County Durham
Community Foundation

HEALTH EQUITY NORTH

County Durham and Tees Valley: Health, Wealth and (Unequal) Opportunities to Thrive

Health Equity North and the
County Durham Community Foundation

County Durham
Community Foundation

About Durham Community Foundation
Founded in 1995, the County Durham Community Foundation (the Foundation) works with local communities to fund projects that enrich lives and fight poverty. Through a growing network of businesses, individuals and supporters, the Foundation raises millions of pounds each year which is then distributed to community groups and voluntary organisations in County Durham and the Tees Valley all working on the ground to fight poverty, enrich lives and create sustainable communities.
https://www.cdcf.org.uk

About Health Equity North (HEN)
Health Equity North (HEN) is a new virtual institute focused on place-based solutions to public health problems and health inequalities across the North of England. It brings together world-leading academic expertise from the NHSA's members of leading universities, hospitals, and academic health science networks, with the aim of fighting health inequalities through research excellence and collaboration.
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Cite as: Bambra C, Munford L, et al (2023) County Durham and Tees Valley: Health, Wealth and (Unequal) Opportunities to Thrive, Health Equity North and the County Durham Community Foundation.

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FOREWORD

The Rt Revd Paul Butler, Bishop of Durham

County Durham and Tees Valley are areas of dramatic beauty and significant hardships.

The past two hundred years have seen the area at first expand rapidly, transforming rivers into hubs of activity, rural landscapes into centres of heavy industry, and then rapidly decline. Communities structured around coal mines, steel works, and manufacturing have been hollowed out as jobs disappeared and nothing, or inadequate work in quality and quantity, has been found to take their place.

The scars of this, both physical and social, are writ large across the population.

Ahead of 2020, life expectancy and healthy life expectancy in the North East was in a decline, fuelled in part, as this report demonstrates, by austerity. But a pandemic which uprooted people's lives and hit the North East hard, followed quickly by rapid inflation and a cost-of-living crisis has pushed people in the region into a dire situation.

This situation is outlined clearly here in this report. It finds that the inequality spread throughout English society is writ largest here.

Unemployment rates are higher, wages are less, and there are less available jobs than elsewhere in the country.

Poverty is much worse in the region than in the rest of the country as measured using every metric.

Overall children in the region are more likely to be living in poverty than their peers in the rest of the country. Middlesbrough, in particular, has the highest number of children living in poverty. And while between 2015 and 2021 child poverty remained fairly steady across England, in the North East it increased by 10%.

Health is worse; the number of people with conditions such as depression, stroke, heart disease, cancer and dementia is at least 10% higher in County Durham and the Tees Valley.

In the light of such statistics, it is easy to look at the situation despondently. But I gain hope from the outstanding work that County Durham Community Foundation is doing across the region.

The projects outlined here are testament to human spirit under adversity. Embedded in some of the hardest-hit communities, they are supporting people in their greatest time of need. They are helping carers and families; they are giving grants to those who find themselves in positions of crisis and supporting them to build a long-term brighter future.
Often the people working in these projects are making small budgets go a long way and coupled with the warmth of knowing your community cares, they can make transformational differences.

But this report shows that much, much more needs to be done. People living in County Durham and Tees Valley deserve the same opportunities as those elsewhere in the country. I urge all policy makers, local and national, to read and implement the recommendations carefully.

This report makes for shocking reading. It is imperative it acts as a wake-up call for action for all across our society.

INTRODUCTION

Dr Michelle Cooper MBE
Chief Executive of County Durham Community Foundation

"Research is great but it's time we saw action."

These words belong to Loujane Alasi, from Success4All, a North-East charity for children and young people, who posted on Linkedin her frustration at report after report leading to no change on the ground for charities.

It is my aim, on behalf of Loujane and every other charity worker in County Durham and Tees Valley, that our report be a clear call for specific action, and that we pursue our recommendations with determination as we aim to fight poverty and enrich lives.

There's a chance coming and we need to grab it. Once new secondary legislation enables their inclusion, dormant assets funding will begin to become available for a Community Wealth fund in England. The fund will be used to give long-term financial support for the provision of local amenities and other social infrastructure.

Trusting local community foundations with Community Wealth funds is the right thing to do, and our number one recommendation in this report. I think our team have earned their stripes. In the last five years alone, thanks to our generous supporters, they have awarded £21million through 5,700 grants. Each year we support more than 600 groups in County Durham and Tees Valley and our Poverty Hurts Appeal has raised £838,000 to help combat the cost-of-living crisis and hardship deepened by the pandemic.

Why more money is needed is covered, in extensive detail, in the research that follows. Our health is at stake, our lives are shorter, and when the global economy staggers, our deprived communities get sucker punched. I believe we can turn this around.

Over the last five years of leading County Durham Community Foundation I have become radically committed to empowering local communities to change their fortunes through impactful funding. Now is our chance to reward and invest in their relentlessly practical projects.

The voluntary and charity sector in County Durham and Tees Valley is powerful; a force for good that has risen out of the ashes of collapsed industry and more recently, the pandemic. Yet it is often unseen as the solution it is and could be to some of the evils in our communities: hunger, poverty, rising infant mortality rates, an absence of chances and choices: thin coats, empty cupboards, parents and pensioners crying over bills they cannot pay.

Nor is their work a sticking plaster on a broken leg. As they deal with crisis, they also create opportunity for long-term change in households across the region. These charities are supporting the next generation to thrive, helping people access education and employment and bringing art and culture to those that were once shut out and shut off from these opportunities.

It feels like we have built something special together – a massive response to the deepening poverty in local communities. For a long time we have had the heart to do what we do, now I hope you will see that we have the research to support the why, and a way to move towards a better future that is for everyone in County Durham and Tees Valley.

Health is the greatest wealth, and our small local charities are doing so much. The time has come to get real and support them in a meaningful, long-term way that transcends party politics.

Convinced? Read on, share, and get behind us as we take charge of our future.

EXECUTIVE SUMMARY

The living standards and prospects of many individuals and families in County Durham and Tees Valley are being hugely affected by inequality - both economically and socially, leading to higher levels of poverty, poorer health, reduced life expectancy, and greater marginalisation.

This in-depth report, commissioned by County Durham Community Foundation (Foundation) – a grant-making charity which connects donors and funding to community projects, groups, individuals and families in need – examines current internal and external factors as well as the historic reasons for deprivation and poverty in the area. The report, which looks at the relationship health has with the local economy and population, encompasses:

- Social and economic inequalities
- The aftermath of COVID-19 and the current cost of living crisis
- The state of the population's health and wellbeing
- How the area compares to other parts of the country
- The consequences of historic factors, and
- The impact of national policies

It concludes with several strategies, policies and solutions that are needed to be developed and implemented to overcome the great divide in health, wealth and opportunities for people living in County Durham and Tees Valley compared to other areas of the country. Its recommendations will be shared with government, politicians, decision makers and stakeholders with the power to improve the lives of County Durham and Tees Valley residents. It is the Foundation's view that its recommendations, if actioned, would make a sizeable contribution in the drive to eradicate poverty and deprivation, and close the gap between this left-behind area and other regions of the UK.

For many families in County Durham and Tees Valley, the current economic chaos is deepening already long-term problems in the area.

Poverty is the leading driver of imbalances between County Durham and Tees Valley and the rest of the country, leading to worse physical and mental health, poorer life chances, and shorter life expectancy.

While the burden of rising living costs is being felt across the country, as with COVID-19, it is hitting places like County Durham and Tees Valley harder than others.

Even before the pandemic, the UK's uneven economic geography combined with an enduring period of industrial decline, contributed to a poverty and public health crisis in the region.

This has been compounded by years of austerity-driven cuts to regional public services, welfare reforms, and changes to government health and education funding formulas.

The burden of these changes has fallen disproportionately heavily on County Durham and Tees Valley and on particular population groups, including working-age families with children. Simply working is no longer a route out of poverty.

Now, issues such as the unsettled economic impacts of Brexit along with those triggered by the war in the Ukraine are sending the price of food, energy, and fuel spiralling. As a result, families are experiencing further acute economic stress, as real household incomes fall and living costs continue to soar.

Many of the area's poorest families are facing increasingly impossible dilemmas as they find there is very little left to cut back on; for them the options are simple, yet stark and grim - go without the necessities, fall behind on essential bill payments, or take on debt.

The legacy of the demise, decades ago, of mainstay industries particular to the area is still being felt by today's generations. More recent deindustrialisation, including the final dismantling of the steel industry, is also taking its toll.

But it is not just unemployed people and their families who are currently struggling; people in work – some of whom rely on Universal Credit to top up their wages – are seeing their futures, wellbeing and living standards compromised.

The key facts contained in this summary highlight at a glance the depth and breadth of the disparities, but it needs to be remembered that behind these statistics lie real people, who are struggling to simply live happy and healthy lives; to provide for their children. To illustrate what is happening, a range of compelling case studies have been included in the summary. These show that where industry and policy have fallen short in providing the basic necessities for people in County Durham and Tees Valley, local charities and organisations mobilised to step in to fill the gap.

Community-focused initiatives supported by the Foundation are helping drive change with the local voluntary and community sectors, working alongside residents, to make a significant difference at grass roots level.

This report shows that by investing in a targeted way to implement strategic interventions directed at people and places, allied with enabling the power of community action, the effects of poverty, social and economic disadvantage, and health inequalities can be changed for the better.

KEY FACTS

Jobs, labour market, and poverty

Unemployment rates in County Durham and the Tees Valley are at

6.1%

of the workforce, compared to

4.1%

nationally

The number of available jobs in the region is lower than the national average with **0.69 jobs per worker aged 16-64** available, compared to **0.84 on average nationally**.

Wages are below the national average: in County Durham and Tees Valley the average wage is

£551

per week, compared to

£613

per week, nationally

There are higher than average rates of Universal Credit Claims in County Durham and Tees Valley. In Hartlepool, the rate is

23.9%

and in Middlesbrough

23.0%

which is almost double the national average **(13.5%).**

People have fewer qualifications and are paid less than those in the rest of England, despite working the same number of hours.

Economic productivity

Deprivation is one of the leading causes of ill-health, and results in worse health outcomes. People in County Durham and Tees Valley suffer from greater poverty than those in the rest of UK as measured using every metric.

If the health of people in County Durham and Tees Valley was brought up to the national average, at least an additional

£4bn

per year would be added to national productivity.

This means health inequalities in County Durham and Tees Valley cost the UK economy £4bn each year in lost productivity.

Life expectancy

All-cause mortality rates in County Durham and Tees Valley are between **10%** and **35%** higher than the national average

People live shorter lives in the region

The average life expectancy in England for men is

79.8 years.

In County Durham it is

78.3 years (1.5 years less) and

77.7 years in the Tees Valley (2.1 years less).

The average life expectancy in England for women is

83.4 years.

In County Durham it is

81.8 years (1.6 years less) and

81.4 years in the Tees Valley (2 years less).

Male 'healthy life expectancy' in England is **63.1 years**. In both County Durham and Tees Valley, it is only **58.8 years – 4.3 years less.**

Female 'healthy life expectancy' in England is **63.9 years**. It is **4.0 years less** in County Durham at **59.9 years** and **3.8 years** less in Tees Valley at **60.1 years** (2017-2019 figures).

The COVID-19 mortality rate was

18.3%

higher in County Durham and

18%

higher in the Tees Valley than the English average (March 2020-April 2021).

Health conditions

Chronic health conditions and long-term ill health are more common in County Durham and Tees Valley.

The number of people living with a limiting long-term illness is higher than the national average of

17.6%

across County Durham and Tees Valley. In County Durham it is

23.7%

in Darlington
19.6%

Hartlepool
23.2%

Middlesbrough
20.9%

Redcar & Cleveland
22.8%

Stockton-on-Tees
19.0%

The amount of people with major health conditions such as depression, stroke, hypertension, diabetes, respiratory conditions, heart disease, cancer and dementia, is at least **10% higher in County Durham and Tees Valley**.

Health care use

More people in the region are on anti-depressants. **Nationally, anti-depressant prescriptions are 4.6 per person** in County Durham they are at

6.8 per person

and in Tees Valley at

6.2 per person

Emergency hospital admissions in County Durham and Tees Valley are well above the English average. In County Durham they are **8.1% higher**, Darlington **10.1% higher**, Hartlepool **33.5% higher,** Middlesbrough **32.1% higher**, Redcar and Cleveland **10.0% higher** and in Stockton-on-Tees **29.8% higher.**

Health habits

Hospital admissions from alcohol-related causes are higher at

598 per 100,000

compared to 456 per 100,000 in England.

Deaths from drug misuse are higher, with **11.7 per 100,000 dying, compared to 5.0 per 100,000 in England**.

Social and economic reasons mean people have less healthy habits in County Durham and Tees Valley.

The proportion of adults eating five portions of fruit and vegetables per day is **50.7% in County Durham and Tees Valley** compared to **55.4% nationally.**

The percentage of physically inactive adults, who do less than 2.5 hours a week of moderate exercise, is at least 10% higher than the English average in five of the six local authorities in County Durham and Tees Valley.

16.0% of adults in County Durham and Tees Valley smoke, compared to **13.9%** in the rest of England.

Children

Child poverty rates are extremely high with

38.7% of children in County Durham and Tees Valley in poverty

compared to 27% nationally.

The rate of emergency hospital admissions for children under five years in **Middlesbrough is 70.6%** higher than the national average. In County Durham it is **35.6% higher,** in Darlington it is **74.4% higher,** Hartlepool is **52.4% higher,** Middlesbrough is **70.6% higher,** in Redcar and Cleveland **59.7% higher** and in Stockton-on-Tees is **56.0% higher** than the national average.

CASE STUDIES: HELPING TURN THE TIDE AND MAKING A DIFFERENCE

As an independent grant-making foundation the County Durham Community Foundation (the Foundation) has worked on the ground in the North East since 1995. It enables individuals, families or organisations who want to make a difference to their communities to do so profoundly, by directing funds to the areas it's needed most.

It's community-first approach allows them to understand the changing needs of community groups and the people they serve and adapting their grant-making accordingly.

Working with some 600 community groups or grassroots organisations annually, the Foundation are uniquely placed to attest to the impact of embedded, local expertise and the significant difference that can be made with a relatively small amount of financial support.

These case studies from the Foundation's portfolio of grant-making demonstrate the big impact of small organisations.

The LADDER Centre

Grant funding is the mainstay of the LADDER Centre's sustainability; the Foundation's Community Action Programme provide charities such as LADDER Centre with the means to deliver their services.
The LADDER (Lakes and District Development Education Resource) Centre in Ferryhill works to build opportunities, help people into work, and change households' monetary circumstances through dedicated and tailored support.

Founded more than 20 years ago in a housing estate situated within the top 20% most deprived nationally, the LADDER Centre continues to offer free support and guidance through IT access, tailored training in financial and digital literacy. From an adapted house, it provides volunteering opportunities, benefits advice, and social groups to reduce isolation, boost mental health and to restore a sense of connection and confidence.

The results are real:
"One client had been out of work for some time and was suffering from low confidence. He struggled to use IT and would always avoid it where possible. [We] supported him to not only learn new skills and improve his confidence with using IT but also supported him to complete the online application process for [a local employer]. [We] supported him throughout the interview process and even supported him with the online training when he had been given the job. [He] said that without the support provided by us he would have never been able to apply for this position."

The LADDER team is primed to create opportunities for people, and to help them access and use a range of technology. Laptops, tablets and mobile phones enable people to search and apply for jobs online, set up internet banking and shop online, and to stay in touch with family and friends. Centre staff work with partner organisations, such as Spennymoor JobCentre Plus and Livin, a local social housing provider, to support all people in the area in whatever capacity they can.

Lifeline Community Action

Providing emergency aid and supporting services to families and individuals at times of great need, Lifeline Community Action helps people to cope with the cost-of-living crisis. Based in Newton Aycliffe, it supports people across the whole of County Durham and Darlington through a small team of staff supported by local volunteers.

Due to the current economic crisis, more people are turning to them for help, directed there by social and frontline support workers, food banks, domestic abuse charities, and social housing providers, as well as self-referrals.

"Today has been a tough day. We got a call to say that a worker was helping a lady who is terminally ill and receiving treatment at home. Unfortunately, they advised that her heating had broken down, and the cold could make her condition worse. We jumped into action and, thanks to the Poverty Hurts Programme funding from the Foundation, we have been able to go out and purchase heaters, a thick duvet and bedding, warm blankets and a hot water bottle for this lady."

Staff stretch the funding and grants they receive as far as possible, targeting the most pressing issues and sourcing the most cost-effective supplies, such as providing high tog duvets, throws, blankets, hat and glove sets, dressing gowns and slippers, proving an immense help to people struggling to keep warm.

"One lady that came in told us they were looking for extra jumpers to layer up in the house and they're essentially living in just one room so they don't need to heat the whole home. I hate the thought that someone is doing that."

County Durham Community Foundation (Foundation):

The Foundation helps tackle poverty in all its forms and enriches lives by matching the people who love to give, with worthy causes in County Durham and Tees Valley. The Foundation's core values are helping people, families, and communities in crisis, through support for the voluntary sector and community organisations, but as importantly helping to build long-term social resilience.

With an in-depth understanding of the area and an awareness of the priorities and strategies around how best to address them, the Foundation works with supporters to target their donations to small, very local and trusted charities, community groups and individuals. Its impact in helping to improve the wellbeing and life chances and financial stability of individuals, families, community groups and charities, is substantial and far reaching.

Between 1 April 2022 and the 31 March 2023 the Foundation awarded £4,435,163 in grants to charitable groups and community organisations in County Durham and Tees Valley.

- **Provided 916 grants to groups**
- **Made 360 grants to individuals**

Grants have funded initiatives to help people access basic essentials, welfare rights, and money advice, enhance their social participation and to live with dignity – to feel 'normal'. The Foundation not only finances schemes that support people to look after their health and wellbeing, but also those that develop local skills and capabilities that boost the area's financial and social resilience.

The Foundation's work has become even more important in the wake of the COVID-19 pandemic, and the current cost of living and energy crises. Charities and community groups, many of which already had relatively low-level reserves, have found it even tougher money-wise.

Here, the Foundation provides timely and targeted support to ensure the best organisations remain economically sustainable, continuing to transform both the social fabric of local communities and the lives of residents for the better.

The Foundation provides funding to organisations and to individuals to make sure that support goes to where it's most needed, continually monitoring where funding support will make the most difference. An example of this is the Foundation's Relief in Need Programme, which channels funds provided by the Sherburn House Charity to people living in poverty across the region.

The Relief in Need programme

The Relief in Need programme provides grants directly to individuals, or to key community partners so they can respond rapidly to hardship faced by individuals using their services.

In 2022-23, grants were allocated to 250 individuals referred to the Foundation, but the total number of people benefitting from these micro grants of up to £300 was 630, most of whom were children.

Fourteen organisations also received a combined total of £50,700 in group grants, to provide support to an estimated 10,000 individuals who were using foodbanks, homeless charities, and carer support groups.

The programme's funding supported the purchase of essential domestic equipment, such as white goods, furniture, and baby equipment, as well as clothing to help people overcome some of the practical difficulties currently facing families in meeting basic needs, accessing employment, and maintaining dignity:

What an individual hardship grant can achieve:

- **£300 toward carpets**

"Having carpets down in the house has helped me and my two sons to feel happier, and not embarrassed anymore about having people into our home. It's helped my mental health - I feel more confident in my own home now. It's also much better for my two sons, but particularly my older son who has a learning disability and physical health conditions.
The house feels a lot warmer, especially on a morning. I haven't had to use my heating as much which will hopefully save me money longer term - this is a huge benefit to me."

- **£300 to buy a cooker**

"It's amazing, it means the kids can be fed straight after we get back from school and nursery and I'm not constantly having to pre-heat my [broken] oven for 2 or 3 hours. It will also mean I don't have to pay a fortune for electric because the oven is constantly on. I would never have been able to save the £300 on my own, I would have had to get a pay day loan or another advance eventually on my Universal Credit, that would have affected my benefits for years and I would have struggled with everything, especially emergencies when things break or birthday and Christmas presents. Thank you all so much, it's made a massive difference to us all."

What a hardship grant to a charity can achieve:

- 700 Club supports people affected by homelessness in Darlington and received funding to help individuals seeking to rebuild their lives, but who are doing so against the background of poverty. Trusting the 700 Club with funds themselves provided them with flexibility at the point of need, to help as needed when an individual walked through their door.

There are several funding sources that are focused on helping individuals, that their team utilise by making individual applications, but the process of applying and the uncertainty over outcome makes planning service exits more difficult. Funding from the Foundation transformed their processes, and also allowed the support worker to utilise the budget in a way that maximised benefit to their clients.

"DG has a learning disability and lives with his mum who supports him. The family was flagged up as vulnerable and in crisis and their case was picked up by our early intervention service. There were

multiple small issues, but disturbed nights made them seem much worse. DG's mum advised that her son's current bed was falling apart. He currently had a wooden slatted bed and due to DG being of a big build the slats were breaking and DG was very uncomfortable in it and no longer getting a good nights' sleep.

DG and his mum could not afford to purchase a new bed and had nowhere to turn for help.

Their Support Worker accessed the Sherburn funding held by the 700 Club. A new divan bed was ordered for DG and delivered to his address. Both DG and his mum were so pleased with the support they received. DG now has a much sturdier bed that he states is very comfortable and he is sleeping much better. His mum states that this has really helped with his general well-being, and that, in turn, has helped her."

The Foundation has several different programmes aimed at supporting groups tackle issues facing local people and communities.

Hartlepool Carers: supporting the work of carers and their families

Hartlepool Carers provides carers with emotional and practical support; much of it given by people who have their own lived experience of the pressure, challenges and isolation of being responsible for caring for someone with a long-term health condition. It has around 50 volunteers supporting 3,000 registered carers.

It offers advice, guidance, access to respite, education, employment and one-to-one and peer-to-peer support.

