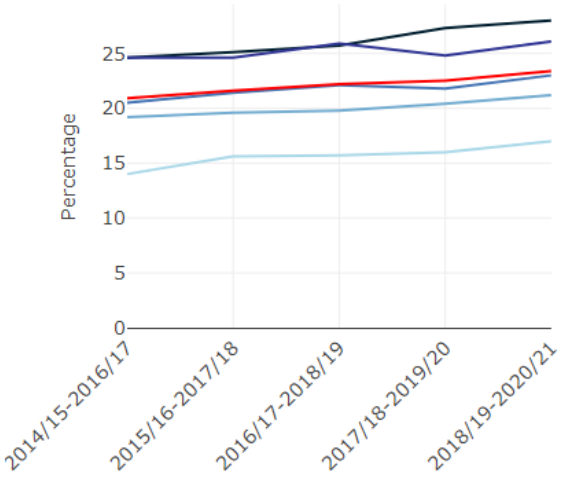
Changes over time by deprivation group



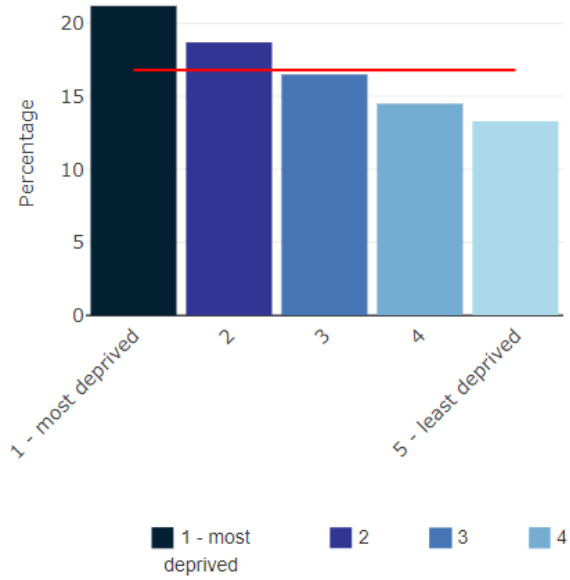
Differences in maternal obesity between deprivation groups for 2018/19-2020/21



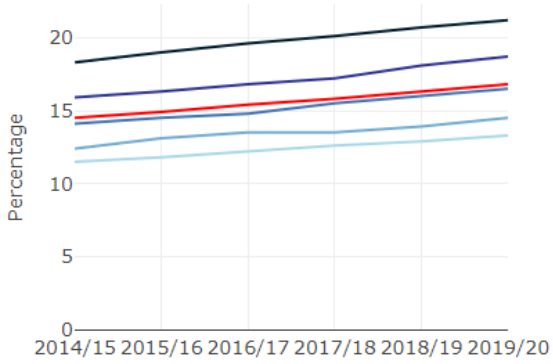
Changes over time by deprivation group



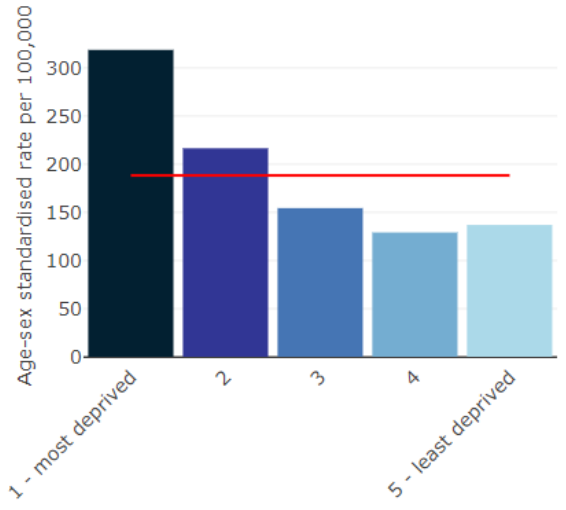
Differences in population prescribed drugs for anxiety/depression/psychosis between deprivation groups for 2019/20



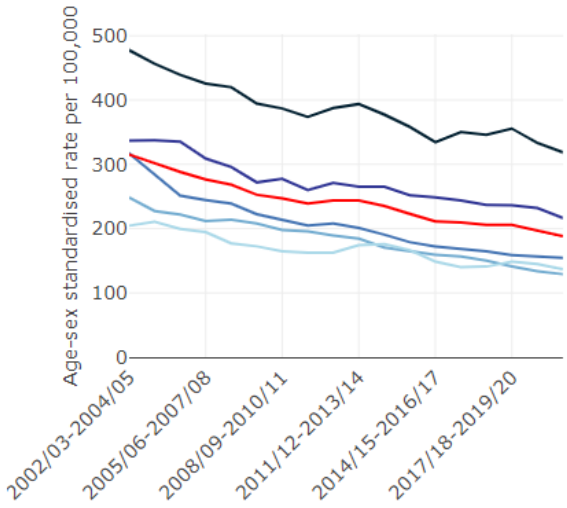
Changes over time by deprivation group



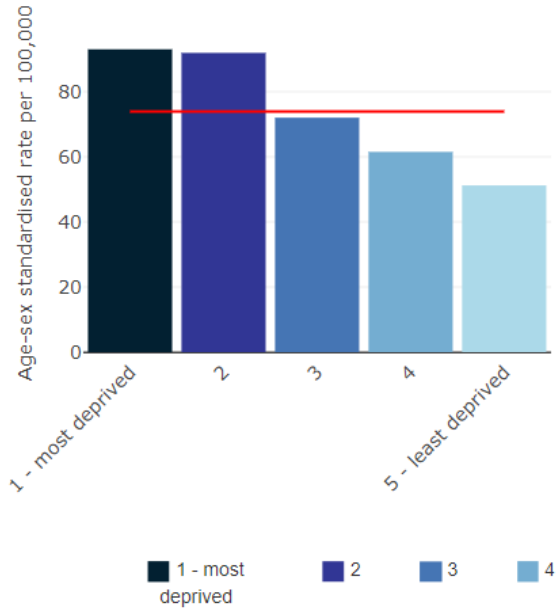
Differences in psychiatric patient hospitalisations between deprivation groups for 2019/20-2021/22