The organisation, which has 11 staff, has seen a 175% increase in registrations during the last two years.

Some of the youngest carers it supports are only five years old; other children-carers have so little respite that up to 40% miss school on a regular basis, risking their education and life chances.

During the pandemic, funding helped to significantly increase the numbers of volunteers, including people who were bereaved due to the virus or who had been furloughed or lost their jobs, making it possible for staff to deal with more complex work.

Volunteers were recruited to ensure all registered carers had a chance for connection and to be heard. It became clear many carers simply needed someone to talk to.

***"The impact of the charity and the power of its volunteers can be seen perfectly in the story of Sam. Sam and her husband have five children, four with additional needs. The charity has supported Sam's husband into work, which means Sam does most of the childcare, yet Sam is one of the charity's most enthusiastic volunteers, finding time to volunteer on Care for a Call, to support the charity's social media and blog, and other events. The charity has helped Sam, but Sam helps the charity and other carers – helping create a circle of positivity that ripples* outwards."**

Dawdon Youth and Community Centre to strengthen work in the community

Established in 2001, the community centre is a place for people to meet, grow, learn, and connect, sometimes when they have nowhere else to turn. It provides hot meals, emergency food parcels, offers welfare rights advice, and acts as a social hub for all ages.

One of their most valued activities is Mates 'n' Baits, when people come together for a hot meal. About half the regular attendees are veterans, and some are homeless or have mental health problems.

"These sessions are a massive benefit, as too often very, very vulnerable people - sometimes people in need - can feel there's a stigma, but having the courage to come is the first step in helping them not to feel isolated."

Its support for children and young people includes helping teenagers to put their ideas for stronger community into action, including beach clean-ups and raising awareness of issues.

"With Pride Festivals happening last summer, some of our young people came forward to say they had struggled and felt misunderstood, so we ran support sessions around LGBTQ+ issues. They've now written and produced a really good booklet called Coming Out, to raise awareness amongst school children and families. So far, they have been able to give out 180 booklets. It's opened my eyes as a youth worker and been a really good education. Young people who rarely said anything suddenly had lots to say when we got talking about these issues."

And with relatively small amounts of money, groups in County Durham and Tees Valley are providing lasting impact. In many instances, people who have benefited from funding and from services provided by groups are now 'giving back' to the community as volunteers. Funding, in the right place, can go a long way to help people transform communities:

"People who have the least seem to give the most, if you think about it. When they've got nothing, with a baby in the house and can't put their electric on, they can come to the centre. Then when they turn things around and are back in employment, and come back to us and say, 'you helped me and we want to help you' - I still get emotional! ''
Community Centre worker

REPORT RECOMMENDATIONS

Give community foundations a role in the proposed Community Wealth Funds

- Community foundations are trusted, experienced grant makers that work flexibly with community groups and are best placed to distribute dormant assets in a way which best contributes to communities.
- Community foundations reach all areas of the country, so every community in need will benefit.
- Community foundations have experience of providing high-level reporting to funding bodies and government, which will ensure the best value for communities is evidenced.
- Community foundations create long-term resilience by ensuring that the money is spent locally where it is most needed, with local ownership providing greater levels of accountability.

Give families with children enough money and security of income to meet their basic needs

- National government to commit to ensuring that benefits rise in a timely way in line with inflation long-term so that recipients aren't subjected to 'poverty tax' through no fault of their own.
- National government to immediately pause the Universal Credit five-week minimum wait, sanctions and deductions for families and consult on wider reforms to the social security system in order to invest in the reduction of child poverty.
- Remove the two-child cap on Universal Credit to recognise that additional dependants require additional money to maintain a decent quality of life and avoid poverty for the entire family.

Make sure children have enough healthy food to eat

- National government to expand Free School Meals (FSMs) to all children whose families are in receipt of Universal Credit.
- Central and local government to ensure consistent, properly planned and funded long-term support so that children and their families do not go hungry during school holidays.

Ensure that there is a joined-up and place-based community approach by national and local government to address poverty, health inequalities and the cost-of-living crisis

- National government to prioritise the development of an integrated health inequalities strategy as part of 'levelling up', with an explicit focus on children and addressing child poverty and community-wealth building, and which involves local and regional partners in its development.
- National government to increase funding allocations to local authorities to work with appropriate bodies, including community foundations, in areas with the highest socio-economic deprivation and in areas most affected by COVID-19 and ensure that this funding is consistent and long-term (eg. 10-15 years)
- National and local government to commit to funding for community wealth-building initiatives in local areas over the long-term to address health and economic inequality, which would give local residents more control over living conditions, services, and the development of local social and economic infrastructure.
- National government to consult on a new Community Power Act that would give local residents new local powers and rights (including rights in relation to significant assets of community value, to shape public services and in spending decisions).
- Integrated Care Systems to maximise their roles as local health and economic 'anchor organisations', commissioning to ensure social value, including ensuring that there is balance between investments in community-based health promotion (including community power initiatives, community hubs, advocacy services), condition management and other prevention services that promote the health and wellbeing of the local workforce.
- Area-level measures of physical and mental health should be developed to better understand place-based inequalities and be integrated into funding decision-making.

CHAPTER ONE
KEY FINDINGS

KEY FINDINGS

This report examines health in County Durham and Tees Valley. Health is a key indicator of wellbeing and prosperity. Good health and wealth go hand-in-hand and drive each other forward. County Durham Community Foundation commissioned this report by Health Equity North to look at health in County Durham and the Tees Valley, the relationship this has with the economy, and how the work that the Foundation does influences health outcomes.

The main findings from the report are outlined in chapter one. In chapter two the report authors take an in-depth look at Health and Wellbeing in County Durham and Tees Valley, at the geography and industrial history of the two areas, public health policies and behaviours and how this has influenced them today.

In chapter three, Health check: the state of health and wellbeing in County Durham and Tees Valley, the authors examine a range of factors across health, employment and wellbeing to gain an understanding of the issues faced by the region.

In chapter four, the economic impact of health inequalities in County Durham and Tees Valley is looked at, taking information on health outcomes and productivity to understand what impact these have on the economy of the region.

We end with a series of recommendations to government. This report is an important piece of work to gain a fundamental understanding of the health and wellbeing of those in County Durham and Tees Valley. It should be used by policymakers at a national and regional level, by governmental and non-governmental organisations and those wishing to help deal with the issues outlined in the report.

Economic Background

County Durham and Tees Valley are geographically diverse, with a rich economic history. Former industrial towns along the coast (such as Hartlepool) and former industrial hubs (such as Consett) are interspersed with many mining villages, particularly around the historic city of Durham and in the north of the region. These contrast with the shipbuilding and manufacturing centres of Tees Valley in the South. To the East, the area's coastline, from Seaham to Redcar, brandishes remnants of an important industrial past, alongside striking and wind-swept beaches. To the West are picturesque countryside areas of Weardale and Teesdale, whose rural villages are deeply connected historically to farming, lead mining and the stone quarrying prior to the industrial revolution.

Despite the region's rich economic history, County Durham and Tees Valley have not recovered from declines in coal mining and manufacturing in the later parts of the 20th century. These were industries upon which our national economy and British capital was once reliant[1] and upon which local people relied for jobs, their sense of identity, belonging and opportunities for social connection.

In Tees Valley, as communities in the area grew throughout the 19th and 20th centuries, industrial work and the stability and security it provided became central to the cultural identities of the area's towns[2]

The latter half of the 20th century saw the beginning of deindustrialisation in Britain, including the closure of collieries.[3] While 11.7 million people were employed in productive industries in 1966 (more than 30% of the British workforce), by 2019 this had declined to just 2.7 million (less than 8% of the workforce).[4] County Durham and Tees Valley were greatly affected by this process of economic and social change.

In Country Durham, coal production in Durham peaked in the early 20th century, when nearly 30% of men in County Durham were employed by coal mines.[5] By the time of the Great Depression of the 1920s and 1930s, relatively old mines in the region were becoming unprofitable and were closed, and reduced demand for new ships dealt a strong blow to local ironworking and shipbuilding industries.[6] While increased demand for coal during World War II bolstered the area's coal industry and saw the mines nationalised in 1946, the post-war period saw the resumption of colliery closures, which continued apace throughout the 1960s and 1970s.[7] In response to the National Coal Board's plan to close 20 major coal pits across Britain, miners in Durham participated in the 1984-85 Miners Strike, one of the largest industrial actions in British history.[8] Coal mining continued to decline throughout the end of the 20th century and after a series of ownership changes the Ellington Colliery, the North East's deepest mine and last colliery in County Durham, closed in 2005.[9]

Tees Valley was particularly affected by deindustrialisation with industrial and manufacturing corporations leaving the area to take advantage of lower cost manufacturing in the global south. The collapse of the international market for super-tankers in the late 1970s devastated the local shipbuilding industry, contributing to a 27.7% reduction in the employment in the industry in Britain in 1979.[10] At the same time, national policy decisions to privatise industries such as shipbuilding and steel production, with the intent of making them more cost-effective, and industrial employment and trade union membership declined in the area. Spending on welfare benefits was reduced, leaving recently unemployed industrial workers vulnerable to poverty.[11,12] Between 1971 and 2008, more than 100,000 jobs in the productive industries were lost in Tees Valley.[13] While this deindustrialisation was most evident in the latter half of the 20th century, the process has continued into more recent years. The Tees Valley steelworks, the second largest in Europe, closed in 2015, resulting in the further loss of thousands of jobs.[14]

Between 1971 and 2008, more than 100,000 jobs in the productive industries were lost in Tees Valley[15]

National policy disadvantages the region

Deindustrialisation and national economic policies of the 1980s left the people of County Durham and Tees Valley economically and socially vulnerable at the start of the 21st century. Not only had local people lost job opportunities and a stable source of income, but opportunities to connect, to identify, to feel valued and belong were also fractured.

More recently, families in the region have been further devastated and disadvantaged by national economic measures introduced following the 2008 global financial crisis, including: significantly reduced public expenditure with cuts to local authority budgets; reforms and reductions in welfare services, housing benefits and tax credits; and below inflation increases to the NHS budget.

Together, these austerity measures reduced local authority spending power by 28.6% in real terms from 2010-11 to 2017-18,[16] with inequalities in spending reductions across the country. A heavier reliance on central government grants in more deprived regions meant that these experienced greater cuts, leading to service reductions in sectors that linked to public health, including housing, highways and transport, environment and regulatory, and planning and development services.[17]

The poorest 20% of local authorities, including Middlesbrough and Hartlepool, had to make cuts to adult social care of 17% per person, compared to only 3% in the least deprived fifth of areas[18]

At the same time, the local government public health grant has been cut by 24% in real terms per capita since 2015/16, equivalent to a reduction of £1bn.[19] Again, the reduction has fallen more heavily on the most deprived areas of England, including County Durham and Tees Valley, and despite local authorities being challenged by growth in demand for services such as social care, alongside other cost pressures.[20]

In Middlesbrough, the per capita cut to funding has been one of the largest at £39 per person per year and in County Durham there has been a reduction of £32 per person per year[21]

The worst-hit local authority areas – mainly located in the North and including places such as Middlesbrough – have lost around four times as much funding per adult of working age as authorities least affected by the cuts, which are found exclusively in the South and East of England (e.g. Hart, Hampshire).[22] Middlesbrough has lost £490 per adult per year and Hartlepool £430 per working age adult, compared to £150 in Guildford in Surrey, £140 in Richmond upon Thames, and £130 in Hart district in Hampshire.

Wider studies have found that cuts to local authority budgets and reductions in regional finances from welfare reform have been associated with immediate adverse health impacts.[23] Research suggests that subsequent pressures that have been placed on key social and health care services resulted in up to 10,000 additional deaths in 2018 compared to previous years.[24] Research reports have also found that reductions to local authority service spending may have had negative impacts on health and widened health inequalities. For example, a £100 decrease in annual local government funding per person has been associated with a decrease in life expectancy at birth of 1.2-1.3 months between 2013-17.[25] Spending reductions have also been associated with increased hospital admissions in more effected areas.[26] These are all reflected in concerning health outcomes in County Durham and Tees Valley, which are considered in the Health Check section below.

Simultaneously, national welfare reforms have undermined the adequacy of the social security system, leaving many families living on low incomes in economic hardship. Research based on Treasury data suggests that post-2015 welfare reforms to tax credits, housing benefits and child benefit have taken almost £13bn a year out of the economy,[27] with the financial impact of reforms most severely impacting on the poorest areas of the country, where a higher proportion of the population is in receipt of benefits and tax credit support: many of which were former industrial communities, including those in County Durham and Tees Valley, and less prosperous coastal areas, including those on the east coast of the region.[28]

Research suggests that welfare reforms have particularly affected poorer working-age families in areas such as County Durham and Tees Valley: with the poorest 20% of families losing an average of over 8% of their income.[29,30] Moreover, the introduction of the two-child limit to the child element of universal credit or equivalent legacy benefits has been shown to drive poverty in larger families, with recent analysis suggesting that this policy is the leading driver of child poverty across the UK.[31,32,33] Research also shows that the introduction of the universal credit five-week minimum wait and advance payment process, along with high benefit deduction rates, often leads to 'a domino effect' of debt and mental health challenges, including psychological distress for parents and their children.[34]

COVID-19 and the cost of living crisis

The advent of the COVID-19 pandemic added to the economic challenges discussed above. Not only have prolonged disruptions to global trade and lowered productivity due to lock downs (especially in China) contributed to increases in the costs of goods post-pandemic, but as demand has outstripped supply and wages have been increased in some sectors (such as hospitality), the costs of basic goods has increased. As a result, global food prices reached a ten-year high during 2021.[35] This worsening situation has been exacerbated by Russia's illegal invasion of Ukraine in 2022. Subsequent monetary and fiscal responses from governments and central banks to address it have included interest rate rises, energy price subsidies and caps, and tax cuts. Yet concerns have been expressed by economists that these might add to inflationary pressures,[36] as well as increasing the costs of housing (e.g. mortgages, rents), borrowing and business investment.[37]

In consequence, the UK is currently experiencing a 'cost of living' crisis, which is not only putting a severe strain on family budgets, but also on people's physical and mental health, as people deal with the stress, anxiety and practical challenges of trying to make ends meet. Many of the poorest families in County Durham and Tees Valley face increasingly impossible dilemmas, as there is very little left to cut back on:

...the options are simple but grim: go without essentials, get behind with essential bill payments, or take on debt[38,39]

Poverty: unequal access to social and economic opportunity

The combined effect of the processes described above is poverty, disadvantageous living conditions and unequal access to social and economic opportunity in the County Durham and Tees Valley region. As a result, more people in the area are without employment or are working in 'lower skilled' occupations than the national average; wages are lower than the national average; more people have no or few educational qualifications; and there are more people, including children, living in poverty.[40]

A range of different measures illustrate the extent of poverty and inequality of opportunity for people in the region, and also reflect a higher vulnerability of families to the current cost of living crisis:

- Children in County Durham and Tees Valley are more likely to be living in poverty than their peers in many other areas of England: 38.7% of children in the region are growing up in poverty compared to 27% in England[41] - Middlesbrough in particular has the highest proportion of children living in poverty in the region[42]
- Whilst child poverty remained relatively constant across England between 2015 and 2021 (at 29%), it increased by 10 percentage points in this same time period in the North East (from an average of 28% in 2015-16 to 38% in 2020-21)[43]
    - Between 2015 and 2021, child poverty rates increased by 13.0 percentage points in Redcar and Cleveland; 12.4 percentage points in County Durham; 12.2 percentage points in Middlesbrough; 12.0 percentage points in Darlington; 11.8 percentage points in Stockton on Tees; and 11.6 percentage points in Hartlepool.[44]
- Job availability is lower than the national average in County Durham and Tees Valley with 0.69 jobs per worker aged 16-64, compared to 0.84 in England as a whole[45]
- Unemployment rates are at 6.1% of the workforce, compared to 4.1% in England[46,47]
- The proportion of the workforce employed in the lowest occupational groups in County Durham and Tees Valley is higher (at 20.6%) than the English average (at 15.1%), and the proportion of the workforce in managerial roles is lower (at 7.5%), compared to the English average (of 10.6%)[48,49]
- A higher proportion of the workforce has no educational qualifications in County Durham and Tees Valley (7% of the workforce) than in England overall (6.6%)[50]
- Wages are below the English average, despite people in the region working the same amount of hours: in 2019, median annual gross pay

was £2,533 less than the English average (£22,617 compared with £25,150)[51] (Figure 4.1) – these wage differences are due to the nature of the local economy and the types of job opportunities available

- For both males and females living in England, and specifically those in the County Durham and Tees Valley area, there has been a real term fall in annual gross pay from 2010 to 2021[52] - the size of the reduction is broadly similar in County Durham and Tees Valley as the English average (about 5% for males and about 2.5% for females) and so there is no evidence that the gap in pay has narrowed over the past twelve years (Figure 4.2).
- All localities in County Durham and Tees Valley have higher than average rates of Universal Credit (UC) Claims for both claimants in and not in employment: the UC claimant rate for Hartlepool (23.9%) and Middlesbrough (23.0%) is almost double the English average (13.5%) (Table 2.1)
- There are 34 'Left Behind' Neighbourhoods (LBNs) in County Durham and Tees Valley, defined as wards with high rates of economic deprivation, alongside low connectivity and cohesion[53,54]

Poverty, disadvantage, and the state of health inequality

Everyone is at some risk of poverty. Crises and life events – getting sick, having an accident, losing someone you love, a relationship breaking down – can all tip a family into hardship.[62,63,64] Yet these factors cannot explain the regional-level patterning of poverty and economic disadvantage in County Durham and Tees Valley described above. Rather, regional trends reflect the differential powers and resources that people in the area can draw upon to meet their needs; the policy choices that have been collectively made about how the country is organised; and thus about how social and economic opportunities are spread across the UK.[65,66]

The UK's fractured economic geography, the local labour and housing market, and differential access to well-paid and secure jobs (as described above) all matter, as do issues with accessing suitable childcare, transportation, community services, social connection and belonging; the adequacy of the design of the social security system as a safety net; and forms of social marginalisation and discrimination (based on ethnicity, disability, age and other aspects of identity).[67] Together, these jointly shape whether or not families in County Durham and Tees Valley can access resources to meet their needs, to protect their health and wellbeing, and to thrive.

Past national policy choices, disadvantageous living conditions, and now the current cost of living crisis, are reflected in an enduring, yet now unprecedented, child poverty crisis in the region, with concerning implications for public health and wellbeing. Research shows that children and families in the North East are the 'most vulnerable' to the current cost of living crisis across the whole of England,[68] and thus at most risk of experiencing difficulties in affording energy to heat homes and basic

Figure 4.1: Median annual gross pay in 2019[55]

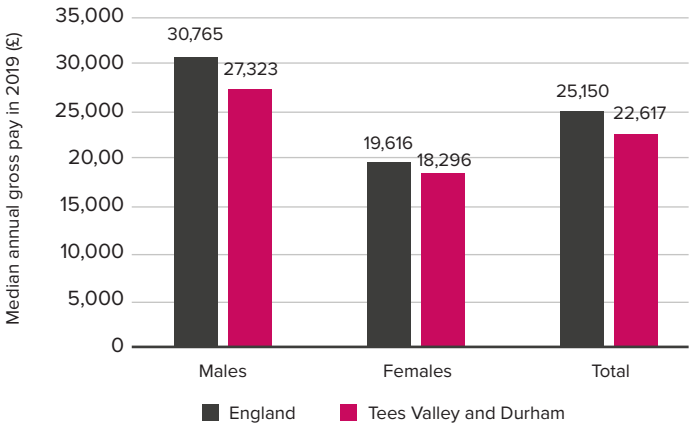


Figure 4.2: Median annual gross pay in 2020 prices; 2010 to 2021[56]

(Source: Annual Study of Hours and Earnings, via NOMIS)

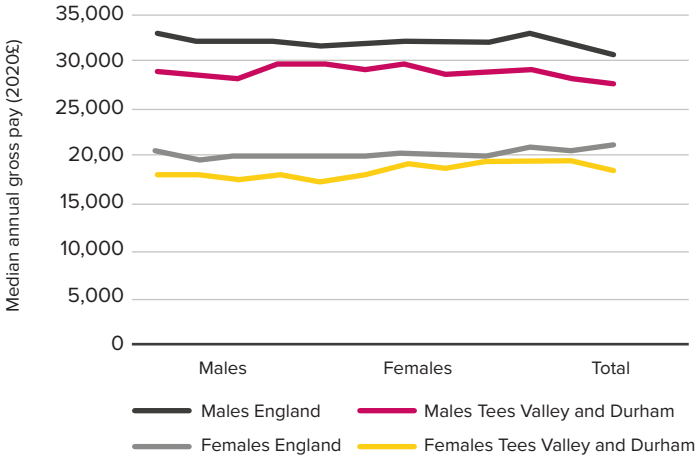


Table 2.1 Economic data for County Durham and Tees Valley[57,58]

	Unemployment Rate (% workforce aged 16-64)	% Workforce in lowest occupational groups[59]	Gross weekly wages, £ (for full time workers)	% population with no educational qualifications	Job density rate[60]	% Child poverty (after housing costs)
County Durham	5.2%	19.4%	£550	8.2%	0.61	37.6%
Hartlepool	6.8%	22.3%	£573	7.6%	0.58	39.0%
Redcar & Cleveland	5.6%	19.4%	£511	8.2%	0.52	39.3%
Darlington	5.3%	18.9%	£584	5.3%	0.87	37.7%
Stockton on Tees	5.6%	19.6%	£561	4.7%	0.80	37.3%
Middlesbrough	7.9%	23.9%	£529	8.0%	0.75	41.2%
County Durham & Tees Valley	6.1%	20.6%	£551	7.0%	0.69	38.7%
English Average[61]	4.1%	15.1%	£613	6.6%	0.84	27%

Note: boxes shaded in red are at least 10% above the English average, boxes shaded in yellow are within 10% of the English average, and boxes shaded in green are at least 10% below the English average.

essentials, including food and hygiene products.

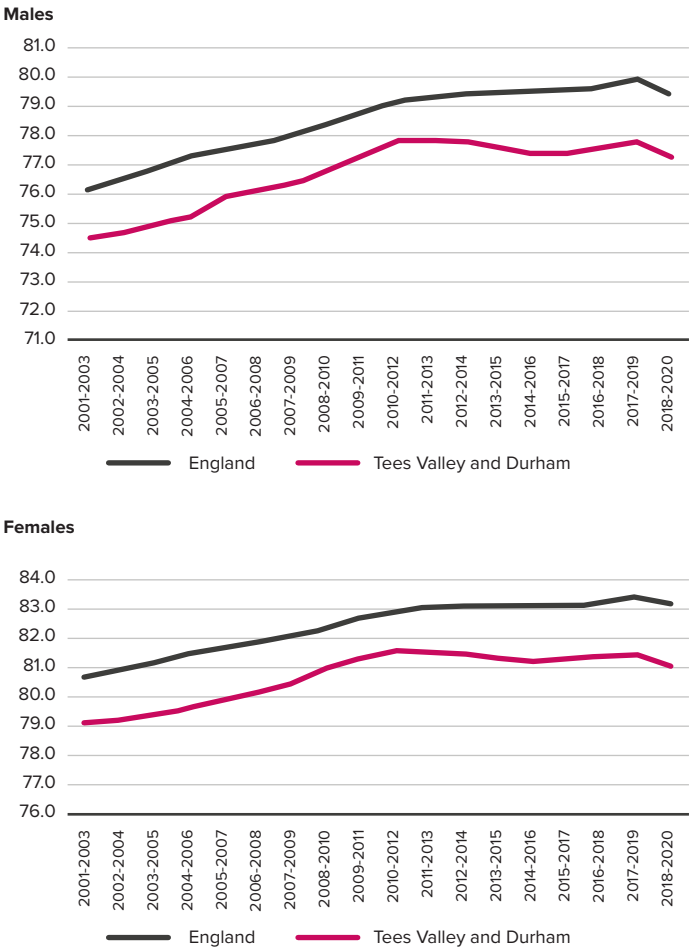
Fuel poverty in the North East is already higher than the national average, yet without sufficient energy, families are at risk of living in deteriorating housing conditions, increased prevalence of problems such as damp and mould; the onset or exacerbation of health problems; and exclusion from participating in activities that are considered as socially 'normal': doing homework, having family and friends over etc.[69]

Food insecurity in the North East is also amongst the highest in the country and known to be deteriorating. The Food Foundation has been tracking food insecurity using YouGov panels since 2020. The most recent data from September 2022 estimated that 27.8% of households in the North East were experiencing food insecurity, up from 15.2.% in April 2022.[70]

Children experience a range of immediate, as well as long-term and life-changing harms from a poor diet and wider experiences of poverty, including: lower life-expectancy, weakened immunity, poorer mental health and emotional wellbeing, poorer physical health (across a range of health outcomes, including general health ratings, more emergency visits, asthma etc) poorer educational outcomes (including lower reading and maths scores, more days absent from school) and concerning 20-year gaps in healthy life expectancy at birth between the most and least deprived areas.[71,72,73,74,75,76,77,78,79]

Poverty is the leading driver of stark and persistent inequalities in health between Country Durham and Tees Valley and the rest of England, across a range of different general health measures; and there is evidence that the 'gap' has been growing, not reducing, over time. As set out below, people in County Durham and Tees Valley have lower life expectancy, poorer self-reported health, higher alcohol-related conditions, more deaths from drug misuse, higher smoking rates, and poorer physical activity levels, and have been more affected by COVID-19; with this regional patterning reflecting a lack of opportunity to access good health and thus a regional structuring of health disadvantage.

Figure 3.3: Trends in life expectancy at birth for males and females; 2001-03 to 2018-20[87]



'Excess' ill health costs the people, the NHS and other agencies in County Durham and Tees Valley; and it costs the UK economy

Health in County Durham and Tees Valley is significantly below the national average:

- All Local Authorities in County Durham and the Tees Valley have a lower life expectancy below the English average, with the gap widening considerably in the mid-2010s
- While average life expectancy (2017-2019) in England was 79.8 years for males and 83.4 years for females, this was lower in County Durham at 78.3 years for males and 81.8 years for females, and lower in the Tees Valley at only 77.7 years for males and 81.4 years for females (Figure 3.3)[80]
- There are considerable gaps in healthy life expectancy between County Durham and Tees Valley and the English average[81] - the latest estimate for the period 2018-20 shows that:
    - Male healthy life expectancy in England was 63.1 years but only 58.8 years in County Durham and Tees Valley; and
    - Female healthy life expectancy in England is 63.9 years, yet only 59.9 years in County Durham and 60.1 years in Tees Valley[82]
- There is a 10-year life expectancy at birth gap between men in the most deprived neighbourhoods and men in the least deprived neighbourhoods in the region (the gap is highest in Stockton-on-Tees at 14.5 years, and lowest in Durham at 10.3 years) and for women this gap is over 8 years (ranging from 8.2 years in County Durham to 13.9 years in Stockton-on-Tees)
- The health gap between County Durham and Tees Valley and other parts of the country grew in the last five years: male life expectancy in County Durham fell by six months between 2015-17 to 2018-20 and female life expectancy in Darlington fell by over a year in this period, whereas life expectancies increased by around a year in already high performing areas (e.g. Westminster, Kensington and Chelsea)[83]
- Age standardised mortality ratios (SMRs) for deaths from all causes (2016-20) in County Durham and Tees Valley were between 9.9% and 35.1% higher than the English average[84]
- Self-reported health is worse in County Durham and Tees Valley than the English average[85,86]

People living in County Durham and Tees Valley were unequally impacted by the COVID-19 pandemic:

- The COVID-19 mortality rate was 18.3% higher in County Durham and 18% higher in the Tees Valley than the English average (March 2020-April 2021)[89]
- There were inequalities in COVID-19 mortality within the region: Middlesbrough had the highest mortality rate at 329 per 100,000 for men and 217 per 100,000 for women - well above the national average of 233 and 142 for men and women respectively - but Redcar and Cleveland, Stockton-on-Tees and Darlington (for men only) had death rates that were below the national average[90] (Figure 3.19)

Inequality and disadvantage are reflected in a range of other health measures in the region:

- The proportion of adults eating five portions of fruit and vegetables per day is 50.7% in County Durham and Tees Valley compared to 55.4% nationally, reflecting access to good nutrition[91]
- The percentage of physically inactive adults is at least 10% higher than the English average in five of the six local authorities in County Durham and Tees Valley (County Durham, Darlington, Hartlepool, Middlesbrough, and Redcar and Cleveland)[92]
- Smoking prevalence rates are at 16.0% compared to 13.9% in the rest of England, with smoking prevalence at least 10% higher than the English average in four of the six local authorities in County Durham and Tees Valley (County Durham, Hartlepool, Middlesbrough, and Redcar and Cleveland)[93]
- Hospital admissions from alcohol-related causes are higher at 598 per 100,000 compared to 456 per 100,000 (in 2021) in England[94]
- Deaths from drug misuse are higher at 11.7 per 100,000 (in 2020) compared to 5.0 per 100,000 in England, and are more than three times the English average in Hartlepool and Middlesbrough[95]

Chronic health conditions and mental ill health are more common in County Durham and Tees Valley:

- The percentage of people with eight major health conditions (depression, stroke, hypertension, COPD, heart failure, coronary health disease, atrial fibrillation and dementia) is at least 10% higher in County Durham and Tees Valley (CCGs) than the English average[96]
- The anti-depressant prescription rate per person in County Durham and Tees Valley (CCGs) is higher (at 6.8% and 6.2% respectively) than the England average (4.6 per person) (Figure 3.15)
- Limiting long-term illness in County Durham and Tees Valley is higher than the national average: nationally, 17.6% of people reported that they have a limiting long-term illness. In County Durham it is 23.7%, in Darlington 19.6%, Hartlepool 23.2%, Middlesbrough 20.9%, Redcar and Cleveland 22.8%, Stockton-on-Tees 19.0%
- There are considerably higher national Personal Independence Payment (PIP) claimant rates in all six local authorities in County Durham and Tees Valley when compared to the national average (7.3%),[97] reflecting people living with a long-term disability, ill-health or terminal ill-health
    - The PIP rate in County Durham is 11.8% (4.5 percentage points, or 62% higher than the national average), Hartlepool 13.9% (6.6 percentage points, or 89% higher than the national average), and Middlesbrough 12.8% (5.5 percentage points, or 76% higher than the national average)[98]

Emergency health care use is higher than average in County Durham and Tees Valley:

- Approximately 35% of all admissions in the NHS in England are classified as emergency admissions, costing approximately £11 billion a year, yet emergency admissions are rising and often preventable
- Emergency admissions data gives an indication of wider determinants of poor health (linked to areas such as housing and transport) and can give an indication of high levels of injury within a population or poor management of chronic conditions within primary care
- Emergency hospital admissions (standardised admission ratios, SMRs) in County Durham and Tees Valley are well above the English average (between 8.1% above average in County Durham, 33.5 % above average in Hartlepool)[100]
- Emergency admission rates in children under 5 years of age, as well as emergency admissions for injuries in those under 5 years of age; under 15 years of age; and aged 15 to 24 years of age, are considerably higher in County Durham and Tees Valley than the English average[101]
    - Among children under 5 years of age, the rate of emergency admissions ranges from between 35.6% higher than the English average in County Durham and 74.4% higher in Darlington
    - For children under 5 years of age, the rate of emergency admissions for injuries ranges from 15.2% higher than the English average in Hartlepool to 78.2% higher in Darlington

Figure 3.15: Mean number of anti-depressants prescribed per person between January 2017 and November 2021[99]

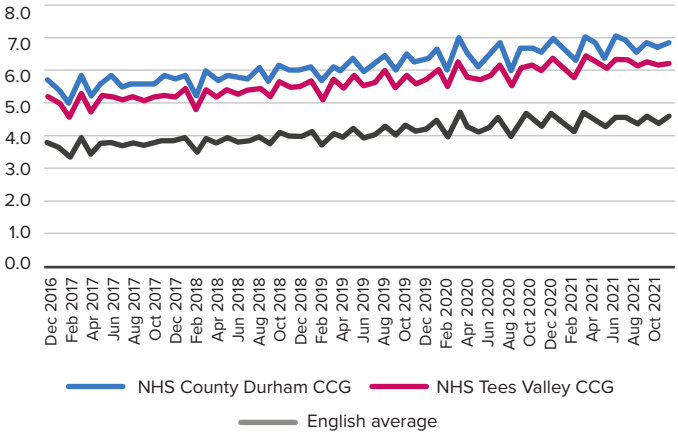
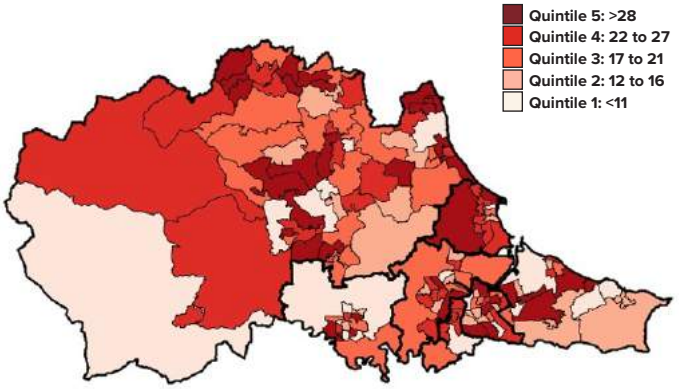


Figure 3.19: Deaths attributable to COVID-19 in County Durham and Tees Valley in 2020 and 2021



Poverty and health inequalities in County Durham and Tees Valley cost the UK economy £4bn per year:

- Gross Value Added (GVA) is a measure of sub-national productivity and is used as localised version of Gross Domestic Product (GDP) to allow cross-area economic comparison.
- There was a £12,265 gap in GVA per-head (in 2020 prices) between County Durham and Tees Valley and the national average in 2019 (the last pre-pandemic full year of data), and this gap has grown over time: applying population estimates, this is equivalent to £14.8bn per year in lost productivity[102] (Figures 4.4 and 4.5)
- Worse economic outcomes are linked to poorer health in County Durham and Tees Valley: it is estimated that 27% of the gap in productivity between the region and the English average is due to worse health[103]
- Improving health could lead to higher economic returns in County Durham and Tees Valley: eradicating the per-person gap in health – such that the health of people living in County Durham and Tees Valley was brought up to the national average – could generate an additional £4bn in increased productivity per year (0.27 x £14.8bn)

Figure 4.4 Gross Value Added (GVA) per head in 2020 prices; 2010 to 2020. Source: ONS[104]

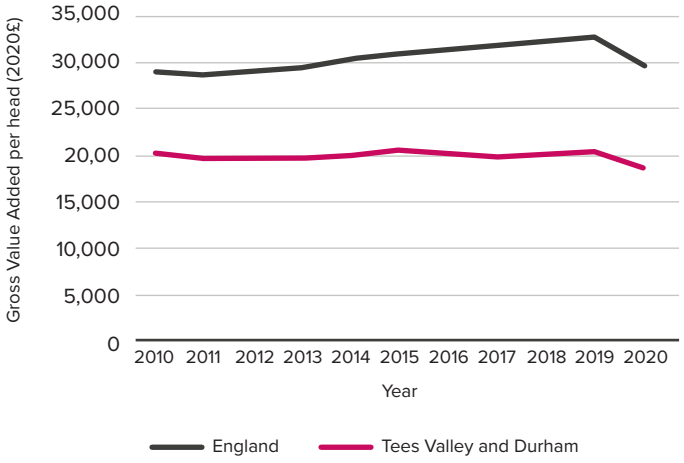
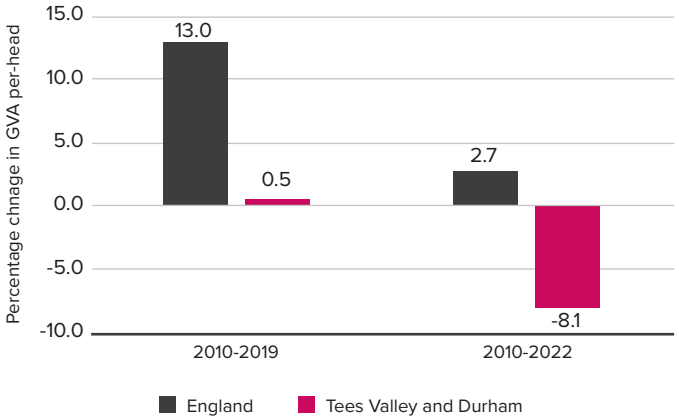


Figure 4.5 Percentage growth in Gross Value Added (GVA) per-head in 2020 prices; 2010 to 2019 and 2010 to 2020. Source: ONS[105]



CHAPTER TWO
HEALTH AND WELLBEING IN COUNTY DURHAM AND TEES VALLEY

2.1 Introduction

Health in County Durham and the five Tees Valley local authorities[106] is significantly below the national average. For example, whilst life expectancy in England is 79.4 years for men and 83.1 years for women, in County Durham this is only 77.7 years and 81.2 years respectively. In Darlington it is 78.1 years for men and 81.2 for women. In Hartlepool it is 76.5 years for men and 81.1 years for women. In Stockton-on-Tees it is 78.1 years for men and 81.3 years for women. In Middlesbrough it is 75.4 years for men and 79.8 years for women. In Redcar and Cleveland, it is 77.5 for men and 81.5 for women. These are some of the lowest life expectancies in the country – and are substantially lower than the best performing local authorities: Men in Westminster in London have a life expectancy of 84.7 years and women in Kensington and Chelsea in London have a life expectancy of 87.9 years.[107]

There is also evidence that the health gap between County Durham and Tees Valley and other parts of the country has grown in the last five years.[108] For example, male life expectancy in County Durham fell by six months between 2015-17 and 2018-20; and female life expectancy in Darlington fell by over a year in the same period. In contrast, in already high performing areas including Westminster and Kensington and Chelsea, life expectancies continued to increase by around a year. This means that the life expectancy gaps between County Durham and Tees Valley and the higher performing areas of the country has increased since 2016. The COVID-19 pandemic has also been experienced unequally with above average death rates in some parts of County Durham and Tees Valley.

There are significant inequalities in health within County Durham and Tees Valley too. For example, there is a 10-year life expectancy at birth gap between men in the most deprived and men in the least deprived neighbourhoods (the gap is highest in Stockton-on-Tees at 14.5 years, and lowest in Durham at 10.3 years). For women this gap is over 8 years (ranging from 8.2 years in County Durham to 13.9 years in Stockton-on-Tees).

This chapter outlines why there are poorer health outcomes in County Durham and Tees Valley by exploring the relationship between health and place and community factors. The section starts with brief historical overviews of County Durham and Tees Valley; it then outlines the main theories that have been put forward to explain health inequalities; it examines the social and behavioural determinants of health in County Durham and Tees Valley; and it ends with an examination of wider recent context including local authority funding reductions and welfare reform; the impact of COVID-19 in the regions and the potential health impacts of the current cost of living crisis.

2.2 County Durham – Historical Overview

The history of County Durham is intrinsically linked to coal mining. From Bishop Auckland in the west to the border with Northumberland, the Durham Coalfield covered north, east, and central County Durham. While coal had been mined in the area for centuries, the industrial revolution increased the demand for coal and improved methods for reaching deeper and more productive coal seams and fuelled rapid growth of the industry.[109] In 1800, County Durham was home to 100,000 people largely living in farming towns; in 1840, the population had reached 350,000.[110]

As new coal mines, towns sprang up in their immediate vicinity to house mineworkers.[111] From the early 1800s, coal was transported from the Durham Coalfields to the Stockton Staithes on the River Tees via the Stockton Darlington Railway, but the staithe (a wharf for the loading of coal onto cargo ships) lacked adequate storage capacity for the volume of coal being exported and its location on the river Tees limited the ships that could be loaded there to only those small enough to navigate the river. The completion of the Stockton Hartlepool railway in the 1830s, which connected the coalfields to the newly constructed Hartlepool docks, meant a higher volume of coal could be moved and ships loaded at the deep-water port in Hartlepool.[112]

By 1841, the Stockton Hartlepool railway was carrying more coal annually than any other rail line in the North of England and deriving 90% of its revenue from the transportation of coal.[113] While County Durham mines were productive, they were also dangerous; roof cave ins, exposure to poisonous gasses, fires, floods, and industrial accidents were all common occurrences.[114] The unsafe working conditions in the mines and low wages lead to labour disputes and strikes as labour organisations began to advocate for higher wages, disability pay, and organised workers' rights.[115]

Coal production in Durham peaked in the early 20th century, when nearly 30% of men in County Durham were employed by coal mines.[116] Demand for coal and ships for the war effort in World War I sustained the area's industry in the opening years of the 20th century, but the Great Depression of the 1920s and 1930s would prove to be devastating. Relatively old mines in County Durham became unprofitable and were closed, and reduced demand for new ships dealt a strong blow to the ironworking and shipbuilding industries.[117] Increased demand for coal during World War II bolstered Durham's coal industry throughout the war, and the mines were nationalised in 1946. However, the post-war period saw the resumption of colliery closures and the closures continued apace throughout the 1960s and 1970s.[118]

In response to the National Coal Board's plan to close 20 major coal pits across Britain, miners in Durham participated in the 1984-85 Miners Strike, one of the largest industrial actions in British history. Coal mining continued to decline throughout the end of the 20th century and after a series of ownership changes the Ellington Colliery, the North East's deepest mine and last colliery in County Durham, closed in 2005.[120]

Today County Durham's largest single employment sector is professional occupations, making up 17.1% of all employment in the area in 2021-2022.[121] The rate of employment in professional occupations in County Durham is below average for England (25.5%), as is the rate of employment in managerial occupations (9.1% in County Durham vs. 10.4% in England as a whole).[122]

Professional and managerial occupations require a high degree of knowledge of science, technology, engineering, or humanities and generally require a degree and/or a formal period of on-the-job training and may require postgraduate education.[123] Rates of employment in elementary occupations, which encompasses jobs that do not generally require a high degree of training or education (such as painters, agricultural workers, and cleaners), are higher in County Durham (11.6%) than in England (9.5%).[124]

Despite the legacy of deindustrialisation, the manufacturing industry continues to be one of County Durham's largest employers, with significantly more employees (13.7%) working in manufacturing in 2020 than is typical for England (7.9%). Mining, which was historically County Durham's largest industry, now employs less than 1% of all workers in the area. The proportion of people who are unemployed or on long-term disability is also higher than average in England.[125] Similar patterns can be seen in Stockton-on-Tees, Darlington, and Hartlepool.[126,127,128] Since 2020, the Durham County Council has committed to an economic development plan that aims to bring new job opportunities by helping the development of industrial centres and business parks in the area.[129]

2.3 Tees Valley – Historical Overview

Industry is central to the history of Tees Valley. As far back as the Viking

occupation of Britain, people were extracting raw materials from the earth in Tees Valley to support local industry.[130] Increased demand for coal to fuel the industrial revolution and the expansion of the Stockton and Darlington railway in the 19th century to the coast allowed for the rapid growth of industry in Tees Valley.[131] The presence of natural resources in the greater Tees Valley area meant it became a hub of industrial and manufacturing industries. Beginning in the 1840s, the Cleveland hill iron deposits, the presence of limestone in the Pennine hills, and the Durham Coalfield provided the necessary raw materials to support a robust steel production industry. Industrialisation led to rapid growth in the area's population, as people moved to the area to meet the growing demand for an industrial workforce.