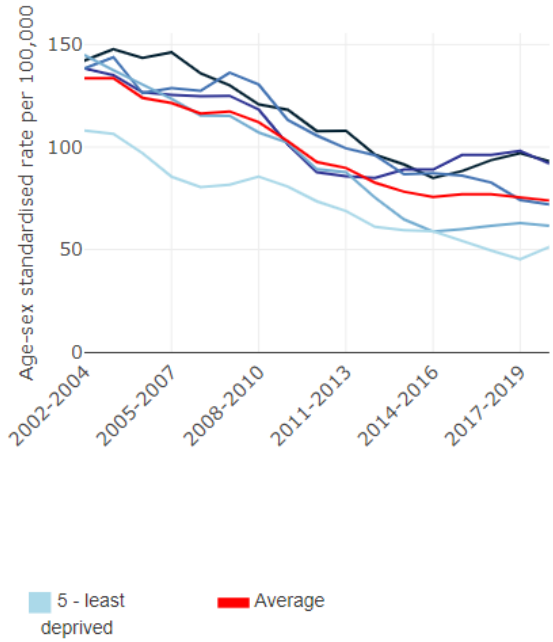
Changes over time by deprivation group



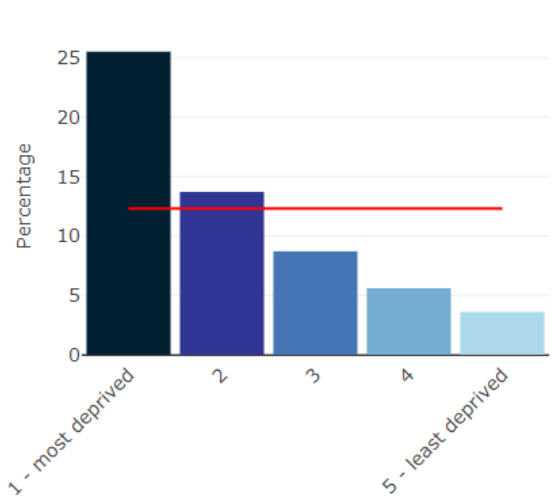
Differences in road traffic accident casualties between deprivation groups for 2018-2020



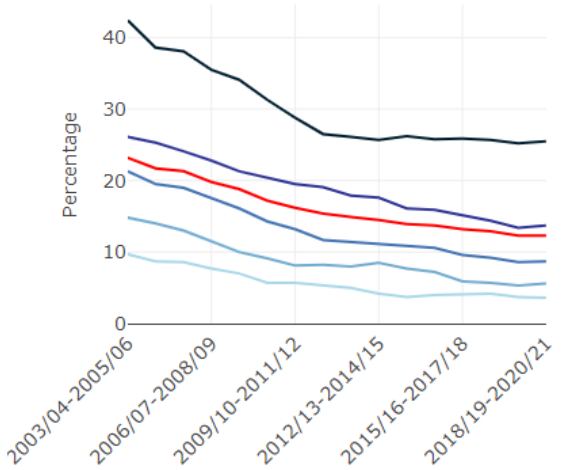
Changes over time by deprivation group

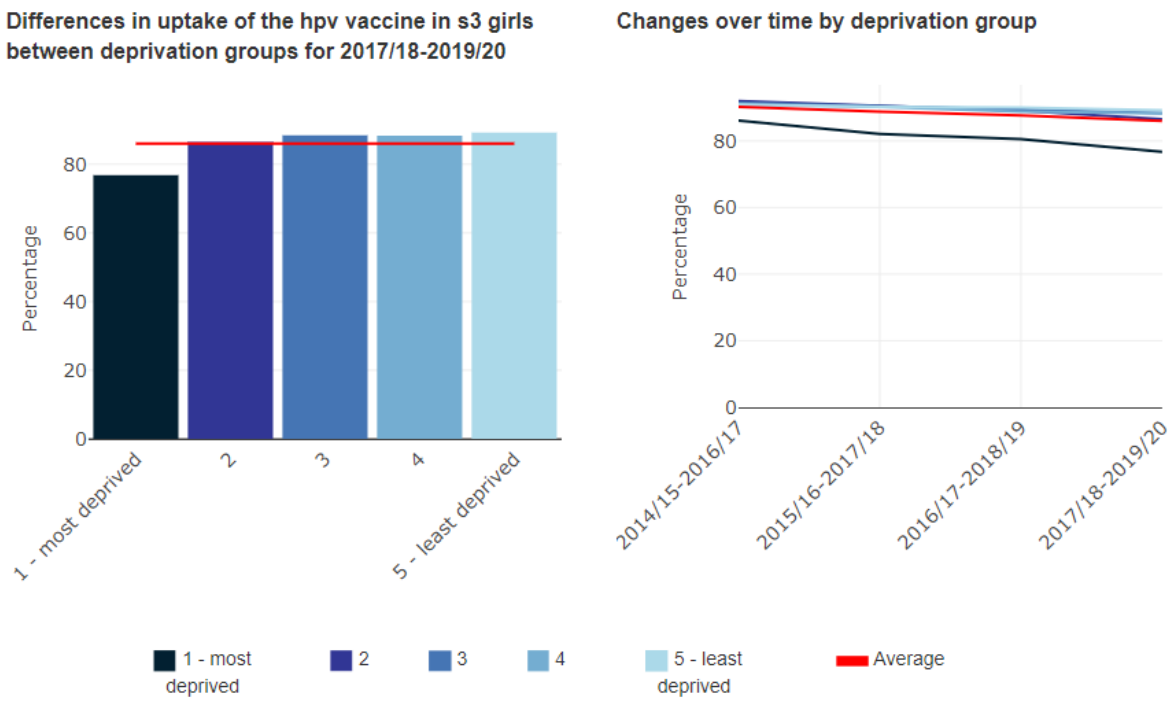


Differences in smoking during pregnancy between deprivation groups for 2018/19-2020/21