In Middlesbrough the population went from 25 inhabitants in 1801 to 91,000 in 1901.[132] The discovery of rock salt in Middlesbrough in 1862 by the Middlesbrough Iron Works also helped establish chemical industries, producing chemicals such as ammonia and sulphuric acid for use in explosives through the late 19th and early 20th centuries, and for fertilisers through the 1970s. The petrochemical industries, largely based in North Tees, employed tens of thousands of workers, and constituted one of the largest petrochemical complexes in the world by the mid-1960s.[133]

The deep-water port in Redcar and Cleveland allowed for easy access to international markets for these goods and accommodated a flourishing shipbuilding industry.[134] Tees Valley's industrial base was of global importance and was central to the accumulation of British capital throughout the 20th century.[135] As communities in the area grew throughout the 19th and 20th centuries, industrial work and the stability and security it provided became central components of the cultural identities of Tees Valley's towns.[136]

The latter half of the 20th century saw the beginning of deindustrialisation in Britain. In 1966, 11.7 million people, more than 30% of the British workforce, were employed in productive industries; in 2019 the number stood at just 2.7 million people, just 7.7% of the workforce.[137] Given its primarily industrial economy, Tees Valley was particularly affected by deindustrialisation with industrial and manufacturing corporations leaving the area to take advantage of lower cost manufacturing in the global south. The collapse of the international market for super-tankers in the late 1970s devastated the Tees Valley shipbuilding industry and led to a 27.7% reduction in employment in the industry in Britain in 1979.[138]

Industries such as shipbuilding and steel production were privatised with the intent of making them more cost-effective and industrial employment and trade union membership further declined in the area. Spending on welfare benefits was reduced, leaving recently unemployed industrial workers vulnerable to poverty.[139,140] Between 1971 and 2008, more than 100,000 jobs in the productive industries were lost in Tees Valley.[141] While deindustrialisation was most evident in the latter half of the 20th century, the process has continued in recent years. The Tees Valley steelworks, the second largest in Europe, closed in 2015 resulting in the further loss of thousands of jobs.[142]

The effects of deindustrialisation and the economic policies of the 1980s left Tees Valley vulnerable at the start of the 21st century, and the area would be further devastated by economic measures introduced in response to the 2008 global financial crisis. These measures reduced local authority budgets by 30% between 2008 and 2015 and led to the shuttering of many public services.[143] Simultaneously, welfare reform measures most severely impacted the poorest areas in the country (where a higher proportion of the population was in receipt of support), many of which were former industrial communities including those in Tees Valley.[144] Indeed, the worst-hit local authority areas – mainly located in the North (e.g. Middlesbrough) - lost around four times as much, per adult of working age, as the authorities least affected by the cuts – found exclusively in the South and East of England (e.g. Hart, Hampshire).[145] Today, the largest proportion of employment in Tees Valley is within the professional sector; 33.1% of all working people in Middlesbrough, and 33.9% in Redcar and Cleveland are employed in professional or associate professional occupations in 2021-2022.[146,147,148]

While the professional sector is the largest in Tees Valley, the proportion of workers employed in this sector is significantly below average for England (40.4%).[149] The proportion of people employed as managers, directors, or senior officials in Tees Valley is also well below average; for example, in Middlesbrough, just 4.3% of people were employed in these capacities as opposed to 10.4% for the country as a whole.[150] Communities in Tees Valley have a larger proportion of their employees working in what are known as elementary occupations, relatively low-skill occupations that do not generally require further education or significant on the job training.[151,152]

While much of the manufacturing industry has left the area in the last 40 years, Redcar and Cleveland still has a larger proportion of employed people working in manufacturing (12.4%) than is average for England (7.9%).[153] The rate of unemployment in Tees Valley is higher than is average in England and Tees Valley is home to many of the most deprived areas in the country; for example, Middlesbrough has the highest proportion of severely deprived neighbourhoods of any community in England and the highest proportion of children living in poverty.[154]

2.4 Health Inequalities - Population, Place and Policy

This section outlines how place and community factors influence health inequalities, exploring the role of population characteristics, the local environment and community, and the wider public policy context.[155]

2.4.1 Local Population Characteristics

There are significant differences between the characteristics of the populations of County Durham and Tees Valley and England as a whole – some of which result in worse health outcomes for these areas. People's health is shaped by their socio-economic status and their health behaviours.

The socio-economic status of people living in an area is also of huge health significance. Socio-economic status is a term that refers to occupational class, income or educational level. People with higher occupational status (e.g., professionals such as teachers or lawyers) have better health outcomes (e.g., higher life expectancies) than non-professional workers (e.g., manual workers).

Having a higher income or being educated to higher-level can also have a protective health effect (such as lower rates of poor mental health), whereas having a lower income or no educational qualifications can have a negative health impact (e.g., higher rates of cardiovascular disease). Partly as a result of deindustrialisation, in County Durham and Tees Valley, there are more people without employment or who are working in lower skilled occupations; wages are lower than the national average; and there are more people with no or few educational qualifications (Table 2.1):[156]

- Unemployment rates are above the national average in County Durham and Tees Valley at 6.1% of the workforce compared to 4.1% for Great Britain
- The proportion of the workforce employed in the lowest occupational groups is above the national average in County Durham and Tees Valley at 20.6% of the workforce compared to 15.1% for Great Britain
- Wages in County Durham and Tees Valley are below the national average at £551 per week compared to £613 per week for Great

Table 2.1 Economic data for County Durham and Tees Valley[158,159]

	Unemployment Rate (% of workforce aged 16-64)	% Workforce in lowest occupational groups[160]	Gross weekly wages in £ (for full time workers)	% population with no educational qualifications	Job density rate[161]	% Child poverty (after housing costs)
County Durham	5.2%	19.4%	£550	8.2%	0.61	37.6%
Hartlepool	6.8%	22.3%	£573	7.6%	0.58	39.0%
Redcar & Cleveland	5.6%	19.4%	£511	8.2%	0.52	39.3%
Darlington	5.3%	18.9%	£584	5.3%	0.87	37.7%
Stockton on Tees	5.6%	19.6%	£561	4.7%	0.80	37.3%
Middlesbrough	7.9%	23.9%	£529	8.0%	0.75	41.2%
County Durham & Tees Valley	6.1%	20.6%	£551	7.0%	0.69	38.7%
National Average[162]	4.1%	15.1%	£613	6.6%	0.84	27%

Note: boxes shaded in red are at least 10% above the English average, boxes shaded in yellow are within 10% of the English average, and boxes shaded in green are at least 10% below the English average.

Table 2.2 Health behaviours data for County Durham and Tees Valley[163]

	5 a day fruit and vegetable consumption (% adults, 2020)	Physically Inactive (% adults, 2021)	Smoking (% adults, 2019)	Alcohol-related admissions (rate per 100,000, 2021)	Deaths from Drug misuse (rate per 100,000, 2020)
County Durham	57.8%	26.7%	17.0%	532	8.3
Darlington	50.7%	27.6%	13.7%	552	10.8
Hartlepool	49.3%	36.7%	19.3%	719	16.3
Middlesbrough	47.5%	31.6%	17.2%	645	16.9
Redcar & Cleveland	44.1%	28.0%	15.5%	526	9.6
Stockton on Tees	54.7%	23.1%	13.2%	616	8.5
County Durham & Tees Valley	50.7%	29.0%	16.0%	598	11.7
National average[164]	55.4%	23.4%	13.9%	456	5.0

Note: boxes shaded in red are at least 10% above the English average, boxes shaded in yellow are within 10% of the English average, and boxes shaded in green are at least 10% below the English average.

Britain

- The proportion of the workforce with no educational qualifications in County Durham and Tees Valley at 7% of the workforce is higher than for the country as a whole at 6.6%[157]

Smoking rates, alcohol consumption, engagement in physical activity, drug use and diet composition are all key influences on people's health. County Durham and Tees Valley have higher rates of unhealthy behaviours – leading to worse health outcomes than other places (Table 2.2). These health behaviours are in turn shaped by economic deprivation. For example:

- Eating five fruit and vegetables per day is lower in County Durham and Tees Valley at 50.7% of adults compared to 55.4% for the country.
- The % of adults who are physically inactive is higher in County.[165] Durham and Tees Valley than nationally at 29.0% compared to 23.4%.[166]
- Smoking rates amongst adults are worse than the national average in County Durham and Tees Valley at 16.0% compared to 13.9%.[167]
- Hospital admissions from alcohol-related causes are higher in County Durham and Tees Valley at 598 per 1000,000 compared to 456 per 1000,000 in England.
- Deaths from drug misuse are higher in County Durham and Tees Valley at 11.7 per 1000,000 compared to 5.0 per 1000,000 in England.

These inequalities in health behaviours between County Durham and Tees Valley and other parts of the country results in higher rates of cancer, cardiovascular disease, respiratory disease, obesity, diabetes and liver disease in County Durham and Tees Valley.

County Durham and Tees Valley though also suffer from a legacy of occupational illnesses related to the key historical industries such as coal, steel, ship building and chemical production.

2.4.2 Local Environment and Community Factors

The nature of local places and communities also matters for the health of the people living in that place - it is not just individual, personal, population characteristics that matter but their collective, community and local experience. In this way, health differs between areas (i.e. between County Durham and Tees Valley and other areas) because our health is also determined by the economic, social, community and physical environment of where we live: places can be health-promoting (salutogenic) or health-damaging (pathogenic) environments.

Area-economic factors that influence health are often summarised as economic deprivation. They include area poverty rates, unemployment rates, wages, and types of work and employment in the area. Area-level economic factors such as poverty are a key predictor of health including cardiovascular disease, all-cause mortality, limiting long-term illness, and health-related behaviours. Partly as a result of deindustrialisation, County Durham and Tees Valley have higher rates of poverty and economic inactivity, lower wages, and less work available in the areas (Table 2.1):

- Child poverty rates are extremely high in County Durham and Tees Valley with 38.7% of children in the areas growing up in poverty compared to 27% nationally.[168]
- Job availability is lower than the national average in County Durham and Tees Valley with 0.69 jobs per worker aged 16-64 compared to 0.84 on average in Great Britain.[169]

Places also have social aspects which impact on health. These include the services provided, publicly or privately, to support people in their daily lives such as childcare, transport, food availability or access to a GP or hospital, as well as the availability of health promoting environments at home (e.g. good housing quality, access and affordability), work (good quality work) and education (such as high quality schools).

Community factors also matter – such as high levels of social cohesion and social capital within the community (see Chapter 2). Areas with higher levels of social capital have better health including better mortality rates, general health, mental health, and health behaviours. More negative impacts on health can come from the stigma or reputation of an area.

Whilst some parts of County Durham and Tees Valley have high levels of access to public and private services, are well connected (e.g Durham City) and have strong levels of community cohesion, other parts of the two areas - particularly the many rural parts - are more isolated and have limited access to good quality services.

This is evidence in terms of the prevalence of Left Behind Neighbourhoods (LBNs) in County Durham and Tees Valley. LBNs are wards that have high rates of economic deprivation alongside low connectivity, cohesion and infrastructure.[170]

- There are 34 Left Behind Neighbourhoods (LBNs) in County Durham and Tees Valley.[171]
- Health outcomes in LBNs are worse than in other deprived areas – female life expectancy is 3 years lower than the national average, and male life expectancy is almost 4 years less.[172]

The physical environment of local places also matters for health and wellbeing.

Proximity to waste facilities, brownfield or contaminated land and air pollution have negative impacts on community health whilst access to green space has positive health effects. Some parts of County Durham and Tees Valley have high rates of access to green space and low air pollution rates (e.g. the rural areas) whilst others (e.g. the post-industrial belt of Stockton-on-Tees, Middlesbrough and Redcar) have above average air pollution rates and are more exposed to other potentially negative factors such as contaminated brownfield land.

2.4.3 Public Policy Context

National public policies also shape the health of places and communities such as County Durham and Tees Valley as people's health behaviours can be altered by public health interventions (e.g. the smoking ban of 2007 reduced indoor air pollution and helped reduce smoking rates);[173] people's socio-economic status can be improved (e.g. national policies that increase economic growth can increase employment levels, reduce poverty and improve health); the local environment can be shaped by policies (e.g. government housing policies, investment in the NHS, etc which directly impact on health). These factors are often outside the direct control of the individuals, communities and the local places they affect. This section provides a brief overview of national and local health inequalities policy in England from 2000 to 2022.[174]

- **2000-2010 National Health Inequalities Strategy:** Government health inequalities policy in the 2000-2010 period was shaped by the Acheson Inquiry (1998) which led to the implementation of a national heath inequalities strategy in England.
  This multi-faceted strategy included a wide range of nationally (e.g. an increase in NHS budgets – particularly in more deprived areas; Sure Start Children's Centres; New Deal for Communities) and locally (including Health Improvement Programmes, Health Action Zones, Healthy Living Centres) delivered activities. Responsibility for health inequalities lay within the NHS both locally and nationally. The government also set national public service agreement (PSA) targets for tackling health inequalities: to reduce the life expectancy and infant mortality gaps between the 20% most deprived local

authorities (so-called Spearhead areas) and the English average by 10%. These reductions in health inequalities were broadly achieved by 2010.

- **2010-2019 Locally Addressing Health Inequalities:** Health inequalities policy in the 2010-2020 period was shaped by the Marmot Review (2010) which underpinned a new public health system as outlined in the Health and Social Care Act 2012. This included the transfer of public health responsibilities from the NHS to local authorities with the establishment of Health and Wellbeing Boards (between local authorities and local clinical commissioning groups - CCGs - of general practitioners). Public Health England (PHE) was also created in 2012 as a national body with some responsibility for reducing health inequalities at the national level and between local communities. NHS England and Clinical Commissioning Groups, established under the Health and Social Care Act 2012, were also given a legal duty to reduce inequalities in access to and outcomes from NHS care.

- **2019 onwards: Levelling Up:** Public policy responsibility for addressing health inequalities is currently shared across local authorities, Independent Care Systems (replacing CCGs), NHS England, and a new national body the Office for Health Improvement and Disparities (which replaced PHE in 2021). The UK government has made a commitment to protect the public's health, improve population health resilience and level up unacceptable variations in health.
  The Levelling Up White paper of February 2022 included a commitment to narrow the gap between areas with highest and lowest life expectancy by 2030 and to increase healthy life expectancy overall by five years by 2035. It included various policy plans to impact on the drivers of regional health inequalities including boosting economic growth by expanding the private sector, improving public services, restoring community pride and empowering leaders and communities to act locally.[175]

2.5 Wider Context

This section examines the wider recent context for health inequalities in County Durham and Tees Valley including (i) the Global Financial Crisis and local authority funding reductions and welfare reform; (ii) the impact of COVID-19 in the regions; and (iii) the potential health impacts of the current Cost-of-Living Crisis.

2.5.1 Impact of the Global Financial Crisis on Health in County Durham and Tees Valley

The Global Financial Crisis of 2007/8 was a result of a downturn in the USA housing market, which led to a massive collapse in financial markets across the world. The International Monetary Fund (IMF) announced that the global economy was experiencing its worst period for 60 years. The global economic recession continued throughout 2009 and 2010 (leading to the moniker the 'Global Financial Crisis') and government debt increased – standing at 177% of GDP in 2015. As a result, the UK government significantly reduced public expenditure with cuts to local authority budgets; reductions in welfare services, housing benefits and tax credits; and below inflation increases to the NHS budget.

The National Audit Office has noted that "funding to local authorities has fallen substantially since 2010-11, to help meet the government's objective to reduce the public deficit".[176] Across England, local authority spending power fell by 28.6% in real terms from 2010-11 to 2017-18.[177] However, there were inequalities in these spending reductions across the country with the most deprived 20% of local authorities (including Middlesbrough and Hartlepool) making cuts to adult social care of 17% per person compared to only 3% per person for councils in the least deprived fifth of areas.[178] These inequalities in local government funding also led to other differential reductions on the wide range of services that local government provides (including housing, highways and transport, environment and regulatory and planning and development services).[179] The heavier reliance on central government grants in more deprived areas meant that they experienced these greater cuts.

Additionally, Health Foundation research found that the local government public health grant has also been cut by 24% in real terms per capita since 2015/16 (equivalent to a reduction of £1bn).[180] The reduction has fallen more heavily on those living in the most deprived areas of England – including in County Durham and Tees Valley. For example, in Middlesbrough the per capita cut to funding has been one of the largest at £39 per person per year; in County Durham it is a reduction of £32 per person per year.[181] Local authorities have also been challenged by growth in demand (e.g. for social care), as well as other cost pressures.[182]

Research based on Treasury data has suggested that the post-2015 welfare reforms to tax credits, housing benefits and child benefit have taken almost £13bn a year out of the economy.[183] However, the financial impact of the welfare reforms varied greatly across the country.[184] Britain's older industrial areas (including County Durham and Tees Valley) and less prosperous coastal areas (including those on the east coast in County Durham and Tees Valley) have experienced the largest reductions. For example, Middlesbrough has lost £490 per adult per year and Hartlepool £430 per working age adult, compared to £150 in Guildford in Surrey, £140 in Richmond upon Thames, and £130 in Hart district in Hampshire. The higher reliance on benefits and tax credits in County Durham and Tees Valley meant that the reforms had a greater financial impact on some local authorities here.[185]

These changes also disproportionately impacted on low-income households of working-age and on children.[186] During this period, child poverty rates increased substantially in the most affected parts of the country. Whilst child poverty nationally remained at 29% between 2015 and 2021, in the North East it increased by 10 percentage points from an average of 28% in 2015-16 to an average of 38% in 2020-21.[187] From 2015-16 to 2020-21, child poverty rates increased by 13.0 percentage points in Redcar and Cleveland; 12.4 percentage points in County Durham; 12.2 percentage points in Middlesbrough; 12.0 percentage points in Darlington; 11.8 percentage points in Stockton on Tees; and 11.6 percentage points in Hartlepool.[188]

These increases in child poverty have huge potential implications for the future health and wellbeing of County Durham and Tees Valley. Children born in the most deprived areas, on average, live for almost 10 years less than their counterparts in the most affluent areas, and spend 20 years less in good health (called healthy life expectancy).[189]

Children living in poverty are also much less likely to do well at school – for example, 69% of children from the most affluent neighbourhoods gain five or more GCSEs compared to only 52% from the most deprived neighbourhoods.[190] In turn, educational attainment is a strong predictor of future health, employment, income and productivity: only 58% of working age adults with GCSE or lower educational level are employed in the UK compared to more than 80% of those with university degrees.[191] Child poverty also has long term impacts on the economy costing at least £25 billion a year in the UK.[192]

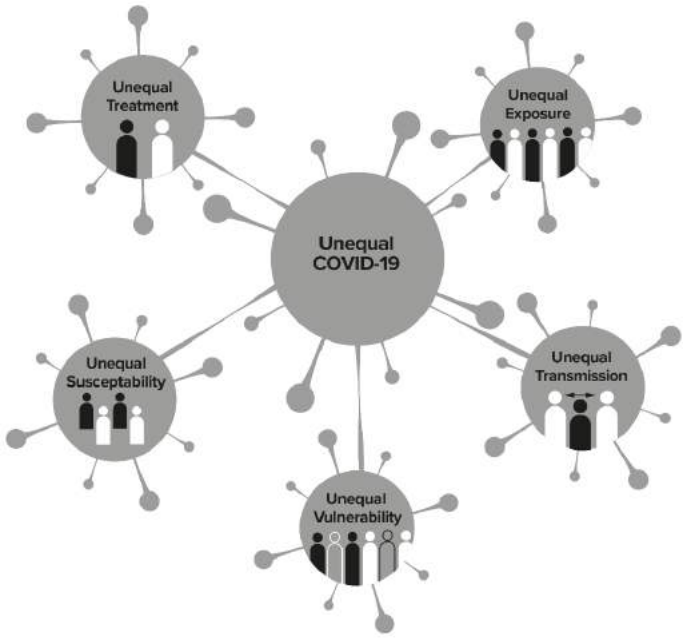
Studies have found that these cuts to local authority budgets and the reductions in regional finances from welfare reform was associated with immediate adverse health impacts.[193] In the UK, research found that the pressures placed on key social and health care services resulted in up to 10,000 additional deaths in 2018 compared to previous years.[194] The gap in mental health and wellbeing between deprived and affluent areas increased.[195]

Table 2.3 Age-standardised death rates from COVID-19 March 2020-April 2021 in County Durham and Tees Valley[199]

14-month total (March 2020 to April 2021) [10]

	Male Death Rate per 1000,000	Female Death Rate per 100,000
ENGLAND	233.1	142.0
NORTH EAST	237.8	169.2
County Durham	251.6	183.8
Darlington	202.3	159.5
Hartlepool	273.7	192.4
Middlesbrough	328.5	216.8
Redcar and Cleveland	216.8	138.9
Stockton-on-Tees	231.4	177.3

Figure 2.2: Pathways to inequalities in COVID-19 in Country Durham and Tees Valley



Life expectancy for men fell by over six months between 2015 and 2020 in County Durham and by over a year for women in Darlington the same period.[196] Research reports have also found that reductions to local authority service spending may have had negative impacts on health and widened health inequalities. For example, a £100 decrease in annual local government funding per person has been associated with a decrease in life expectancy at birth of 1.2-1.3 months between 2013-17.[197] Spending reductions have also been associated with increased hospital admissions in more effected areas.[198]

2.5.2 The COVID-19 Pandemic in County Durham and Tees Valley

The population, local environment and public policy factors driving health inequalities (and outlined earlier in this chapter) all interact with each other, and all contribute to why health outcomes are worse in some parts of County Durham and Tees Valley. Together they result in health inequalities between County Durham and Tees Valley and other parts of England. COVID-19 provides a key example of the complex causes of the health gap between County Durham and Tees Valley and other parts of England.

Table 2.3 presents the accumulated COVID-19 death rates in the six local authorities that make up County Durham and Tees Valley for the 14-month period for which age-standardised data is available (March 2020- April 2021). Middlesbrough had the highest deaths from COVID-19, 329 deaths per 100,000 for men and 217 for women. This was well above the national average of 233 and 142 for men and women respectively. However, Redcar and Cleveland, Stockton-on-Tees and Darlington (for men only) had death rates that were below the national average.