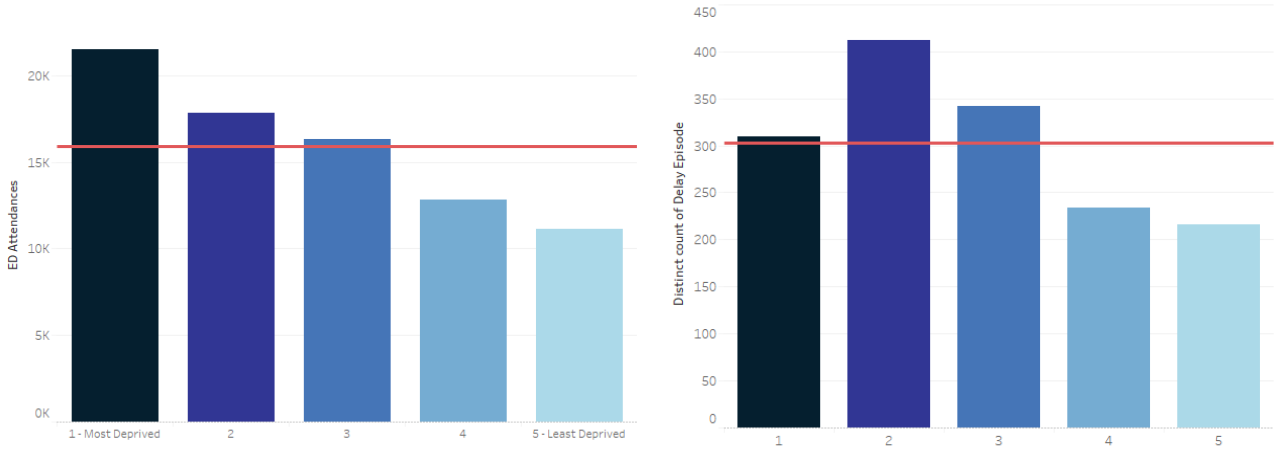


Changes over time by deprivation group

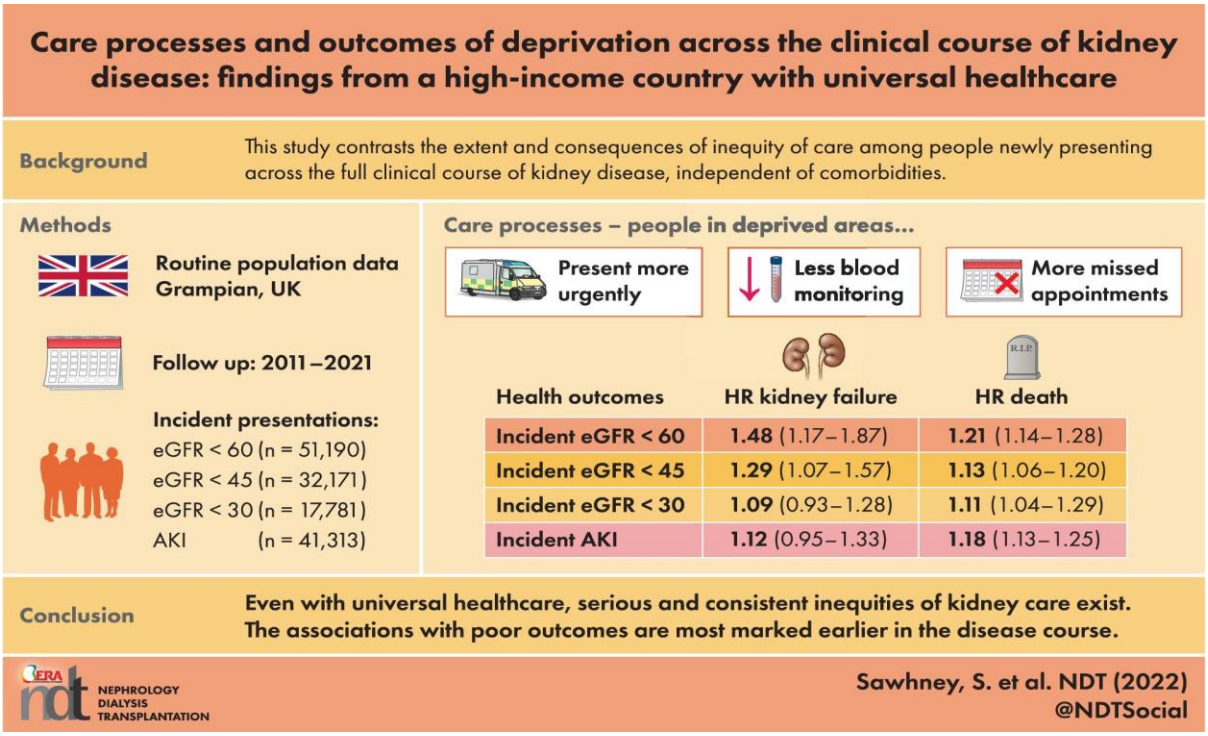




A16 Health inequalities across a range of conditions in Grampian, and trend over time [ScotPHO profiles (shinyapps.io)]



A17 Emergency Department attendances and Delayed Discharges by local SIMD deprivation quintile 2022



A18 Care process and outcomes of deprivation across the clinical course of kidney disease in Grampian[4]

A19 Mental health medication prescriptions for children and young people in Grampian by local authority and SIMD quintile[5]

The Long Arm of the Pandemic: felt for years in to our future

The implications of a pandemic don't end at the point that the acute risks from severe infection have passed or when the control measures to mitigate the consequences of severe infection are lifted. The harms from the COVID 19 pandemic continue to disrupt health and care. The pandemic has significant long term impacts worsening health and widening health inequalities in our communities.

Direct and Indirect Harms from COVID 19 and the pandemic

Direct Harms from COVID 19

Long-Covid.

Long-covid is defined as symptoms continuing for more than four weeks after the first suspected Covid-19 infection that were not explained by something else. The ONS estimates that 2 million people living in private households in the UK (3.5% of the population) were experiencing self-reported long-Covid in July 2022. Long-Covid is most commonly reported by those aged 35-69 years, females, people living in more deprived areas, those working in social care, and those with other activity limiting health conditions or disabilities. An estimated 1 in 10 people reporting long-Covid go on to sick leave.[6] That would equate to up to 20,000 people in Grampian with 2000 on sick leave

Indirect harms from COVID 19

There are a diverse range of indirect harms from the pandemic now becoming visible in our communities and organisations. Key harms are summarised below.

Harms to physical health

The prolonged disruption of access to routine health care that COVID caused leaves a health legacy in two forms:

- Chronic health conditions that went neglected are now resulting in increased health care need with people experiencing the complications of their diseases. Even more people have multiple conditions to manage.
- New illness went undiagnosed with the missed opportunity for prevention and early management. Now people present in later stages of their illness, where treatment is more complex and their health care needs are greater.

Health care services started the recovery process. Elective surgery, screening and diagnostics restarted but the physical health of our population has not recovered to where it was pre-pandemic.

Harms to mental health and well-being

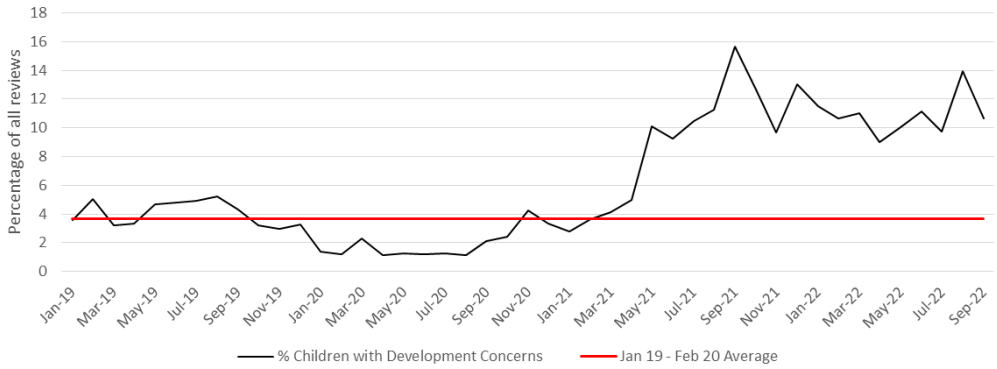
The pandemic, in its acute phase, took a particularly severe toll on mental health and wellbeing. There was an increase in severe mental health illness but also our mental wellbeing deteriorated. Mental wellbeing was recovering as the restrictions from the acute pandemic response eased. However, mental

wellbeing had not recovered to pre pandemic levels, leaving people less resilient to cope with further challenges. [7] [8]

Harms to child development

Children were particularly badly hit by the acute phase of the pandemic. Not by the infection directly, which, for most, was a mild or asymptomatic illness, but by the disruption the pandemic caused. The harms were diverse, whether it was the death of a close family member or disruption to social contacts and education.