The higher mortality from COVID-19 in some parts of County Durham and Tees Valley can be explained by examining the people, place and policy factors that shape area-level health (Figure 2.2):[200]

- **Unequal vulnerability:** Due to higher burden of pre-existing health conditions in County Durham and Tees Valley (such as diabetes and respiratory conditions, heart disease, hypertension obesity) that increase the severity and mortality of COVID-19.
- **Unequal susceptibility:** Due to immune systems weakened by long term exposures to adverse living and environmental conditions, people living in County Durham and Tees Valley were more vulnerable to infection from COVID-19.
- **Unequal exposure:** Lower paid workers – more of whom live in County Durham and Tees Valley - were much more likely to go to work during lock down, less likely to be able to work from home and more likely to be reliant on public transport for doing so.
- **Unequal transmission:** Some parts of County Durham and Tees Valley have higher population densities (particularly in urban areas), are more likely to contain houses of multiple occupation, more likely to have overcrowding (and lack ventilation and outside space), and lower access to communal green space.
- **Unequal treatment**: The vaccine roll out was national (phased by age), however there have been significant inequalities in vaccine uptake with a lower proportion of people being vaccinated in more deprived areas (especially for the 3rd booster).[201]

2.5.3 The Cost-of-Living Crisis and Health in County Durham and Tees Valley

COVID-19 has also had severe economic impacts with significant, prolonged disruption to global trade because of low productivity (due to lock downs – especially in China) during the pandemic. This has meant that the global economy has experienced lower than average economic growth since 2020. The cost of goods has also increased as post-pandemic demand has outstripped supply and wages have been increased in some sectors (such as hospitality).

These increases particularly impacted on the costs of basic goods with global food prices reaching a ten-year high during 2021.[202] This difficult economic situation was exacerbated in February 2022 by Russia's illegal invasion of Ukraine. This war - and the sanctions placed on Russia as a result - has increased the price of energy, resulting in even higher inflation: the UK consumer prices index rose by 8.6% from July 2021 to August 2022.[203]

Monetary and fiscal responses from governments and central banks to address the situation have included interest rate rises, energy price subsidies/caps and tax cuts but concerns have been expressed by economists that they might add to the inflationary pressures[204] as well as increasing the costs of housing (e.g. mortgages, rents), borrowing and business investment.[205] This high inflation, high borrowing costs and low

economic growth are combining to put significant pressure on family budgets. This means that poverty rates – which have already been rising in County Durham and Tees Valley for several years – are predicted to have increased further in the UK in the 2022-23 winter.[206]

Poverty restricts families' and households' ability to cover their basic needs including eating and heating. There are also concerns that rising housing costs could lead to an increase in home repossessions, evictions, and homelessness. Household debt is also expected to increase as families take on more debt to make ends meet. There are also concerns that the volatile economic situation might restrict economic investment and businesses are also facing higher energy costs too. This could lead to cuts and higher unemployment rates.

Research evidence suggests that this 'cost-of-living-crisis' has huge potential impacts for public health and health inequalities. It will especially impact on families in more deprived communities and those parts of the country already experiencing above average levels of poverty, unemployment, and poor health. As we have seen earlier in the chapter, this includes many areas in County Durham and Tees Valley.

- **Food poverty and health:** Food poverty is associated with lower-quality diets leading to higher rates of obesity and other forms of malnutrition, worse mental health and in the longer-term hypertension, diabetes, and cardiovascular disease.[207] Various mechanisms are in play including hunger, lack of adequate nutrition, and resulting emotional distress.[208] For example, nutrient-dense, low-energy foods are substituted for cheaper, energy-dense often higher fat and sugar-containing foods. As poverty increases, more families will suffer the health problems of food poverty.

- **Fuel poverty and health:** Cold weather experienced in the winter can lead to or exacerbate various health problems, including respiratory and circulatory conditions, cardiovascular disease, and mental health. Research suggests that around 10% of excess winter deaths are directly attributable to fuel poverty with over 20% of excess winter deaths occurring in the 25% coldest homes.[209] Cold homes can also affect wider determinants of health, such as educational attainment.

- **People with pre-existing health conditions:** People with poor health are already more likely to live in poverty and are almost twice as unlikely to be able to afford an adequate standard of living. They are also less likely to be able to rely on savings as half of working age people with poor health have no savings whatsoever, compared to one in three with good health.[210] This very vulnerable group may see their health problems exacerbated because of the cost-of-living-crisis. This could increase pressure on NHS services – which have not yet recovered from the pressures of COVID.[211]

- **Debt and health:** Among people in problematic debt, nearly half report having less than good health compared to only one-fifth of those not experiencing a debt problem.[212] Almost 60% of people in problematic debt experience above average levels of anxiety. UK research has found that people experiencing debt are twice likely to experience a depressive episode.[213] If debt increases, more people will be exposed to these health risks.

- **Home repossessions, homelessness and health:** International research has found that even the threat of eviction or repossession can increase the risk of poor mental (e.g. depression, anxiety, psychological distress, and suicides) and physical (poor self-reported health, high blood pressure and child maltreatment) health.[214] In turn, homelessness might increase. In the UK, a recent study found that people experiencing homelessness have an average age of death of just 52 years.[215]

- **Unemployment and health:** Unemployment is associated with worse mental health (including suicide), higher rates of mortality, long-term illness, and, in some studies, problematic alcohol use. For example, research in the British Medical Journal found that every 10% increase in the number of unemployed men was associated with a 1.4% increase in male suicides.[216] Poverty amongst the unemployed is often an important intermediary factor. If unemployment increases, then the prevalence of these health problems will increase.

As such, there are serious, evidence-based concerns in the medical community that the cost-of-living-crisis will become a health crisis[217] – especially in County Durham and Tees Valley. Support from central government – particularly in terms of improving Universal Credit and pension rates, expanding housing benefit, targeted energy cost support, and taking action on child poverty (e.g. expanding free school meals) – could reduce the extent of the health crisis.[218]

2.6 Conclusion

This chapter has examined why there are poorer health outcomes in County Durham and Tees Valley by exploring the relationship between health and place and community factors. It has provided brief historical overviews of County Durham and Tees Valley; it then outlined the main theories that have been put forward to explain health inequalities; it examined the social and behavioural determinants of health in County Durham and Tees Valley; and it ended with an examination of the wider recent context including local authority funding reductions and welfare reform; the impact of COVID-19 in the regions and the potential health impacts of the current cost of living crisis. The next chapter provides a more detailed 'health check' of County Durham and Tees Valley.

CHAPTER THREE

HEALTH CHECK: THE STATE OF HEALTH AND WELLBEING IN COUNTY DURHAM AND TEES VALLEY

There are vast differences in health between County Durham and Tees Valley and the English average, and COVID-19 has exacerbated this situation. Looking at the differences pre-COVID-19 and then how the pandemic has affected health reveals some startling figures.

3.1 Health in County Durham and Tees Valley pre-COVID-19

In this subsection, we present various measures of health in County Durham and Tees Valley and compare them to the English average. Health is consistently worse in County Durham and Tees Valley.

3.1.1 Deprivation in County Durham and Tees Valley

Deprivation is one of the leading courses of ill-health and worse health outcomes. These links between deprivation, chronic conditions and worse health outcomes have particular significance for regional inequalities.

Deprivation, measured by the 2019 update of the Index of Multiple Deprivation (IMD)[219], is not equally spread throughout the county. There is far more deprivation in the North than in the rest of England. This is particularly true in County Durham and Tees Valley.

Figure 3.1: Deprivation within County Durham and Tees Valley at the Lower-layer Super output Area (LSOA) level[220]

Notes: thick lines show local authority boundaries.

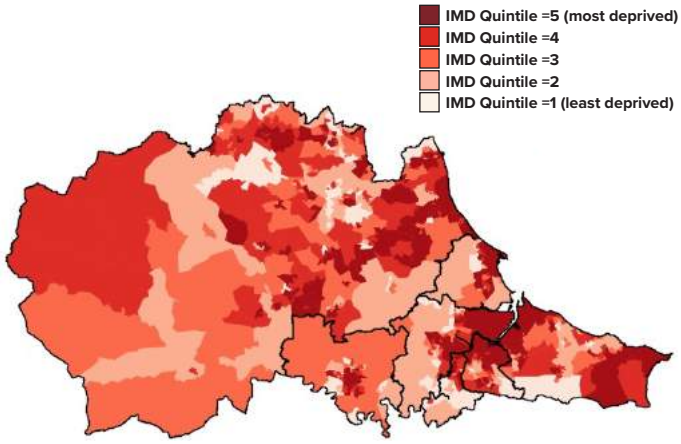
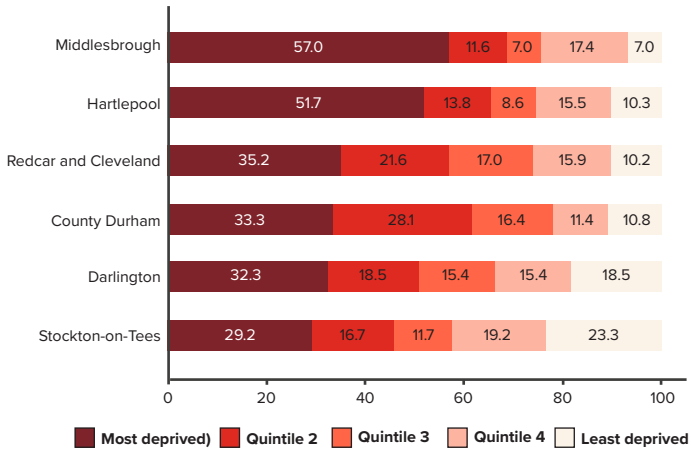


Figure 3.2: Percentage of small areas (lower super output areas) in each quintile of deprivation within each local authority within County Durham and Tees Valley[221]



This is shown in Figure 3.1, which plots the IMD quintile (in terms of national statistics) for each lower super output area (LSOA) in County Durham and Tees Valley. The darker coloured areas are the most deprived. It can be seen that these more deprived areas are much more concentrated in County Durham and Tees Valley.

In particular, Figure 3.2 shows the percentage of LSOAs within the six local authorities within County Durham and Tees Valley that belong to each national quintile of deprivation. If deprivation was spread equally throughout the country, each local authority should have 20% of areas in each quintile.

Figure 3.2 shows this is far from the case. In Middlesbrough, 57% of all LSOAs are within the most deprived quintile, compared to only 7% in the most affluent quintile. In Hartlepool, 52% of LSOAs are in the more deprived quintile, compared to only 10% in the most affluent quintile. Even the local authority that does 'best' in terms of lower levels of deprivation – Stockton-on-Tees – has 29% of its LSOAs in the most deprived quintile. It does, however, have 23% of its LSOAs in the least deprived quintile,

3.1.2 Life expectancy in County Durham and Tees Valley

Figure 3.3 plots the trend in life expectancy at birth[222] for males (panel a) and females (panel b) in the period 2001-03 to 2018-20. For both males and females, life expectancy in County Durham and Tees Valley has consistently been below the English average. There is some evidence that the gap narrowed between 2001-03 to 2009-11, but the gap widened considerably in the mid-2010s.

Figure 3.4 shows the values of life expectancy for males and females in 2017-19 and 2018-20. This is presented for the English average as well as each of the six local authorities that make up County Durham and Tees Valley. We present here values for both 2017-19 and 2018-20 as the COVID-19 pandemic affected the estimates in 2018-20. However, we show that the same underlying pattern emerges; County Durham and Tees Valley, and all of the local authorities that constitute the wider area, have lower life expectancy than the English average.

In 2017-19 the average life expectancy in England for males was 79.8 years. This was lower in all local authorities in County Durham and Tees Valley:

- County Durham: 78.3 years (1.5 fewer years than the English average)
- Tees Valley as a whole: 77.7 years (2.1 fewer years that the English average)
  - Darlington: 78.8 years (1 fewer years than the English average)
  - Hartlepool: 76.9 years (2.9 fewer years than the English average)
  - Middlesbrough: 75.4 years (4.4 fewer years than the English average)
  - Redcar and Cleveland: 78.2 years (1.6 fewer years than the English average)
  - Stockton-on-Tees: 78.5 years (1.3 fewer years than the English average)

In 2017-19 the average life expectancy in England for females was 83.4 years. This was lower in all local authorities in County Durham and Tees Valley:

- County Durham: 81.8 years (1.6 fewer years than the English average)
- Tees Valley as a whole: 81.4 years (2.0 fewer years that the English average)
  - Darlington: 81.9 years (1.5 fewer years than the English average)
  - Hartlepool: 81.3 years (2.1 fewer years than the English average)
  - Middlesbrough: 80.3 years (3.1 fewer years than the

English average)
- Redcar and Cleveland: 81.8 years (1.6 fewer years than the English average)
- Stockton-on-Tees: 81.7 years (1.7 fewer years than the English average)

In 2018-20, due to the pandemic, there were reductions in life expectancy estimates in most part of England. For males, the English average was 79.4 years (0.4 fewer years than the previous estimate for 2017-19). However, this 79.4 years was still higher than the local authorities in County Durham and Tees Valley:

- County Durham: 77.7 years (1.7 fewer years than the English average)
- Tees Valley as a whole: 77.2 years (2.2 fewer years that the English average)
  - Darlington: 78.1 years (1.3 fewer years than the English average)
  - Hartlepool: 76.5 years (2.9 fewer years than the English average)
  - Middlesbrough: 75.4 years (4.0 fewer years than the English average)
  - Redcar and Cleveland: 77.5 years (2.0 fewer years than the English average)
  - Stockton-on-Tees: 78.1 years (1.3 fewer years than the English average)

In 2018-20, the English average of female life expectancy was 83.1 years (0.3 years fewer than the previous estimate for 2017-19). However, this 83.1 years was still higher than the local authorities in County Durham and Tees Valley:

- County Durham: 81.2 years (1.9 fewer years than the English average)
- Tees Valley as a whole: 81.1 years (2.0 fewer years that the English average)
  - Darlington: 81.2 years (1.9 fewer years than the English average)
  - Hartlepool: 81.1 years (2.0 fewer years than the English average)
  - Middlesbrough: 79.8 years (3.3 fewer years than the English average)
  - Redcar and Cleveland: 81.5 years (1.6 fewer years than the English average)
  - Stockton-on-Tees: 81.3 years (1.8 fewer years than the English average)

3.1.3 Life expectancy within smaller areas in County Durham and Tees Valley

In a recent paper, Rashid and colleagues[225] estimated life expectancy at Middle Super Output Area (MSOA) level in England. Here, we make use of the most up-to-date estimates from 2019 and explore differences in life expectancy for males and females within County Durham and Tees Valley.

Figure 3.5 shows the variation in the form of a map. There is clear evidence that whilst the majority of MSOAs in Tees Valley and County Durham has low levels of life expectancy, this is not universally true. There are some small areas that have life expectancy in the top quintile nationally.

Within County Durham and Tees Valley for males, 65 out of the 155 MSOAs (42%) have life expectancy in the lowest quintile, based on national statistics. Only 14 of the 155 MSOAs (9%) have life expectancy in

Figure 3.3: Trends in life expectancy at birth for males and females; 2001-03 to 2018-20[223]

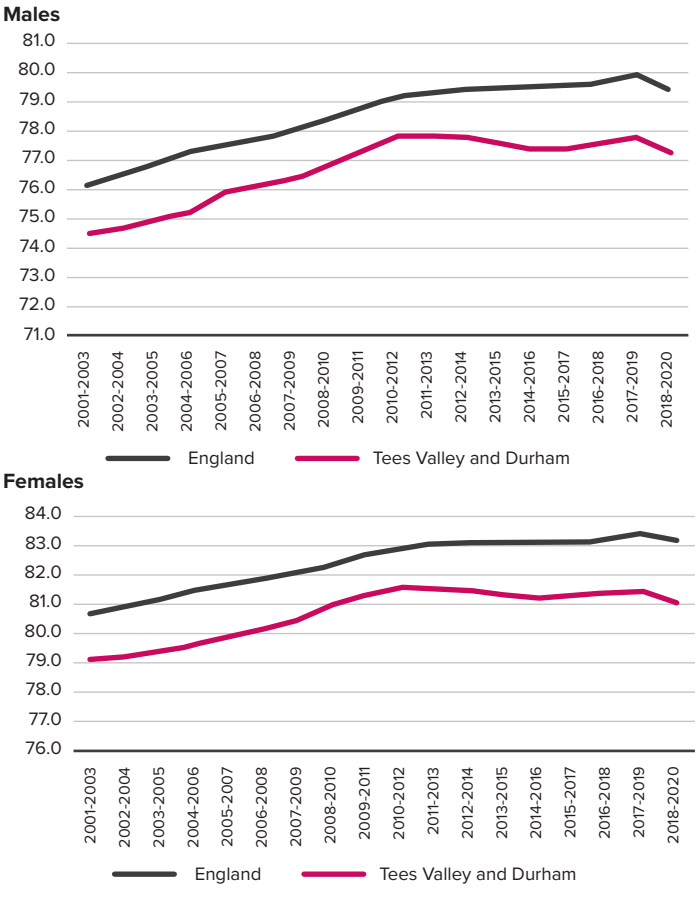
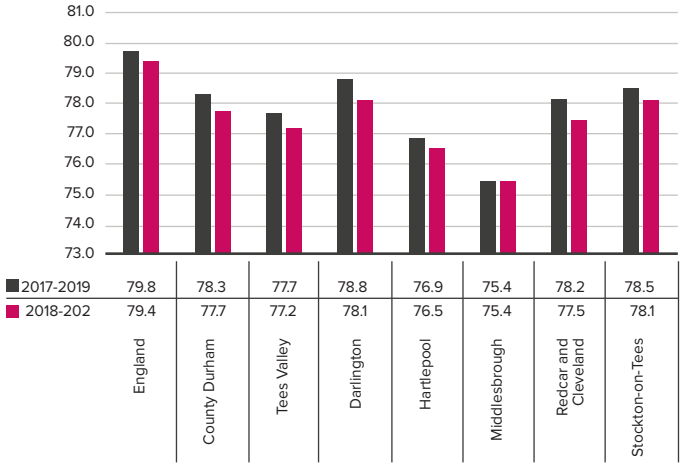
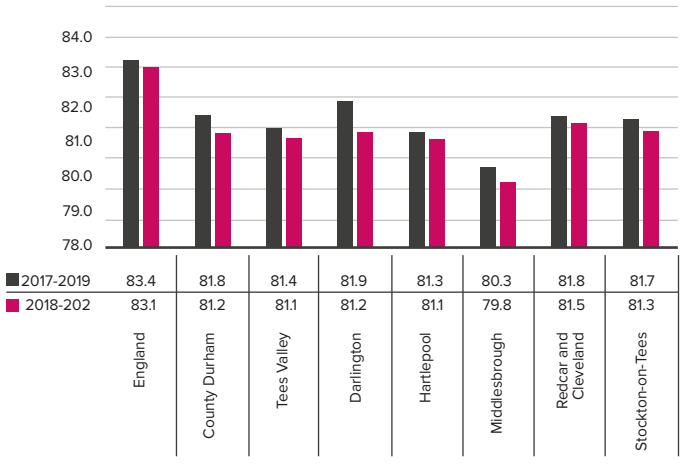


Figure 3.4: Life expectancy at birth for males and females in 2017-19 to 2018-20 for local authorities in County Durham and Tees Valley[224]

Panel (a): for males



Panel (b): for females



the highest quintile. For females, 70 out of the 155 MSOAs (45%) have life expectancy in the lowest quintile, based on national statistics. Only 8 of the 155 MSOAs (5%) have life expectancy in the highest quintile.

Figure 3.6 ranks each MSOA within County Durham and Tees Valley (males on the left, females on the right) from lowest to highest life expectancy. The red lines in each panel are the national averages. In County Durham and Tees Valley:

- For males, 106 out of 155 MSOAs (=68%) have life expectancy below the English average
- For females, 111 out of 155 MSOAs (=72%) have life expectancy below the English average

Table 3.1 shows the five areas with the lowest and highest life expectancies for males and females. For both males and females, Central Stockton, Portrack & Low Hartburn (in Stockton-on-Tees) has the lowest life expectancy in the area (69.9 years for males and 74.8 years for females). For males, Hummersknott (in Darlington) has the highest life expectancy within the area; 84.8 years. For females, Elm Tree & Grangefield (Stockton-on-Tees) has the highest life expectancy; 87.8 years.

For males, within County Durham and Tees Valley, there is a 14.9 year difference in life expectancy between the area with the highest and lowest values. The corresponding figure for females in 13 years.

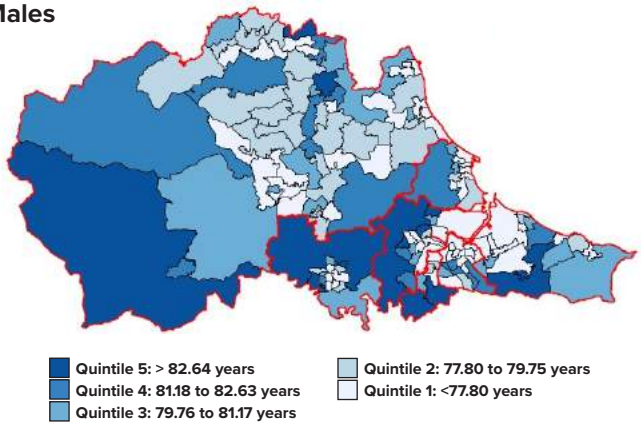
3.1.4 Healthy life expectancy in County Durham and Tees Valley

When considering healthy life expectancy[228], the gaps are even larger. For brevity, we focus here on the latest estimate for the period 2018-20. In this period, the average male healthy life expectancy in England was 63.1 years (Figure 3.7). This is higher than the six local authorities that make up County Durham and Tees Valley:

- County Durham: 58.8 years (4.3 fewer years than the English average)
- Tees Valley as a whole: 58.8 years (4.3 fewer years that the English average)
  - Darlington: 59.5 years (3.6 fewer years than the English average)
  - Hartlepool: 57.6 years (5.5 fewer years than the English average)
  - Middlesbrough: 58.8 years (4.3 fewer years than the English average)
  - Redcar and Cleveland: 59.6 years (6.2 fewer years than the English average)
  - Stockton-on-Tees: 60.1 years (3.0 fewer years than the English average)

Figure 3.5: Map of life expectancy for males and females by Middle Super Output Areas within County Durham and Tees Valley[226]

Males



Females

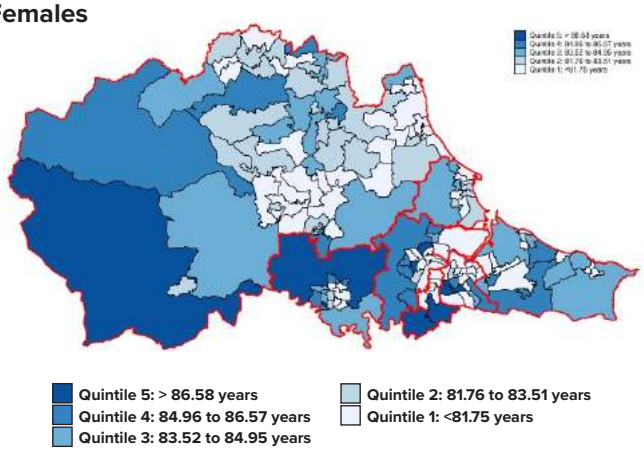
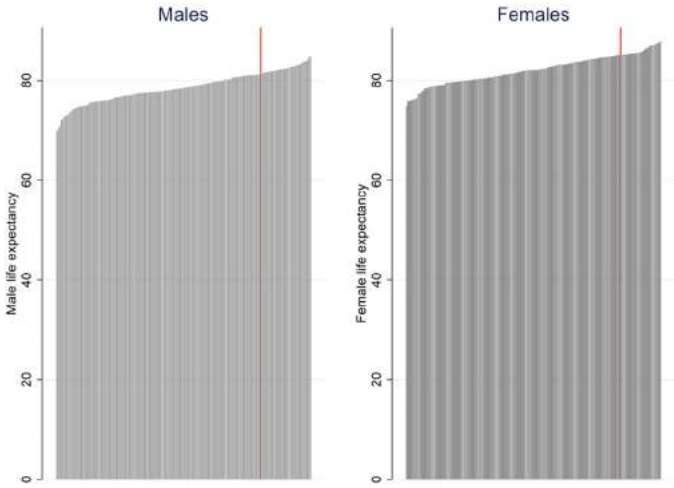


Table 3.1: The Middle Super Output Areas within County Durham and Tees Valley with the lowest and highest life expectancies for males and females

Rank	Males Area	Life expectancy	Local authority	Females Area	Life expectancy	Local authority
1	Central Stockton, Portrack & Low Hartburn	69.9	Stockton-on-Tees	Central Stockton, Portrack & Low Hartburn	74.8	Stockton-on-Tees
2	Beechwood & James Cook	70.3	Middlesbrough	Ayresome	75.9	Middlesbrough
3	Middlesbrough Central	70.9	Middlesbrough	Berwick Hills	76.0	Middlesbrough
4	Ayresome	72.1	Middlesbrough	Beechwood & James Cook	76.1	Middlesbrough
5	Park Vale	72.4	Middlesbrough	Park Vale	76.1	Middlesbrough
151	Whinfield	83.7	Darlington	Upper Teesdale	87.1	County Durham
152	Yarm	83.8	Stockton-on-Tees	Trimdon	87.3	Middlesbrough
153	Ingleby Barwick East & Hilton	84.0	Stockton-on-Tees	Norton North	87.4	Stockton-on-Tees
154	Guisborough West	84.6	Redcar and Cleveland	Ingleby Barwick East & Hilton	87.5	Stockton-on-Tees
155	Hummersknott	84.8	Darlington	Elm Tree & Grangefield	87.8	Stockton-on-Tees

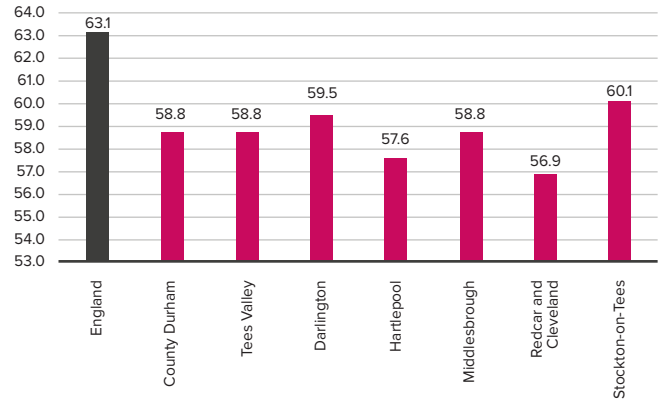
Figure 3.6: Life expectancy for Middle Super Output Areas within County Durham and Tees Valley ranked from lowest to highest[227]



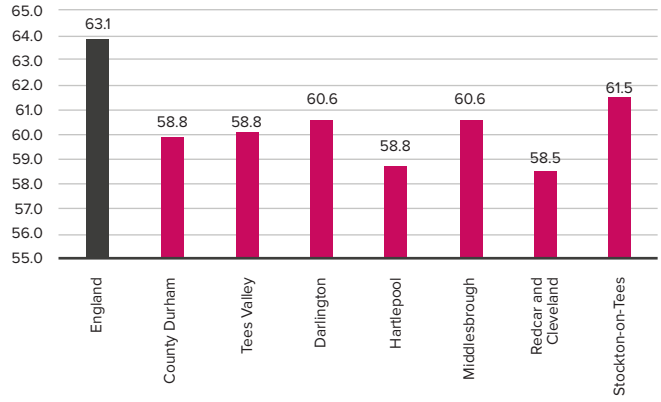
Note: the red solid lines are the English averages

Figure 3.7: Healthy life expectancy at birth for males and females in 2018-20 for local authorities in County Durham and Tees Valley[230]

Panel (a): for males



Panel (b): for females



The corresponding English average for females in 2018-20 was 63.9 years. Again, this was considerably higher than in County Durham and Tees Valley:

- County Durham: 59.9 years (4.0 fewer years than the English average)
- Tees Valley as a whole: 60.1 years (3.8 fewer years that the English average)
  - Darlington: 60.6 years (3.3 fewer years than the English average)
  - Hartlepool: 58.8 years (5.1 fewer years than the English average)
  - Middlesbrough: 60.6 years (3.3 fewer years than the English average)
  - Redcar and Cleveland: 58.5 years (5.4 fewer years than the English average)
  - Stockton-on-Tees: 61.5 years (2.4 fewer years than the English average)

Figure 3.8 shows the average amount of a person's life that is spent in 'good health'.[229] Again, for both males and females living in County Durham and Tees Valley (and all constituent local authorities), this is considerably lower than the English average.

For example, a male living in County Durham can expect to live 75.6% of their life in good health, compared to the English average of 79.5%. Similarly, a female living in County Durham can expect to live 73.7% of their life in good health, much lower than the English average of 76.8%.

The most up-to-date values for healthy life expectancy at MSOA-level are from 2013, and hence we do not report them here.

3.1.5 Mortality rates in County Durham and Tees Valley

Figure 3.9 presents the standardised mortality ratio (SMR)[232] for deaths from all causes in the five-year period 2016-20 (the latest available data).[233] By default, the value for the English average of SMRs is 100, and hence we can discuss the differences observed in County Durham and Tees Valley in terms of percentages.

Panel (a) of Figure 3.9 shows that all six local authorities that make up County Durham and Tees Valley had SMRs considerably higher than the English average:

- County Durham was 16.1% higher
- Darlington was 9.9% higher
- Hartlepool was 18.7% higher
- Middlesbrough was 35.1% higher
- Redcar and Cleveland was 11.9% higher
- Stockton-on-Tees was 13.0% higher

Panel (b) of Figure 3.9 examines the SMRs for deaths from all causes for people aged under 75. Here, the differences in County Durham and Tees Valley are even larger. For example, SMRs among people ages under 75 in:

- County Durham was 16.3% higher
- Darlington was 16.2% higher
- Hartlepool was 29.9% higher
- Middlesbrough was 50.4% higher
- Redcar and Cleveland was 22.4% higher
- Stockton-on-Tees was 18.7% higher

Figure 3.10 presents SMRs for deaths that had causes that were considered preventable among those aged under 75 years of age. The basic concept of preventable mortality is that deaths are considered preventable if, in the light of the understanding of the determinants of health at the time of death, all or most deaths from the underlying cause could potentially be avoided by public health interventions in the broadest sense.

The SMRs in County Durham and Tees Valley were, again, much higher than the English average:
- County Durham was 26.5% higher
- Darlington was 16.8% higher
- Hartlepool was 44.5% higher
- Middlesbrough was 68.4% higher
- Redcar and Cleveland was 29.9% higher
- Stockton-on-Tees was 25.0% higher

Panel (b) of Figure 3.10 presents a map of SMRs for deaths that had causes that were considered preventable among those aged under 75 years of age for MSOAs within County Durham and Tees Valley. Whilst the majority of MSOAs are shaded in the darker colours (higher mortality rates), there are some areas with relatively low mortality rates.

Panel (c) of Figure 3.10 shows each MSOA stacked from lowest to highest SMRs for deaths that had causes that were considered preventable among those aged under 75 years of age. 112 out of the 155 MSOAs within County Durham and Tees Valley (=72%) have SMRs above the English average. Table 3.2 shows the five lowest and highest SMRs within County Durham and Tees Valley. There is considerable variation; the SMR in Guisborough Outer & Upleatham (=50.3) is almost six times lower than the SMR in Ayresome (=299.8). In fact, in Ayresome the SMR is almost three times the national average.

Table 3.3 lists standardised mortality ratios (SMRs) for deaths from various causes for all ages. It considers three prominent causes of death.

For coronary heart disease, the SMRs in County Durham and Tees Valley were, again, much higher than the English average:
- County Durham was 18.6% higher
- Darlington was 4.2% higher
- Hartlepool was 18.8% higher
- Middlesbrough was 44.0% higher
- Redcar and Cleveland was 16.4% higher
- Stockton-on-Tees was 11.1% higher

For coronary stroke, the SMRs in County Durham and Tees Valley were, again, much higher than the English average:
- County Durham was 20.9% higher
- Darlington was 9.7% higher
- Hartlepool was 14.5% higher
- Middlesbrough was 31.7% higher
- Redcar and Cleveland was 14.8% higher
- Stockton-on-Tees was 10.2% higher

For coronary respiratory disease, the SMRs in County Durham and Tees Valley were, again, much higher than the English average:
- County Durham was 22.6% higher
- Darlington was 16.3% higher
- Hartlepool was 29.3% higher
- Middlesbrough was 45.0% higher
- Redcar and Cleveland was 19.3% higher
- Stockton-on-Tees was 12.9% higher

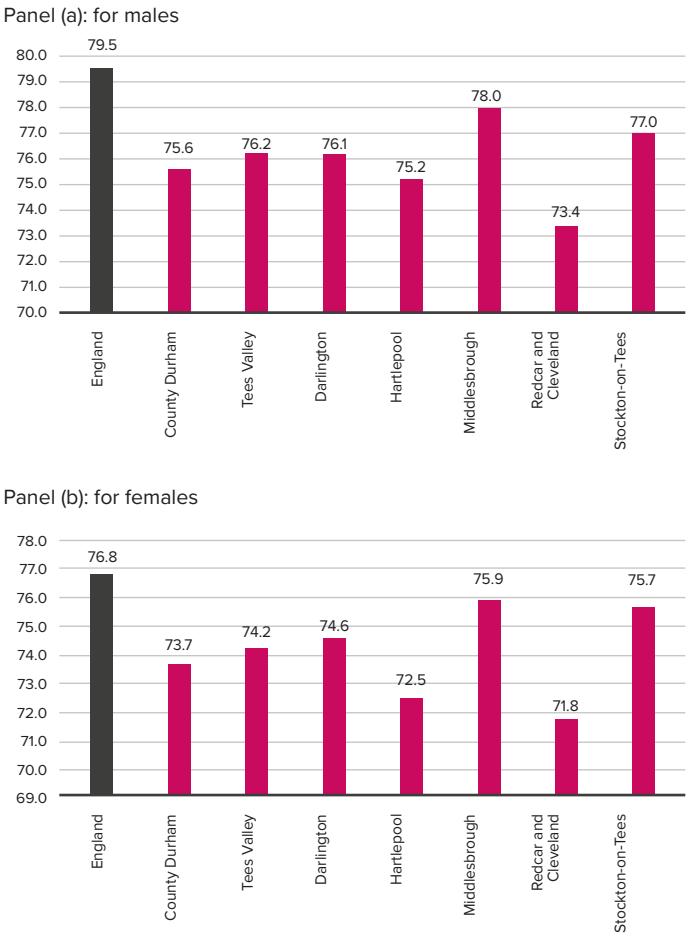
Table 3.3: Age standardised mortality ratios (SMRs) for deaths from various causes for all ages (2016-20) in County Durham and Tees Valley

3.1.6 General self-reported health in County Durham and Tees Valley

People living in County Durham and Tees Valley are less likely to self-report that their health is 'good' or 'very good' (Figure 3.11) and more likely to self-report that their health is 'bad' or 'very bad' (Figure 3.12).

In England as a whole, 81.4% of people said that their health was either good (34.2%) or very good (47.2%). These figures are consistently higher

Figure 3.8: Proportion of life spent in 'good health' for males and females in 2018-20 for local authorities in County Durham and Tees Valley[231]



than in County Durham and Tees Valley. For example, in:

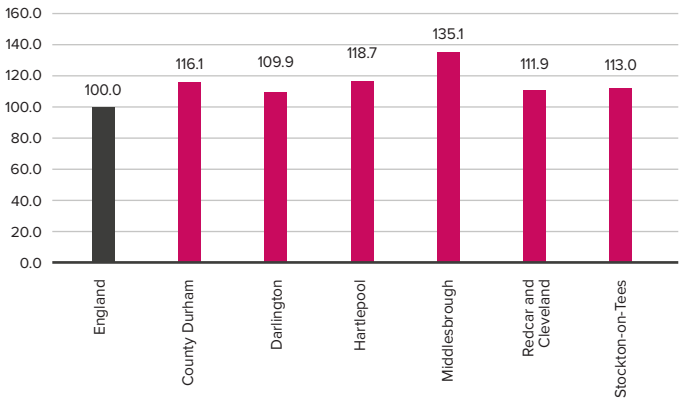
- County Durham 75.8% of people said that their health was either good (33.4%) or very good (42.4%)
- Darlington 79.8% of people said that their health was either good (35.2%) or very good (44.6%)
- Hartlepool 76.0% of people said that their health was either good (32.7%) or very good (43.3%)
- Middlesbrough 78.1% of people said that their health was either good (32.7%) or very good (45.4%)
- Redcar and Cleveland 76.3% of people said that their health was either good (33.9%) or very good (42.4%)
- Stockton-on-Tees 79.8% of people said that their health was either good (33.5%) or very good (46.3%)

In England as a whole, 5.4% of people said that their health was either bad (4.2%) or very bad (1.2%). These figures are consistently lower than in County Durham and Tees Valley. For example, in:

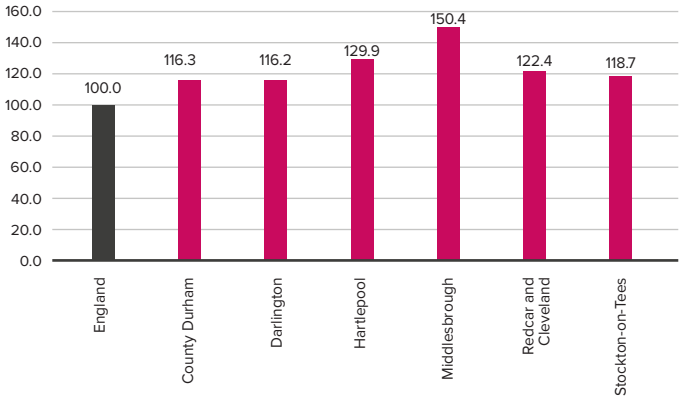
- County Durham 8.1% of people said that their health was either bad (6.3%) or very bad (1.8%)
- Darlington 5.9% of people said that their health was either bad (4.5%) or very bad (1.4%)
- Hartlepool 8.1% of people said that their health was either bad (6.3%) or very bad (1.8%)
- Middlesbrough 7.6% of people said that their health was either bad (5.8%) or very bad (1.8%)
- Redcar and Cleveland 7.9% of people said that their health was either bad (6.1%) or very bad (1.8%)
- Stockton-on-Tees 6.4% of people said that their health was either bad (4.9%) or very bad (1.5%)

Figure 3.9: Age standardised mortality ratios (SMRs) for deaths from all causes (2016-20) in County Durham and Tees Valley[234]

Panel (a): All ages



Panel (b): Under 75 years of age



3.1.7 Limiting long-term illness and disability in County Durham and Tees Valley

Here we report both self-reported measures of disability and administrative data on people receiving benefits to support their social care needs or barriers to employment caused by their primary disabling condition.

Nationally, 17.6% of people reported that they have a limiting long-term illness.[239] 8.3% of people nationally reported that a limiting long-term illness affected their day-to-day activities a lot and 9.3% of people nationally reported that a limiting long-term illness affected their day-to-day activities a little (Figure 3.13). These figures were lower than the values observed in County Durham and Tees Valley. In:

- County Durham 23.7% of people reported that they have a limiting long-term illness. 12.3% of people reported that a limiting long-term illness affected their day-to-day activities a lot and 11.4% of people reported that a limiting long-term illness affected their day-to-day activities a little
- Darlington 19.6% of people reported that they have a limiting long-term illness. 9.3% of people reported that a limiting long-term illness affected their day-to-day activities a lot and 10.3% of people reported that a limiting long-term illness affected their day-to-day activities a little
- Hartlepool 23.2% of people reported that they have a limiting long-term illness. 12.1% of people reported that a limiting long-term illness affected their day-to-day activities a lot and 11.1% of people reported that a limiting long-term illness affected their day-to-day activities a little
- Middlesbrough 20.9% of people reported that they have a limiting long-term illness. 10.8% of people reported that a limiting long-term illness affected their day-to-day activities a lot and 10.1% of people reported that a limiting long-term illness affected their day-to-day activities a little
- Redcar and Cleveland 22.8% of people reported that they have a limiting long-term illness. 11.5% of people reported that a limiting long-term illness affected their day-to-day activities a lot and 11.3% of people reported that a limiting long-term illness affected their day-to-day activities a little
- Stockton-on-Tees 19.0% of people reported that they have a limiting

Table 3.3: Age standardised mortality ratios (SMRs) for deaths from various causes for all ages (2016-20) in County Durham and Tees Valley[236]

	England	County Durham	Darlington	Hartlepool	Middlesbrough	Redcar and Cleveland	Stockton-on-Tees
Deaths from coronary heart disease, all ages	100	118.6	104.2	118.8	144.0	116.4	111.1
Deaths from stroke, all ages	100	120.9	109.7	114.5	131.7	114.8	110.2
Deaths from respiratory diseases, all ages	100	122.6	116.3	129.3	145.0	119.3	112.9

Note: boxes shaded in red are at least 10% above the English average, boxes shaded in orange are within 10% of the English average, and boxes shaded in green are at least 10% below the English average.

long-term illness. 9.2% of people reported that a limiting long-term illness affected their day-to-day activities a lot and 9.8% of people reported that a limiting long-term illness affected their day-to-day activities a little

Figure 3.14 reports the corresponding figures among people aged 16 to 64 years of age, and the same patterns emerge in this working age sub-population. The prevalence of limiting long-term illness is much higher in County Durham and Tees Valley.

There are considerably higher claimant rates within County Durham and Tees Valley when compared to the national average[240] (Table 3.4). The national Personal Independence Payment (PIP) claimant rate in July 2022 was 7.3%. PIP helps with some of the extra costs caused by long-term disability, ill-health or terminal ill-health and began to replace Disability Living Allowance (DLA) as the main disability benefit for working age people from April 2013. The PIP rate is considerably higher in all six local authorities than constitute County Durham and Tees Valley. It is 11.8% in County Durham (4.5 percentage points, or 62% higher than the national average), 13.9% in Hartlepool (6.6 percentage points, or 89% higher than the national average), and 12.8% in Middlesbrough (5.5 percentage points, or 76% higher than the national average).