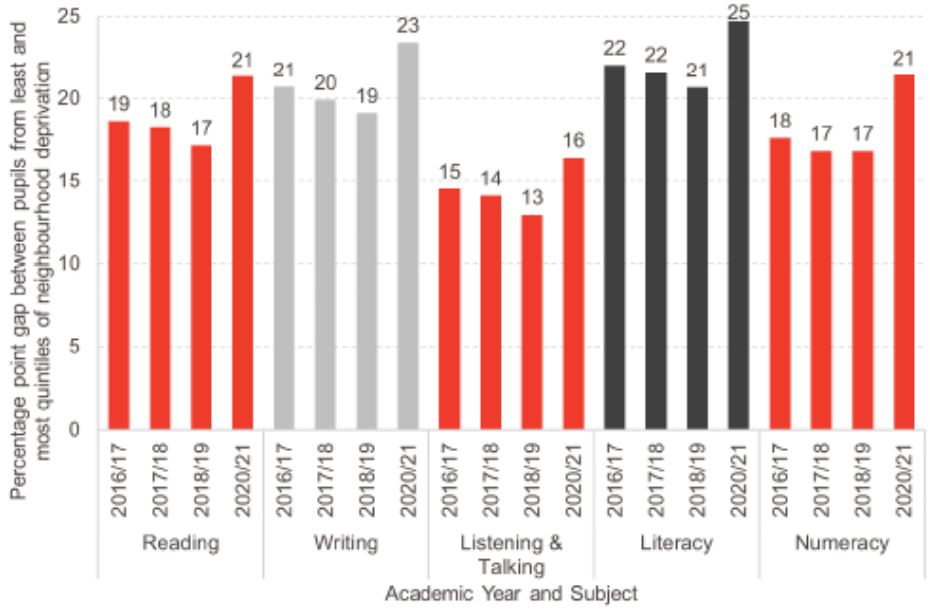
Child development in those early years of life was disrupted.[8] In Grampian, at 27-30 months old, until Jan 2021 approximately 5% of children were reported to have developmental concerns. Since then there has been a substantial increase in children with developmental concerns, peaking in September 2021 at 16% and remains elevated at the end of 2022 at 12%. While lower than the Scottish average, it is a substantial deterioration in child development from pre-pandemic.[9]



A20 Grampian: the proportion of child with developmental concerns reported at the 27-30 month old assessment

There were two major periods of school closures, the first in spring 2020 and the second in winter 2021. Despite transforming education to be delivered remotely, the harm to learning and social interaction could not be fully mitigated. The shift to 'remote' learning challenged all pupils, but those from more disadvantaged backgrounds were likely to experience greater difficulty in engaging with learning delivered remotely. Educational attainment for all pupils in Scotland was already worsening slightly over the 5 years pre-pandemic but the pandemic forced the attainment gap to widen, hitting those in most deprived socio-economic circumstances the most severely.[10]

Percentage point gap in proportion of primary pupils (P1, P4, P7 combined) achieving expected level, between least and most deprived neighbourhoods



Source: FAI analysis of Achievement of Curriculum for Excellence Levels (Scottish Government)

A21 The pandemic reversed recent progress in narrowing of poverty-related attainment gap at primary level

Consequences for workforce

During the acute phase of the pandemic, a large rise in unemployment was avoided; government support through the furlough scheme, along with business resilience, helped mitigate this. However, workforces have lost staff, driven through worsened health of our population directly impacting workforce, in taking on caring roles or because of a change in the 'need' to work. The number of people considered 'economically active' has not recovered to pre-pandemic levels, with an additional loss across the UK of around half a million people to the workforce, particularly in the 50-64 year age group.[7]

Consequences for communities, culture and belonging

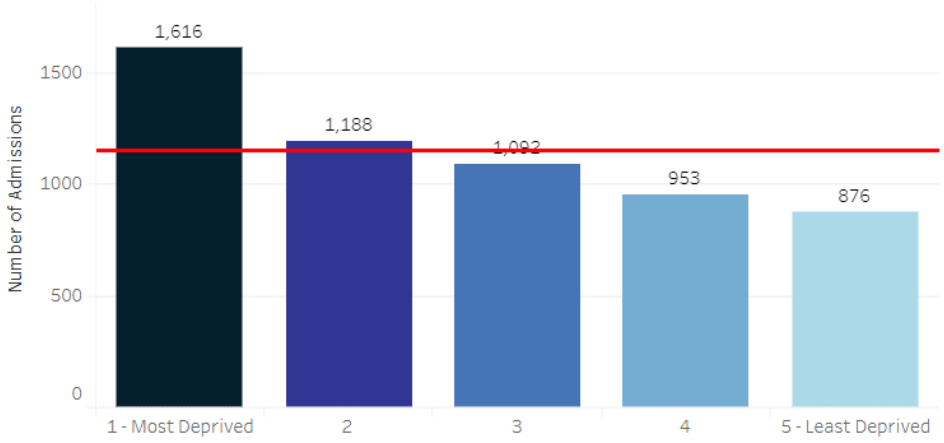
Local, community and mutual aid groups were critical in the response to the pandemic. Communities where there was a strong sense of belonging and community, community support networks and community led local physical and digital infrastructure enabled local communities to respond better to the pandemic. The pandemic generated creativity in the way people supported one another and a new generation of first time volunteers. But these features of community resilience where not evenly distributed across all communities. The voluntary, community and social enterprise sector, so critical for the community level response, saw the combined impact of an increase in demand but at the same time a 20-30% drop in revenue that disproportionately impacted small, local charities.[7 11 12] The people and groups that drive our access to culture, art and physical activity were similarly key to the resilience of communities, adapted in response to the pandemic and have been hit during the pandemic financially.[13]

In the acute phase of the pandemic, the impact on household finances was complex with reduced opportunity for spending and successful mitigation of the worst effects for workers that did reduce harm

to the lowest paid in the workforce. But individuals with the lower incomes were much more likely to report their saving fell (32%) than rose (12%) and were more likely to report an increase in debt.[13] [14]

Impact on Inequalities

The pandemic shone a light on the inequality in the structure of our society. Those in the most deprived parts of our community where hit hardest by COVID 19 infections, with more cases, higher admissions and more deaths. Long-Covid is more common among the most socio-economically deprived.