Table 3.2: The Middle Super Output Areas within County Durham and Tees Valley with the lowest and highest SMRs for deaths that had causes that were considered preventable among those aged under 75 years (2016-20)

Panel (a): In County Durham

Rank*	Area	SMR	Local authority
5	Aykley Heads, Neville's Cross & Langley Moor	54.5	County Durham
6	Upper Teesdale	54.9	County Durham
10	Lanchester	60.4	County Durham
14	Newton Hall & Brasside	63.1	County Durham
19	Chester-le-Street North	71.2	County Durham
130	Chester-le-Street Town & Pelton Fell	193.6	County Durham
133	Bishop Auckland South	196.9	County Durham
135	Horden	197.6	County Durham
137	Peterlee East	206.5	County Durham
144	Murton North & Parkside	226.9	County Durham

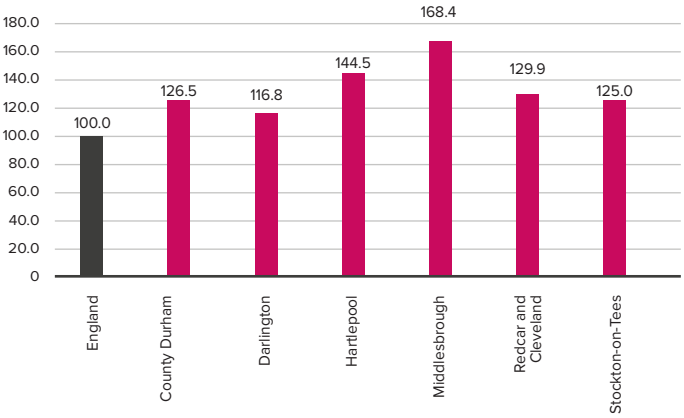
Panel (b): In Tees Valley

Rank*	Area	SMR	Local authority
1	Guisborough Outer & Upleatham	50.3	Redcar and Cleveland
2	Eaglescliffe	51.4	Stockton-on-Tees
3	Guisborough West	52.9	Redcar and Cleveland
4	Ingleby Barwick East & Hilton	53.0	Stockton-on-Tees
5	Hummersknott	55.4	Darlington
151	North Ormesby & Brambles	270.0	Middlesbrough
152	Berwick Hills	274.7	Middlesbrough
153	Central Stockton, Portrack & Low Hartburn	288.2	Stockton-on-Tees
154	Middlesbrough Central	293.4	Middlesbrough
155	Ayresome	299.8	Middlesbrough

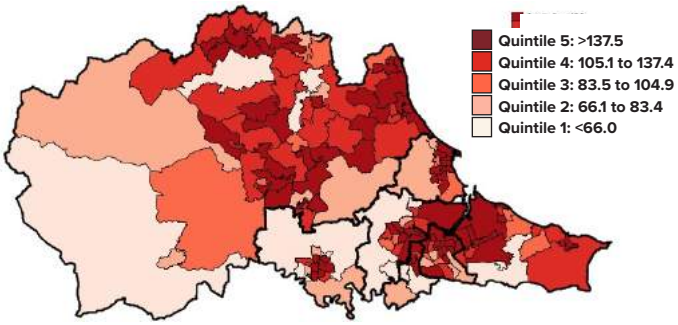
Note: * Rank refers to the rank of MSOAs within Durham and Tees Valley (N=155)

Figure 3.10: Age standardised mortality ratios (SMRs) for deaths that had causes that were considered preventable among those aged under 75 years (2016-20) in County Durham and Tees Valley[235]

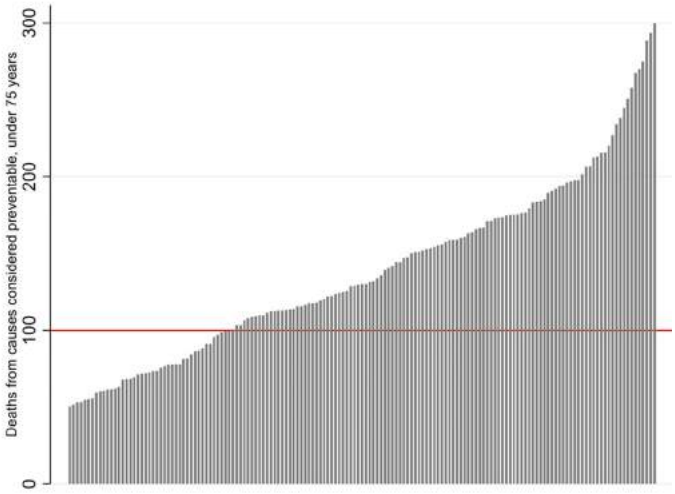
Panel (q): By local authority



Panel (b): A map at Middle Super Output Area (MSOA) level
Deaths from causes considered preventable, under 75 years



Panel (c): Middle Super Output Areas (MSOAs) ranked from lowest to highest



There are higher than average rates of Universal Credit claims in County Durham and Tees Valley. This is true for both claimants in and not in employment. For example, the Universal Credit claimant rate for people in Hartlepool (23.9%) and Middlesbrough (23.0%) is almost double the national average (13.5%). All other localities in County Durham and Tees Valley are considerably above the national average.

3.1.8 Prevalence of specific health conditions in County Durham and Tees Valley

Table 3.5 shows the percentage of people residing in County Durham CCG and Tees Valley CCG, as well as the English national average, who experience a number of health conditions.[244]

County Durham CCG has a higher than average prevalence rate for all 13 conditions considered, and 11 of these are at least 10% higher than the national average. For example, the recorded prevalence of depression in County Durham is 1.9 percentage points, or 15.4%, higher than the national average. Tees Valley CCG has a higher than average prevalence rate for 11 out of the 13 conditions considered, and eight of these are at least 10% higher than the national average.

3.1.9 Mental health in County Durham and Tees Valley

To look at measures of mental health, in addition to the conditions listed in Table 3.5, we plot the mean number of anti-depressants prescribed per person[246] in Figure 3.15. The English average is consistently below the values observed in NHS County Durham CCG and NHS Tees Valley CCG. In November 2021, the English average value was 4.6, considerably lower than the value in NHS County Durham CCG (=6.8) and NHS Tees Valley CCG (=6.2).

3.1.10 Health behaviours in County Durham and Tees Valley

Here, we outline a number of 'risk factors' associated with ill-health and show that they are more common in Tees Valley and County Durham, when compared to the English average (Table 3.6). The percentage of individuals in all six local authorities in County Durham and Tees Valley who eat five fruit and vegetables a day is lower than the English average. In three of the six local authorities, the value is more than 10% lower than the English average (Hartlepool, Middlesbrough, and Redcar and Cleveland).

The percentage of individuals who are classified as physically inactive is at least 10% higher than the English average in five of the six local authorities in County Durham and Tees Valley (County Durham, Darlington, Hartlepool, Middlesbrough, and Redcar and Cleveland).

The smoking prevalence rate among adults is at least 10% higher than the English average in four of the six local authorities in County Durham and Tees Valley (County Durham, Hartlepool, Middlesbrough, and Redcar and Cleveland).

Figure 3.11: The percentage of people who report their health as being 'good' or 'very good' in County Durham and Tees Valley[237]

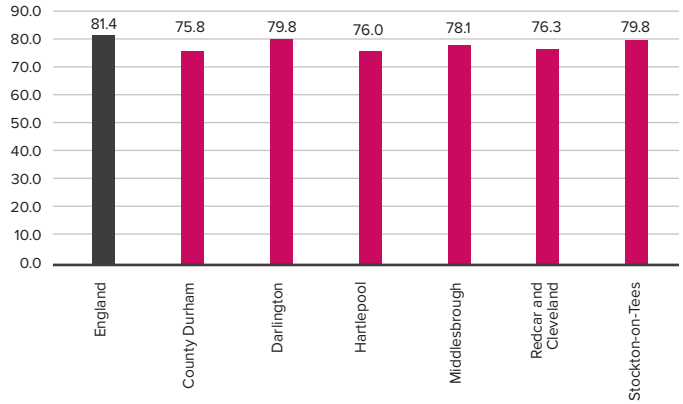


Figure 3.12: The percentage of people who report their health as being 'bad or 'very bad in County Durham and Tees Valley[238]

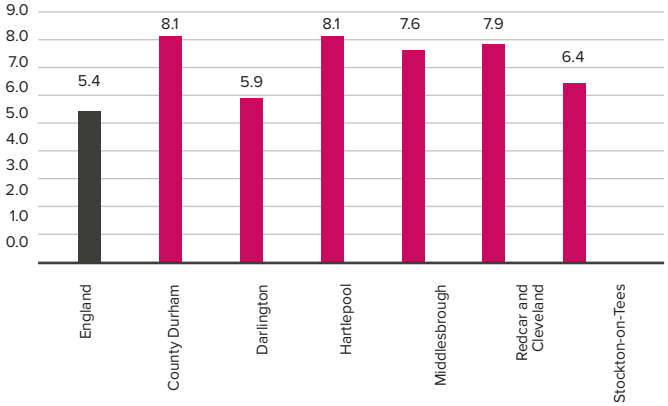


Figure 3.13: The percentage of people who report having a limiting long-term illness in County Durham and Tees Valley[241]

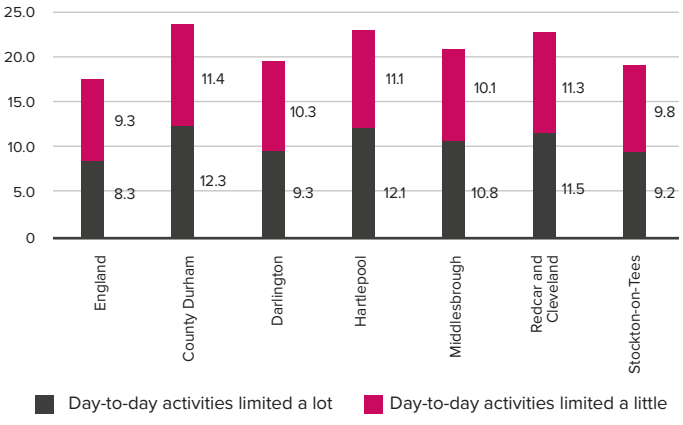


Figure 3.14: The percentage of people aged 16 to 64 years of age who report having a limiting long-term illness in County Durham and Tees Valley[242]

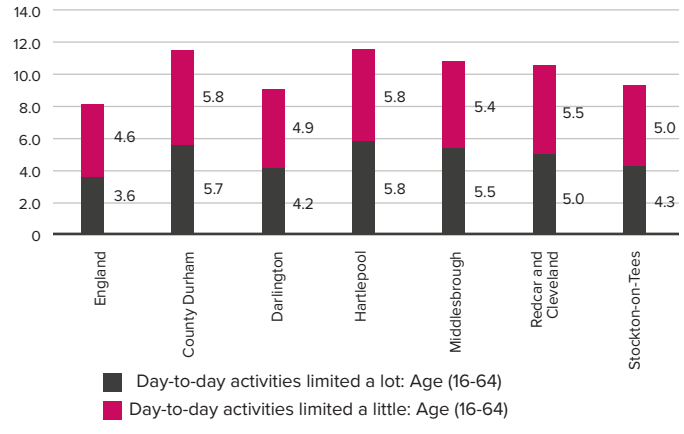


Table 3.4: Percentage of people claiming disability and sickness related benefits[243]

	County Durham	Darlington	Hartlepool	Middlesbrough	Redcar and Cleveland	Stockton-on-Tees	UK
Incapacity Benefit/Employment and Support Allowance (Feb 2022; 16-64 year olds)	5.8	4.8	5.7	7.1	6.7	4.9	4.2
Universal Credit claimants: not in employment (Aug 2022; 16-64 year olds)	10.1	10.0	15.8	14.8	10.9	9.8	8.0
Universal Credit claimants: in employment (Aug 2022; 16-64 year olds)	5.6	6.5	8.1	8.2	6.7	6.0	5.5
Universal Credit claimants: total (Aug 2022; 16-64 year olds)	15.6	16.5	23.9	23.0	17.6	15.8	13.5
Disability benefit (DLA) (Feb 2020; 16-64 year olds)	4.3	3.5	4.2	3.8	4.1	3.7	3.2
Personal Independence Payment (PIP) (July 2022; 16-64 year olds)	11.8	9.3	13.9	12.8	12.3	9.9	7.3
Older people social care benefit (Attendance Allowance) (Feb 2022; 65+ year olds)	14.2	12.0	18.8	15.1	13.4	15.1	12.1

Note: boxes shaded in red are at least 10% above the English average, boxes shaded in yellow are within 10% of the English average, and boxes shaded in green are at least 10% below the English average. Number of people claiming benefits relate to the month shown. Population estimates are from 2022 (latest available data). Also note that the denominators for the sub classification of Universal Credit are total populations, they are not stratified by employment status.

Table 3.5: Percentage of people who experience health conditions in County Durham and Tees Valley[245]

Panel (a): Values in County Durham and Tees Valley

Indicator	Period	England	NHS County Durham CCG	NHS Tees Valley CCG
Depression: Recorded prevalence (Persons, 18+ yrs)	2020/21	12.30	14.20	14.50
Mental Health: QOF prevalence (Persons, All ages)	2020/21	0.95	0.98	0.93
Stroke: QOF prevalence (Persons, All ages)	2019/20	1.80	2.40	2.20
Hypertension: QOF prevalence (Persons, All ages)	2020/21	13.90	17.00	15.50
Diabetes: QOF prevalence (Persons, 17+ yrs)	2020/21	7.10	8.30	7.70
COPD: QOF prevalence (Persons, All ages)	2020/21	1.90	3.10	3.00
CKD: QOF prevalence (Persons, 18+ yrs)	2020/21	4.00	4.00	3.70
Heart Failure: QOF prevalence (Persons, All ages)	2020/21	0.90	1.40	1.00
CHD: QOF prevalence (Persons, All ages)	2020/21	3.00	4.40	3.80
Atrial fibrillation: QOF prevalence (Persons, All ages)	2020/21	2.00	2.30	2.20
Rheumatoid Arthritis: QOF prevalence (Persons, 16+ yrs)	2020/21	0.80	0.90	0.80
Cancer: QOF prevalence (Persons, All ages)	2020/21	3.20	3.50	3.20
Dementia: QOF prevalence (Persons, All ages)	2020/21	0.70	0.80	0.80

Panel (b): Differences from English average, in percentage points (absolute terms) and percentages (relative terms)

	NHS County Durham CCG		NHS Tees Valley CCG	
	Percentage point	%	Percentage point	%
Depression: Recorded prevalence (Persons, 18+ yrs)	1.9	15.4	2.2	17.9
Mental Health: QOF prevalence (Persons, All ages)	0.0	3.2	0.0	-2.1
Stroke: QOF prevalence (Persons, All ages)	0.6	33.3	0.4	22.2
Hypertension: QOF prevalence (Persons, All ages)	3.1	22.3	1.6	11.5
Diabetes: QOF prevalence (Persons, 17+ yrs)	1.2	16.9	0.6	8.5
COPD: QOF prevalence (Persons, All ages)	1.2	63.2	1.1	57.9
CKD: QOF prevalence (Persons, 18+ yrs)	0.0	0.0	-0.3	-7.5
Heart Failure: QOF prevalence (Persons, All ages)	0.5	55.6	0.1	11.1
CHD: QOF prevalence (Persons, All ages)	1.4	46.7	0.8	26.7
Atrial fibrillation: QOF prevalence (Persons, All ages)	0.3	15.0	0.2	10.0
Rheumatoid Arthritis: QOF prevalence (Persons, 16+ yrs)	0.1	12.5	0.0	0.0
Cancer: QOF prevalence (Persons, All ages)	0.3	9.4	0.0	0.0
Dementia: QOF prevalence (Persons, All ages)	0.1	14.3	0.1	14.3

Note: In panel (a), boxes shaded in red are at least 10% above the English average, boxes shaded in yellow are within 10% of the English average, and boxes shaded in green are at least 10% below the English average.

The alcohol-related conditions admission rate (per 100,000) is considerably higher than the English average in all six local authorities in County Durham and Tees Valley. Similarly, the deaths from drug misuse rate (per 100,000) is considerably higher than the English average in all six local authorities in County Durham and Tees Valley. It is more than treble the English average in Hartlepool and Middlesbrough.

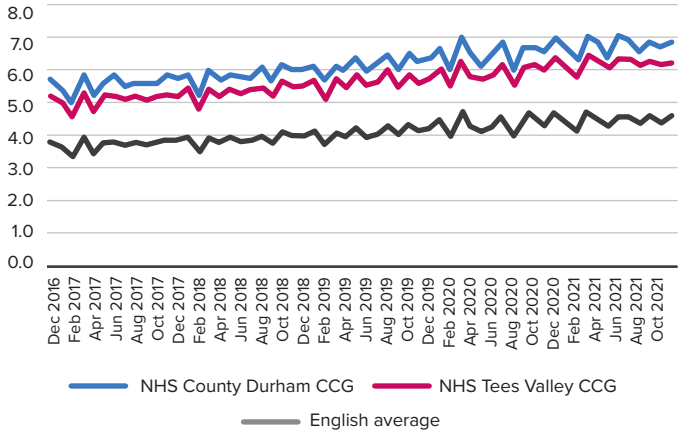
3.1.11 Emergency hospital admissions in County Durham and Tees Valley

Approximately 35% of all admissions in the NHS in England are classified as emergency admissions, costing approximately £11 billion a year. Admitting a patient to hospital as an emergency case is costly and frequently preventable, yet the number of emergency admissions to hospital has been rising for some time.

From a public health point of view, emergency admissions data gives an indication of wider determinants of poor health, linked to areas such as housing and transport. High levels of emergency admissions may also be due to high levels of injury within a population or poor management of chronic conditions within primary care.

Table 3.7 explores the prevalence of emergency admissions to hospital for key health conditions, expressed as Standardised Admission Ratios (SARs).[249]

Figure 3.15: Mean number of anti-depressants prescribed per person between January 2017 and November 2021[247]



Emergency admissions for all causes are well above the English average. In:

- County Durham they are 8.1% higher than the English average
- Darlington they are 10.1% higher than the English average
- Hartlepool they are 33.5% higher than the English average
- Middlesbrough they are 32.1% higher than the English average
- Redcar and Cleveland they are 10.0% higher than the English average
- Stockton-on-Tees they are 29.8% higher than the English average

When broken down by specific conditions (Table 3.7), a similar pattern emerges. Emergency admission rates for all conditions considered are considerably higher in local authorities in County Durham and Tees Valley.

Figure 3.16 explores variation at MSOA level within County Durham and Tees Valley. Whilst most of the areas are shaded in darker colours, representing higher SARs, there are some MSOAs within County Durham and Tees Valley with relatively low SARs (panel (a)). Panel (b) ranks each MSOA and it can be seen that 111 of the 155 MSOAs within County Durham and Tees Valley (=72%) have SARs higher than the English average of 100. Table 3.8 reports the five MSOAs with the lowest and highest SARs within County Durham and Tees Valley. The SAR in Upper Teesdale (=70.8) is about three times lower than the SAR in Central Stockton, Portrack & Low Hartburn (=198.0).

Table 3.9 presents emergency admission rates in children under 5 years of age as well as emergency admissions for injuries in: those under 5 years of age; those under 15 years of age; and those aged 15 to 24 years of age. Again, the rates are considerably higher in County Durham and Tees Valley.

For example, among children under five years of age, the rate of emergency admissions in:

- County Durham is 35.6% higher than the national average
- Darlington is 74.4% higher than the national average
- Hartlepool is 52.4% higher than the national average
- Middlesbrough is 70.6% higher than the national average
- Redcar and Cleveland is 59.7% higher than the national average
- Stockton-on-Tees is 56.0% higher than the national average

For children under five years of age, the rate of emergency admissions for injuries in:

- County Durham is 56.1% higher than the national average
- Darlington is 78.2% higher than the national average
- Hartlepool is 15.2% higher than the national average

Table 3.6: Health behaviours data for County Durham and Tees Valley[248]

	England	County Durham	Darlington	Hartlepool	Middlesbrough	Redcar & Cleveland	Stockton on Tees
5 a day fruit and vegetable consumption (% adults, 2020)	55.4	57.8	50.7	49.3	47.5	44.1	54.7
Physically Inactive (% adults, 2021)	23.4	26.7	27.6	36.7	31.6	28.0	23.1
Smoking (% adults, 2019)	13.9	17.0	13.7	19.3	17.2	15.5	13.2
Alcohol-related conditions admissions (rate per 100,000, 2021)	456.0	532.0	552.0	719.0	645.0	526.0	616.0
Deaths from Drug misuse (rate per 100,000, 2020)	5.0	8.3	10.8	16.3	16.9	9.6	8.5

Note: boxes shaded in red are at least 10% above the English average, boxes shaded in yellow are within 10% of the English average, and boxes shaded in green are at least 10% below the English average.

- Middlesbrough is 49.2% higher than the national average
- Redcar and Cleveland is 26.8% higher than the national average
- Stockton-on-Tees is 17.4% higher than the national average

Taken as a whole, these emergency admissions statistics paint a very bleak picture in County Durham and Tees Valley.

3.2 Differential health effects of COVID-19 in County Durham and Tees Valley

Between March 2020 and April 2021 (latest available data), the age-standardised mortality rate from COVID-19 were higher in the six local authorities that make up County Durham and Tees Valley (Table 3.10). This is true, on average, for males and females. For all people, in:

- County Durham, the COVID-19 mortality rate was 18.3% higher than the English average
- Tees Valley, the COVID-19 mortality rate was 18.0% higher than the English average. Within the Tees Valley, people in:
  - Darlington, the COVID-19 mortality rate was 2.1% lower than the English average
  - Hartlepool, the COVID-19 mortality rate was 24.8% higher than the English average
  - Middlesbrough, the COVID-19 mortality rate was 47.1% higher than the English average
  - Redcar and Cleveland, the COVID-19 mortality rate was 5.3% lower than the English average
  - Stockton-on-Tees, the COVID-19 mortality rate was 10.8% higher than the English average

In County Durham and Tees Valley as a whole, the COVID-19 mortality rate was 15.6% higher than the English average (Figure 3.17).

Table 3.7: Standardised Admission Ratios (SARs) for various conditions[250]

	England	County Durham	Darlington	Hartlepool	Middlesbrough	Redcar and Cleveland-	Stockton on-Tees
Emergency hospital admissions for all causes	100	108.1	110.1	133.5	132.1	110.0	129.8
Emergency hospital admissions for coronary heart disease	100	131.9	117.7	160.2	118.9	94.0	153.7
Emergency hospital admissions for stroke	100	113.6	108.3	133.6	127.3	107.2	125.9
Emergency hospital admissions for Myocardial Infarction (heart attack)	100	165.9	147.1	174.2	131.7	105.6	163.2
Emergency hospital admissions for Chronic Obstructive Pulmonary Disease (COPD)	100	150.1	121.5	204.0	214.7	150.3	158.1
Emergency hospital admissions for hip fractures, persons aged 65 years and over	100	110.2	118.6	116.9	128.8	96.2	105.9
Hospital admissions for alcohol attributable conditions (Broad definition)	100	107.5	106.0	146.5	142.9	113.4	139.0
Hospital admissions for alcohol attributable conditions, (Narrow definition)	100	113.9	111.5	157.4	147.2	117.4	144.9
Emergency hospital admissions for intentional self-harm	100	106.9	125.5	121.7	184.1	144.7	133.0

Note: boxes shaded in red are at least 10% above the English average, boxes shaded in yellow are within 10% of the English average, and boxes shaded in green are at least 10% below the English average.