A23 Hospitalisation for/with COVID by local deprivation quintile for Grampian

The pandemic has exacerbated inequalities in our society. The harms outlined above to physical and mental health, child development, community resilience, household financial resilience where more common in the most socio-economically deprived.

The impact of both the direct and indirect consequences and harms have driven a rapid widening of the health gap between the wealthiest and the least wealthy in our society.[15]

While many aspects of our lives were starting to recover, our population's health, wellbeing and resilience has not recovered to pre-pandemic levels. Our communities and organisations are also less resilient. Children born today, while perhaps not experiencing the direct effects of COVID 19 or lockdowns, have to face the complex impacts of the long arm of the pandemic and how it has changed our communities.[16]

The pandemic exposed hard truths:

- **vulnerabilities** in our health and social care system to sustained pressure
- **inequalities** in our society that mean some feel the harm and impacts of the pandemic far more than others
- **the impact on health** both **directly** from COVID 19 and long COVID; and **indirectly will be felt long into our future** through:
    - the interruption of care
    - harm to mental health
    - disruption to child development
    - disruption to education and employment
    - disruption to communities and connectedness

- cultural and economic impact

By the end of the restrictive measures for controlling COVID 19 spread in early 2022, some measures were showing signs of recovery, for example: children and young people reporting anxiety and depression had reduced. Recovery was, however, partial. **Our health, community and economic resilience has not recovered to pre-pandemic levels.**

Cost of living crisis

The Cost of Living Crisis is changing the pattern of poverty in our communities as well as undermining the community assets we rely on to mitigate the consequences of poverty and to manage the harms.

The cost of living crisis hits at a time, post pandemic, when personal, community and organisational resilience is lowered.

The Cost of Living Crisis changes established patterns of poverty in our community by:

- deepening the financial pressure on in those already experiencing poverty
- increasing the number of families in poverty
- placing even more households into financial stress
- increasing the number of people experiencing ill health as a direct result of cold homes
- worsening mental health across a wide range of the community

The double hit comes as the Cost of Living Crisis directly erodes community, voluntary and public sector assets critical in supporting wellbeing, social inclusion and vibrant healthy communities.

Finally, economic instability impacts business with escalating costs threatening sustainability.

A24: Cost of living crisis evidence - The Joseph Rowntree Foundation (JRF) JRF has been tracking the cost of living crisis and its impact on for over 4,000 low-income households in the UK for 12 months and in December 2022 published its latest findings.[17]

These reveal that low-income households' finances (bottom 40% of incomes) continue to worsen under the pressure of the cost of living crisis, as 7.2 million are going without the basics, and 4.7 million are behind on their bills. Unsurprisingly, it is households on the very lowest incomes who are struggling the most, with three quarters of those in the bottom 20% of incomes going without food or other basic essentials like clothing or toiletries. People on Universal Credit, private renters and young adults are all experiencing rising levels of hardship.

Debt from this crisis is a big risk. The JRF report highlights that a quarter of low-income households (2.9 million households) reported having a high-cost credit loan (with a loan sharks, payday lenders, doorstep lenders, or pawn shops) and around half were in arrears with their loans. The report also highlights that 4.2 million households are trying to earn more money, all while cutting back on their spending. Of particular concern is over a third of low-income families with children are cutting back on food for their children.

A25 Evidence from Third Sector partners working to provide direct support to people experiencing poverty in Grampian communities

Charity which helps people with debt - Enormous number of people looking for help and now have a 7 week waiting list with cases being triaged on an emergency basis

Community project in deprived area which provides direct support to people in poverty - Funding at a standstill and huge uncertainty about future. They need to decide whether to pay staff a wage increase and cut services, or to risk losing staff to better paid jobs and have to cut services as a result anyway.

Open door church in deprived area - Run on a shoestring but may not be able to continue when the forecast fuel hikes come on top of all the other increased costs especially when the individuals funding and volunteering also are personally hit by the same cost increases and stagnant income levels.

Charity supporting people with disabilities - Funding is entirely by donations with no public money, with costs rising they are at full capacity of what they can deliver. Benefits advisor has a continual workstream and could do with assistance, but that would require funding. Without funding or donations continuing as in the past, the organisation will be in a precarious position.

Charity which provides essential items to young families in poverty - Huge increase in demand that is stretching finances and no end in sight. Working to capacity and finding it very hard to keep up with workload. Funding becoming more difficult and cost of living crisis affecting public donations.

Community group within deprived area - Funding for their one paid member of staff ends in less than a year, after that they don't know how they will continue.

Charity which supports families in poverty - Core costs have risen enormously but there is no funding available for running costs, so reserves are reduced to maintain service levels which is unsustainable.

Independent living support organisation - Has been on a fixed budget for 10 years and at the limit of what can be done within that as workload has increased. Have reduced staffing and paid hours to mitigate financial impact, but demand for services is unabating. Without secure funding will be unable to assist those in financial hardship.

Cancer support charity - Our Benefits Advisor is particularly busy providing support. 1 in 4 people living with cancer are more worried about the cost of living than their illness.

Advice and support service for young people and families - Huge increase in demand. Huge waiting lists, with some lists being closed to new referrals. Many people are currently being turned away. The people we support are in more need than ever, the staff team are in more need than ever, and the finances are more insecure than ever. The future feels so uncertain

A26 Evidence resources for understanding Cost of Living Crisis

Evidence Resources - The Public Health Directorate has been assessing available evidence linked to the Cost of Living Crisis and have created a portal on the NHS Grampian HINet website for people to access. This portal provides you with access to a range of reports and studies regarding the Cost of Living crisis.

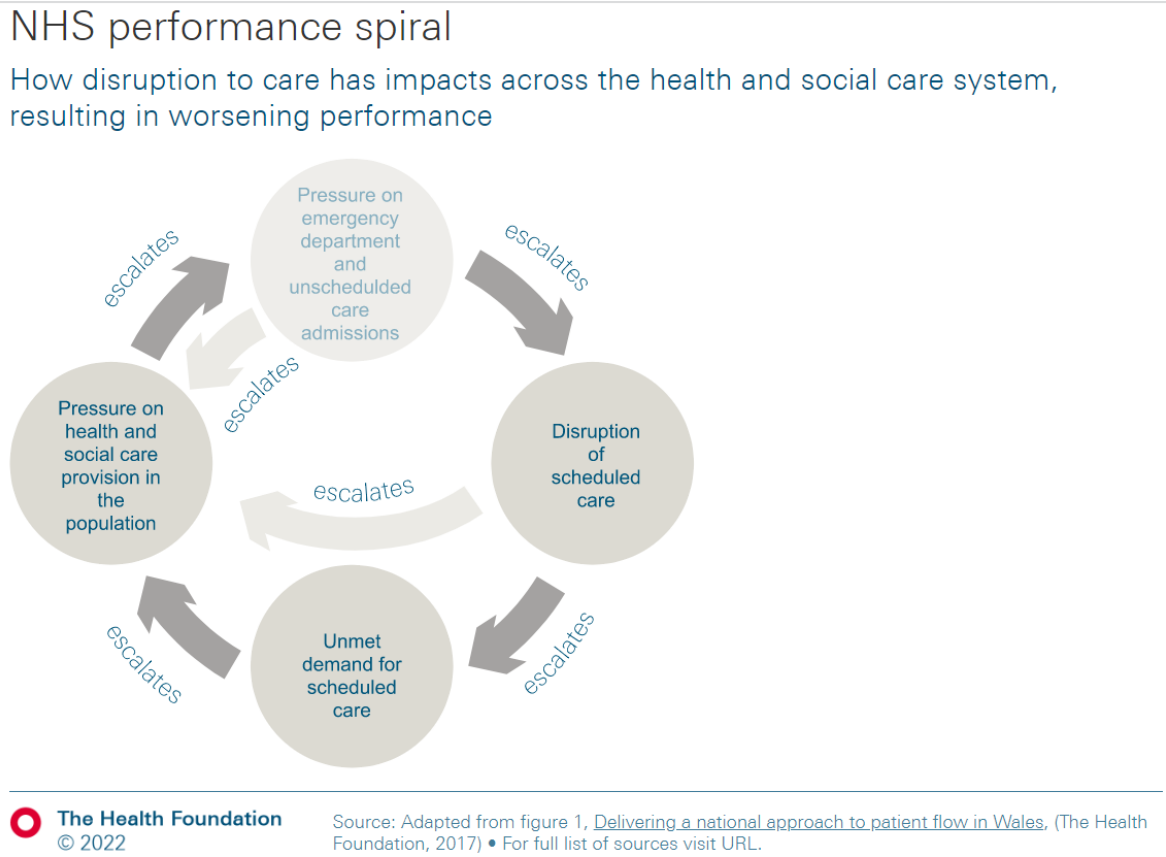
https://www.hi-netgrampian.scot.nhs.uk/information-resources/cost-of-living-crisis-emerging-evidence/

Walsh and colleagues (2022)[18] estimated that austerity measures introduced as a result of the 2008 financial crisis played a major role in contributing to approximately 335,000 excess deaths in the UK between 2012 and 2019 with the most socially economically deprived populations suffering most. The current Cost of Living crisis, unmitigated, is estimated to make the most vulnerable households £3300 worse off in real terms in 2022/23. If sustained, this magnitude of income drop could result in 200 addition premature deaths per 100,000 population. Mitigated by the Energy Price Guarantee and Cost of Living support payments, is estimated to leave the most vulnerable still £1400 worse off in 2022/23. Sustained, this is still estimated to increase premature mortality by 70 deaths per 100,000 population

Relentless Pressure on NHS and Social Care

Our NHS and Social Care system is struggling to respond to rising and increasingly complex demand. It is struggling to cope with the health consequences of an aging population that is living longer with illness and often with multiple conditions.

For the last decade, our NHS has been designed on 'lean model'; focused on short hospital stays and high occupancy. This model makes efficient use of resources, but is vulnerable to disruption. Once one part of the interconnected whole system spanning social care, community care, emergency services, acute hospital care and specialist elective care becomes disrupted, the knock on disruptions spirals rapidly throughout the system.[7] [19]



A27 The health and care performance spiral, Health Foundation 2022

In 2022, our hospitals experienced exceptional pressure on beds. Ambulances queuing at Aberdeen Royal Infirmary is no longer a rare event. Like every health board in Scotland, waiting times in the Emergency

Department have been long. Waiting lists for elective care, diagnostics and surgery are long. Care home occupancy has been critically high, delayed discharges have risen. The demand for community care is high and the number of undelivered hours of care is also high.

There are two core components leading to sustained system pressure:

High Demand

COVID continues to create illness in our communities but that is no longer the major pressure in the system. There has been a built up demand during the pandemic as a result of disruption to care but this presents today, not simply as higher demand. The **complexity** of cases has increased. More people are presenting later in their disease journey, some as emergencies rather than planned care, and, as a result, their care is more complex. In some areas the **increase in need** is also evident, often trajectories that were already set before the pandemic but, highlighted now ever more. For example – mental health, drugs and alcohol, cardiovascular disease admissions have all increased. The cost of living crisis places more people acutely at risk. Cold temperatures and high cost of fuel this winter meant people in our community were cold in their own homes. Temperatures below 18^{o}C inside start to make our bodies work harder at keeping warm. The risk of stroke and heart attacks increase. People with pre-existing respiratory disease experience more exacerbations. Babies and young children are particularly vulnerable to being cold. Babies growing up in in these conditions may not reach their full developmental potential. Children from cold homes are more likely to have respiratory problems. Furthermore children in poor housing conditions are more likely to have mental health problems such as anxiety and depression. These adverse outcomes reflect both the direct impact of the housing and the associated material deprivation.[20]

Staffing

Overall, in the UK, staffing numbers in health and social care have been increasing but that is a gross simplification in terms of the impact on pressure in the whole system. In the **NHS staff numbers have increased but not uniformly across all domains**. **Experienced staff** who perhaps worked on, or returned into the work place, as part of the pandemic have now retired across the NHS. The shortage across the UK then **impacts our recruitment and retention locally**. In small specialties, the loss of key staff can be particularly disruptive. **Training has been disrupted.** A high reliance on locum and bank staff disrupts teams**.** People are tired, and being asked to repeatedly respond to the next crisis continually strains resilience.

In social care, it is a similar picture but worse with **overall staffing reduced** and recruitment difficult**.** The number of beds had reduced over last decade by around 15% (20% in Aberdeen City, 11% Aberdeenshire, 7% in Moray)[21] Grampian with a lower rate of care home beds per 1000 people aged 65years and above as compared to the Scottish Average (35 per 1000 for Scotland; 35 in Aberdeen City, 31 Aberdeenshire, 27 in Moray) and sustained higher occupancy.

Consequences of being in response mode

For the last 12 months, our health and social care system has been in response mode, dealing with high pressure. Teams have worked tirelessly to mitigate and adapt. Winter always brings additional pressure and, rather than reprieve from the pressure of COVID, this year we are seeing the added demands from

other threats to our population health. This sets us up for a 2023 where we will continue to grapple with the strain of high pressure across the whole system.

The demand for care is anticipated to grow throughout the next decade.[7] [22] The population is ageing. People are living longer in poor health and more people have multiple complex conditions to deal with. The pandemic has worsened health; widening inequalities worsen health; the cost of living crisis is worsen health.

The consequence of the sustained pressure is delays to care – whether that is acutely with slower ambulance response times, longer time spent waiting for diagnostic tests and treatment, or delays to getting social care support at home. For many people that delay leads to a worsening of quality of life and/or a deterioration in the condition.

Continuing to only respond reactively from crisis to crisis**, locks us in us in to using our resources to manage worsening health in our communities in an environment of increasing health inequalities, and focused on crisis management**.[23]

Infectious Diseases

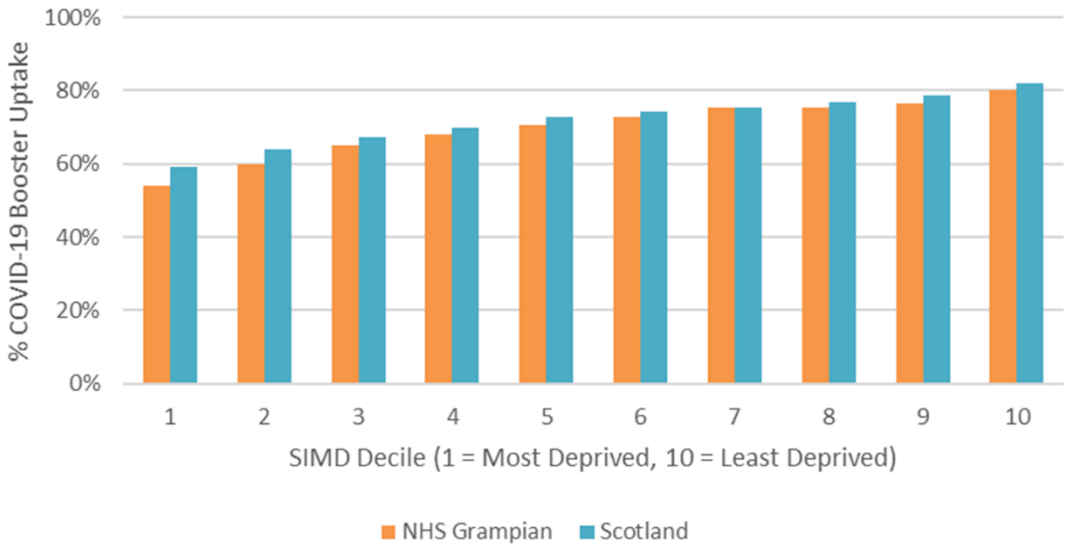
We live in a global environment where the conditions remain right for future pandemics and antibiotic resistance continues to grow. **Children and the most vulnerable in our communities are hit hardest. The conditions that enable infections to spread reflect inequalities in our communities.**

- **uptake of vaccinations**
- **access to sick pay**
- **access to clean water**
- **overcrowding and poorly ventilation**
- **inappropriate use of antimicrobials**

Infectious diseases continue to play an important part for our health:

COVID

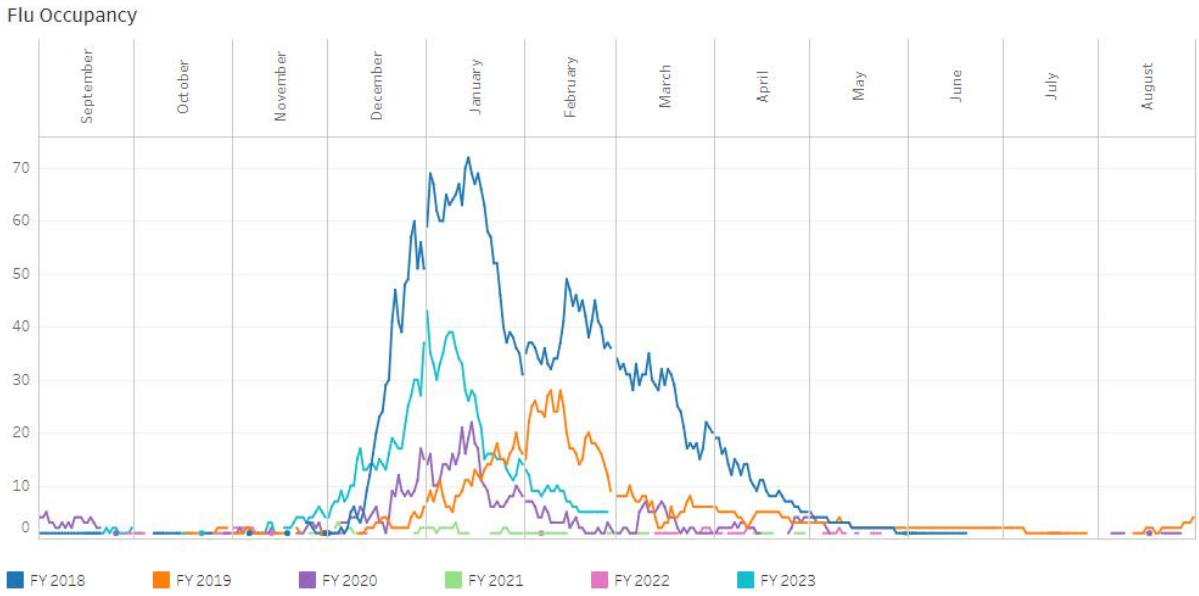
COVID continues to circulate in our community and globally remains challenging. The reintroduction of control measures for those travelling from China at the end of 2022 is a reminder of the global situation. Where there are high levels of infection in partially immunised communities, the risk of mutation remains a threat in terms of increased transmission and/or increased risk to health. **Our vaccination programme continues but with each round, uptake is lower particularly in some key workforce groups and our most socio-economically deprived communities**. As immunity wanes, that places more people at risk to infection and the cycle of balancing the timing of each round of vaccination to provide maximum protection to the most vulnerable remains. **COVID 19 will continue to be an important annual infection.**



A28 COVID 19 booster uptake for Grampian and Scotland by SIMD deprivation decile

Influenza

By the end of November 2022, it was clear that we were heading into the worst influenza year that we have experienced for some time. Again we rely on a vaccination programme that has generally good uptake but uptake is not as high as it could be in all eligible groups, with the same key workforce groups (45% uptake in Health and social care workforce) and those from the most deprived communities having the lowest uptake. The lower uptake of influenza vaccine in those of working age places pressure on services and businesses as staff absences increases. The advice to stay away from work while symptomatic is made more difficult because of the inequitable nature of sick pay and contracts that leave people vulnerable. The impact for businesses is, however, that the infection spreads throughout the workforce. By February 2023, the worst of the flu season appears to have passed, and in Grampian, we have escaped with fewer admissions than the last severe flu season of 2017/18. In other parts of Scotland and the UK, the toll was much higher. Even in Grampian, the addition pressure on beds came at a time when the system was already under tremendous strain. **Influenza continues to be an important annual infection.**



A29 Influenza occupancy in all Grampian hospitals for financial years from 2017/2018 to 2022/2023

Environmental change

The health of the planet is inextricably linked to human health and wellbeing.

Climate change is the change in our global climate pattern, particularly in relation to increased levels of carbon dioxide (CO_2) & other greenhouse gases produced through using fossil fuels. The build-up of greenhouse gases leads to the greenhouse effect, which causes warming of our planet by trapping heat within our lower atmosphere. The resulting change to the planet's average global temperature is now categorised as a Climate Emergency because of the locked in impacts on society. In the UK, we are particularly at risk from drought, flooding and extreme weather events.[24]

Increased average temperatures are starting to change the patterns of disease globally. The rise in tick borne Lyme's disease in the UK has been enabled by warmer and drier conditions. Changing rainfall patterns increase the risk of droughts impacting livelihoods in our farming communities and disrupting water supplies. Instability in weather patterns increase the risk of storms and extremes in temperature. In the last 12 months we have been battered by storms causing prolonged power outages, flooding, heat waves and prolonged ice and snow. We saw the impact of severe cold weather this winter, with a 400% increase in the number of Emergency Department attendances for falls.

The summer of 2022 was hot, with Heat Health Alerts being issued in the UK between June and August of 5 occasions. It was the first time that UK temperatures exceeded 40°C. In Scotland, we exceeded our previous highest temperature with 34.8°C in Charthall. Temperatures greater than 20°C are sufficient to cause harm to health. Through each UK period of heat health alerts, mortality was increased in those aged 70yrs or more.[25]

Air pollution has further important health harms. We have seen a surge in wood burning stoves in recent years in response to storm related power cuts and the rise in oil and gas prices. Wood burning stoves and

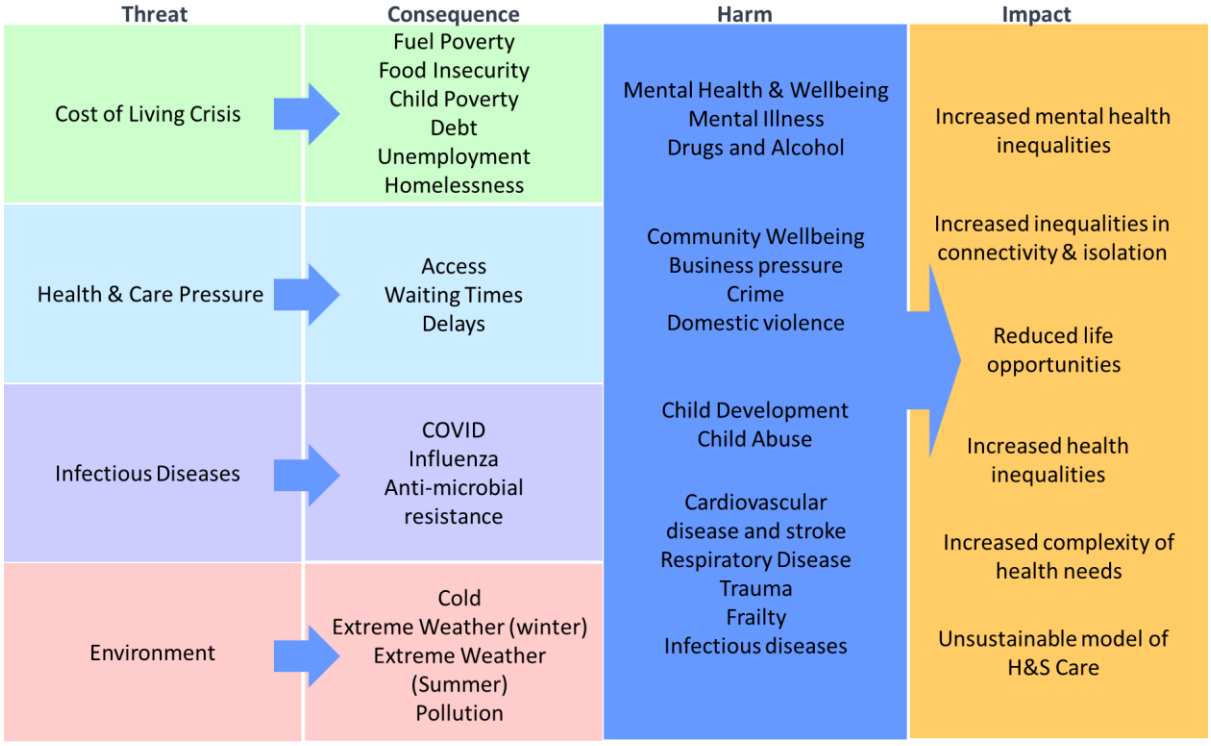
open fires increase indoor and external air pollution that can increase respiratory and cardiovascular illness.[26]

Combined pathway of impact for the four threats

Each of the four threats to health brings its own pathway of consequences. Responding to mitigate the consequences needs to be targeted to the threat. By contrast, **the subsequent harms to health and long term impacts coalesce to form a common path**. Each threat has implications for mental health and wellbeing, children's health and development, physical health particularly cardiovascular and respiratory diseases, frailty and complex multi-morbidity, infectious disease and community wellbeing. Each threat increases health and social inequalities. Each threat places further pressure on our health and social care system.

That means that **each threats accumulates a burden to health** that drives unequally across our communities. The same people often being hit on multiple fronts. Children, the frail, those with poor mental health and the most socio-economically deprived are unfairly impacted the most severely.

The accumulating impact builds over years with each threat reaching a long arm into our health future, just as the COVID 19 pandemic is doing.



A30 Common pathway of harms and impact from four key threats to population health

The spiral of weakening resilience, worsening health and widening inequality is not inevitable. Prior to 2008, we were on a very different health trajectory. We have the evidence, skills and knowledge to improve health and close the gap in inequalities. The January 2023, Health Foundation published **'Leave**

no one behind: The state of health and health inequalities in Scotland'.[27] The report identifies that there are important gaps in implementing existing policy that could help close the gap in inequalities.

- **'downstream' tailoring our responses to mitigate the consequences**
- **'midstream' to manage and prevent the common set of harms**
- **'upstream' to break the pathway to long term impact and enable our communities to adapt and respond.**

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