Table 3.8: The Middle Super Output Areas within County Durham and Tees Valley with the lowest and highest SARs for emergency hospital admissions for all causes (2016-2021)[251]

Panel (a): Within County Durham

Rank*	Area	SAR	Local authority
1	Upper Teesdale	70.8	County Durham
3	Durham City	72.6	County Durham
5	Aykley Heads, Neville's Cross & Langley Moor	74.9	County Durham
6	Seaham Northlea & Westlea	76.3	County Durham
8	Benfieldside, Hamsterley & Medomsley	79.5	County Durham
120	Coundon North	136	County Durham
125	Bishop Auckland South	137.9	County Durham
129	Chester-le-Street Town & Pelton Fell	139.8	County Durham
130	Blackhall	139.8	County Durham
138	Peterlee East	153.4	County Durham

Panel (b): Within the Tees Valley

Rank*	Area	SAR	Local authority
2	Guisborough Outer & Upleatham	72.2	Redcar & Cleveland
4	Hummersknott	73.8	Darlington
7	Yarm	78.8	Stockton-on-Tees
10	Faverdale, Heighington & Sadberge	84	Darlington
12	Marton West	85.6	Middlesbrough
151	Eastbourne & Newham Grange	171.4	Stockton-on-Tees
152	Park Vale	174.9	Middlesbrough
153	Beechwood & James Cook	182.4	Middlesbrough
154	Hardwick & Salters Lane	182.8	Stockton-on-Tees
155	Central Stockton, Portrack & Low Hartburn	198	Stockton-on-Tees

Note: * Rank refers to the rank of MSOAs within Durham and Tees Valley (N=155)

Mortality attributable to all causes in the same period was 16.9% higher than the English average (Figure 3.18).

Figure 3.19 presents a map of COVID-19 deaths at MSOA-level within County Durham and Tees Valley in 2020 and 2021.[254,255] Again, there is considerable variation within County Durham and Tees Valley. There are more areas shaded in darker colours (higher mortality), but there are areas of low mortality. Panel (b) shows that 91 out of 155 (=59%) of MSOAs within County Durham and Tees Valley had mortality counts above the English average.

The MSOAs with the highest mortality count were:

- 51 deaths in Central Stockton, Portrack & Low Hartburn (Stockton-on-Tees) and Bank Top (Darlington)
- 50 deaths in Bishop Auckland Central & West (County Durham)
- 47 deaths in Stanley South and Murton North & Parkside (both County Durham)
- 46 deaths in Shildon (County Durham)
- 43 deaths in Stanley North & East (County Durham) and Berwick Hills (Middlesbrough)

3.3 Conclusion

The health of people living in County Durham and Tees Valley is considerably worse than the English average. This is true for almost all measures of health we have considered here. These inequalities existed long-before COVID-19 and there was evidence that they were growing, not narrowing, pre-pandemic. Additionally, to further exacerbate these widening inequalities, COVID-19 had a more severe effect in County Durham and Tees Valley.

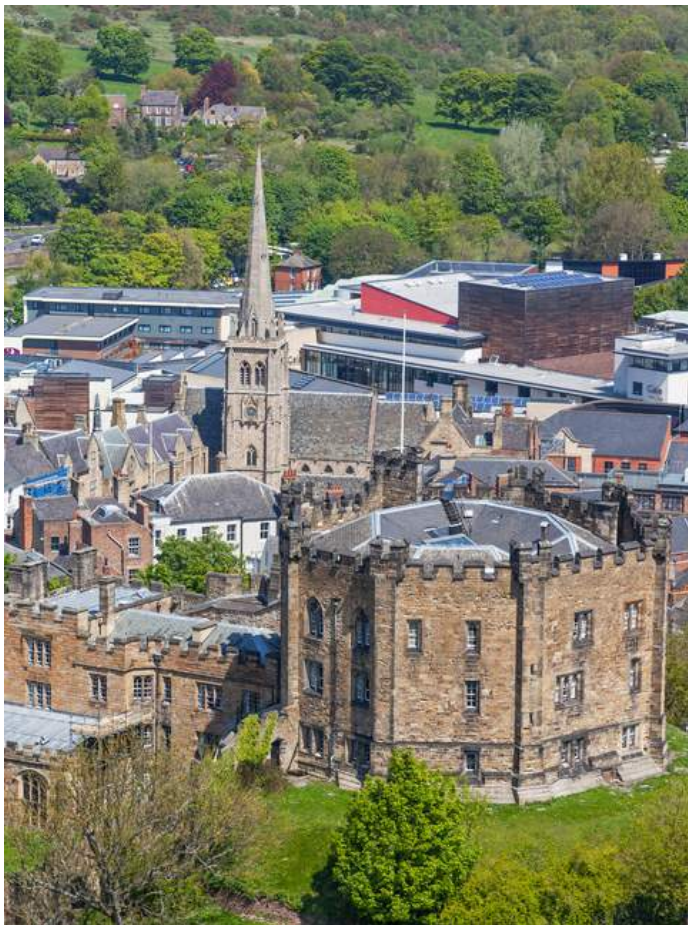


Table 3.9: Emergency hospital admissions for children and adolescents[252]

Panel (a): Values in County Durham and Tees Valley

	England	County Durham	Darlington	Hartlepool	Middlesbrough and Cleveland	Redcar	Stockton -on-Tees
Emergency admissions in children under 5 years old (rate per 1,000)	140.7	190.8	245.4	214.4	240.1	224.7	219.5
Emergency admissions for injuries in children under 5 years old (rate per 10,000)	119.3	186.2	212.6	137.4	178.0	151.3	140.0
Emergency hospital admissions for injuries in under 15 years old (rate per 10,000)	92.0	140.7	140.4	102.8	127.2	119.6	100.2
Emergency hospital admissions for injuries in 15 to 24 years old (rate per 10,000)	127.9	151.4	171.9	140.6	148.7	143.9	152.7

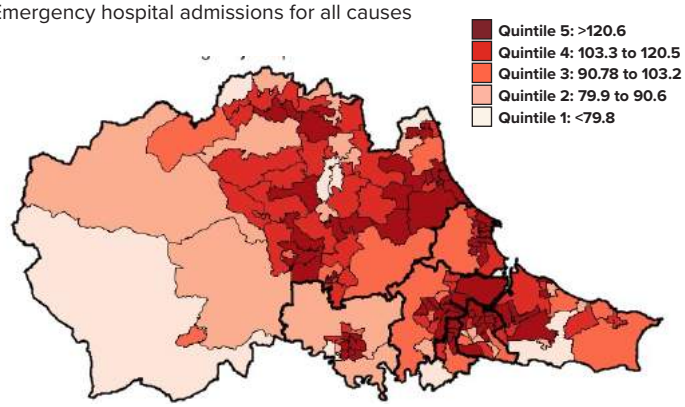
Panel (b): Differences from English average, in and percentages (relative terms)

	County Durham	Darlington	Hartlepool	Middlesbrough	Redcar and Cleveland	Stockton-on-Tees
Emergency admissions in children under 5 years old (rate per 1,000)	35.6	74.4	52.4	70.6	59.7	56.0
Emergency admissions for injuries in children under 5 years old (rate per 10,000)	56.1	78.2	15.2	49.2	26.8	17.4
Emergency hospital admissions for injuries in under 15 years old (rate per 10,000)	52.9	52.6	11.7	38.3	30.0	8.9
Emergency hospital admissions for injuries in 15 to 24 years old (rate per 10,000)	18.4	34.4	9.9	16.3	12.5	19.4

Figure 3.16: Standardised Admission Ratios (SARs) for emergency hospital admissions for all causes at Middle Super Output Area (MSOA) level in County Durham and Tees Valley[253]

Panel (a): As a map

Emergency hospital admissions for all causes



Panel (b): MSOAs ranked from lowest to highest

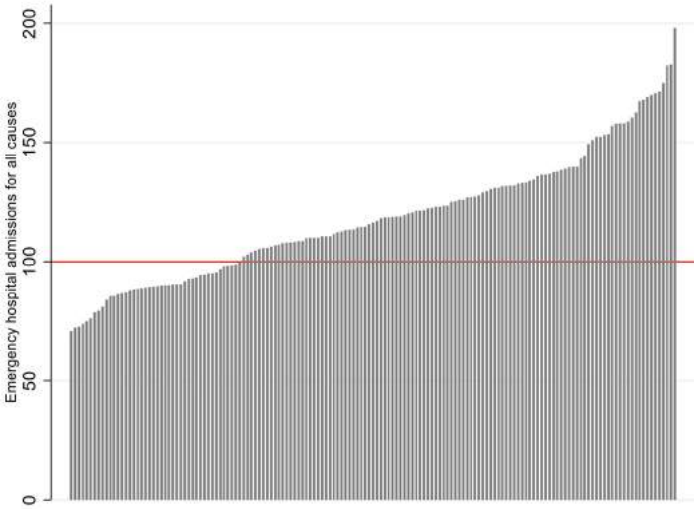


Figure 3.17: Age-standardised mortality rates (per 100,000) from COVID-19 March, 2020-April 2021 in County Durham and Tees Valley[257]

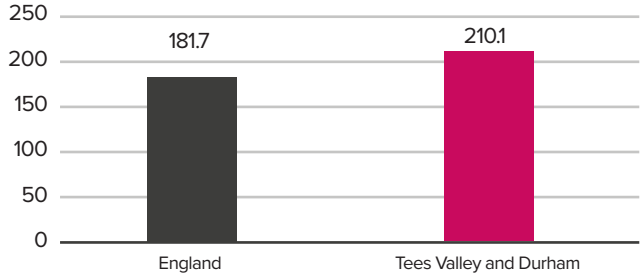


Figure 3.18: Age-standardised mortality rates (per 100,000) from all-causes, March 2020-April 2021 in County Durham and Tees Valley[258]

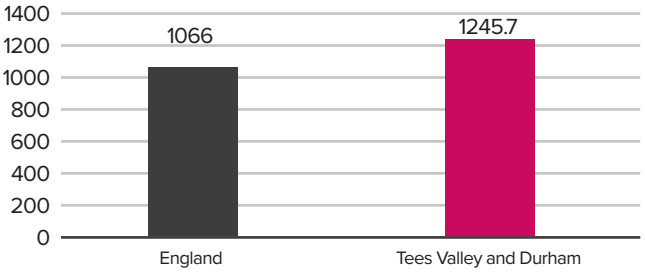


Table 3.10: Age-standardised mortality rates (per 100,000) from COVID-19 March 2020-April 2021 in County Durham and Tees Valley[256]

14-month total (March 2020 to April 2021)

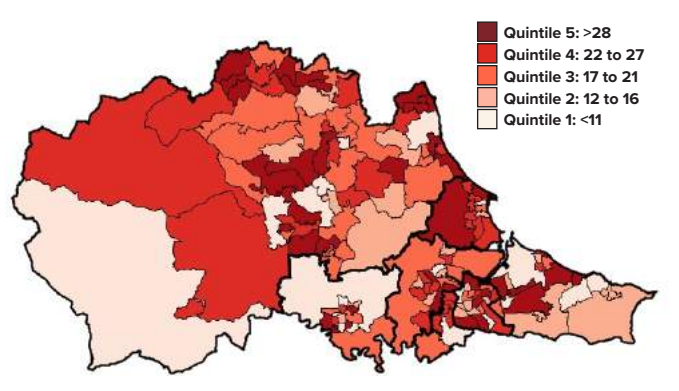
	Male Mortality Rate per 100,000	Female Mortality Rate per 100,000	Total De Mortality Rate per 100,000
ENGLAND	233.1	142.0	181.7
County Durham	251.6	183.8	215
Darlington	202.3	159.5	177.9
Hartlepool	273.7	192.4	226.8
Middlesbrough	328.5	216.8	267.3
Redcar and Cleveland	216.8	138.9	172.1
Stockton-on-Tees	231.4	177.3	201.3

Note: boxes shaded in red are at least 10% above the English average, boxes shaded in yellow are within 10% of the English average, and boxes shaded in green are at least 10% below the English average.

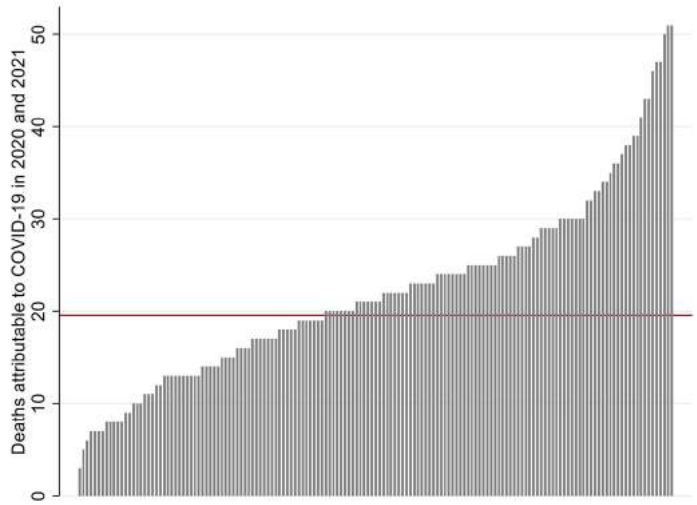
Figure 3.19: Number of deaths attributable to COVID-19 in 2020 and 2021 at Middle Super Output Area (MSOA) level within Tees Valley and County Durham[259]

Panel (a): As a map

Deaths attributed to COVID-19 in 2020 and 2021



Panel (b): ranked from lowest to highest



CHAPTER FOUR
THE ECONOMIC IMPACT OF HEALTH INEQUALITIES IN COUNTY DURHAM AND TEES VALLEY

There are persistent inequalities in health outcomes between County Durham and Tees Valley and the rest of England. Health is consistently lower in County Durham and Tees Valley than in the rest of the country and there is evidence that the 'gap' has been growing over time, not shrinking.

As well as these unfair and ingrained inequalities in health outcomes, there are other additional inequalities with respect to economic outcomes.

We here show that the two are inherently connected. If health inequalities were to be eradicated – such that the health of people living in County Durham and Tees Valley was brought up to the national average – at least an additional £4bn per year could be added to national productivity.

The methods used in this section follow closely those used in a report examining the interconnectedness of health and economic inequalities viewed through a North/South lens[260] and a report examining the interconnectedness of health and economic inequalities in 'Left-behind neighbourhoods'.[261]

4.1 Economic outcomes in County Durham and Tees Valley pre-COVID-19

In this subsection, we present various measures of economic performance in County Durham and Tees Valley and compare them to the English national average. In all cases, County Durham and Tees Valley performs worse.

Economic outcomes are reported at either Local Authority District (LAD) level or at Nomenclature of Territorial Units for Statistics or (NUTS) level 2.[262]

4.1.1 Median wages in 2019

We first present information on median wages in 2019. We chose 2019 as this was the last full year pre-COVID-19. Figure 4.1 presents the median pay for all individuals who live in England as well as the corresponding values for individuals who live in County Durham and Tees Valley. Figures are reported for males, females, and pooled to account for the differences in labour supply and salaries.

In County Durham and Tees Valley, the average median salary in 2019 was £22,617. This was £2,533 less than the English average (£25,150). Males living in County Durham and Tees Valley earned £3,442 less than the English average (£27,323 compared to £30,765). Females living in County Durham and Tees Valley earned £1,320 less than the English average (£18,296 compared to £19,616).

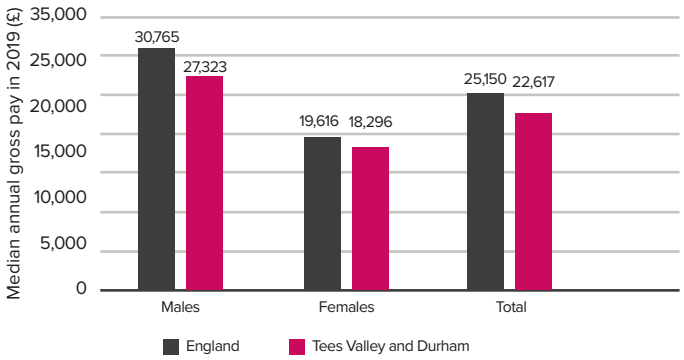
In Figure 4.2, we present median annual gross pay (adjusted to 2020 prices using the GDP deflator published by the ONS[264,265]) for males and females and compare the English average to that observed in County Durham and Tees Valley. For both males and females living in England and specifically in the County Durham and Tees Valley area, there has been a real-term fall in pay from 2010 to 2021.

The size of the reduction is broadly similar in County Durham and Tees Valley as the English average (about 5% for males and about 2.5% for females). There is no evidence that the gap in pay has narrowed over the past twelve years.

4.1. 2 Median hours worked in 2019

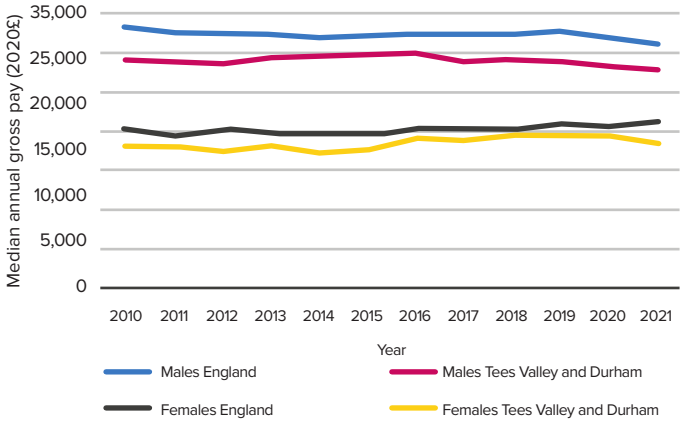
The gap in earnings reported above cannot be explained by people in County Durham and Tees Valley working fewer hours. Individuals living in County Durham and Tees Valley worked the same amount of hours, on average, as the English average.

Figure 4.1: Median annual gross pay in 2019



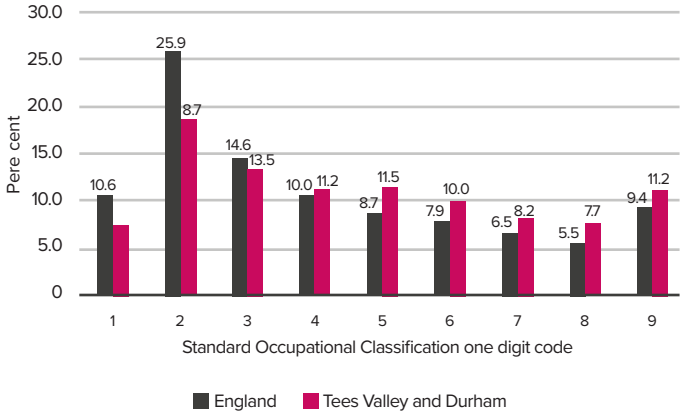
Source: Annual Study of Hours and Earnings, via NOMIS[263]

Figure 4.2: Median annual gross pay in 2020 prices; 2010 to 2021



Source: Annual Study of Hours and Earnings, via NOMIS266

Figure 4.3: The percentage of people who work in each of the nine broad job classifications, based on standard occupational classification (SOC) codes



Code labels: 1. Managers, directors and senior officials; 2. Professional occupations; 3. Associate professional and technical occupations; 4. Administrative and secretarial occupations; 5. Skilled trades occupations; 6. Caring, leisure and other service occupations; 7. Sales and customer service occupations; 8. Process plant and machine operatives; 9. Elementary occupations.
Source: Labour Force Survey 2019, via NOMIS[267]

4.1.3 Occupational classifications

The evidence in Figure 4.3 shows that, on average, individuals living in County Durham and Tees Valley are more likely to work in manual-type professionals and less likely to work in managerial jobs, on average, when compared to the English average.

Nationally, 10.6% of employees are classified as 'managers, directors and senior officials' compared to 7.5% in County Durham and Tees Valley, a 3.1 percentage point difference. Conversely, 11.2% of workers in County Durham and Tees Valley are classified as working in 'elementary occupations' compared to 9.4% nationally.

4.1.4 Gross Value Added

Gross Value Added (GVA) is a measure of sub-national productivity. It can be thought of as a localised version of Gross Domestic Product (GDP). It is designed to allow cross-area comparisons. Here, we used the balanced version of GVA which comprises both income and production approaches to create a single value of economic activity within an area.[268]

Figure 4.4 shows trends in GVA per-head from 2010 to 2020, the latest year of complete data available. To adjust for inflation, all prices are expressed in 2020 pounds using the GDP deflator published by the ONS. GVA per-head was consistently lower in County Durham and Tees Valley compared to the national average.

There had been a steady increase in GVA per-head nationally between 2010 and 2019 (increasing by 13%, from £28,967.17 to £32,740.45). However, this increasing trend was not observed in County Durham and Tees Valley, where between 2010 and 2019 GVA per-head only increased by 0.5% (from £20,377.44 to £20,475.52). Therefore there is evidence that County Durham and Tees Valley started lower and the gap grew wider.

If we additionally consider 2020 – the first year of the COVID-19 pandemic – there was a reduction from 2019 levels observed in the English average and also in the County Durham and Tees Valley values. In the period 2010 to 2020, GVA per-head grew by 2.7% nationally (from £28,967.17 to £29,757.00). However, in County Durham and Tees Valley there was actually a real-terms reduction in GVA per head of 8.1% (from £20,377.44 to £18,718.00).

Whether or not 2020 is included, the gap in GVA per-head between County Durham and Tees Valley and the national average has grown over time.

In 2019 (the last pre-pandemic full year of data), the gap in GVA per-head (in 2020 prices) between County Durham and Tees Valley and the English average was £12,265 per person (£20,476 compared to £32,741; Table 4.1).

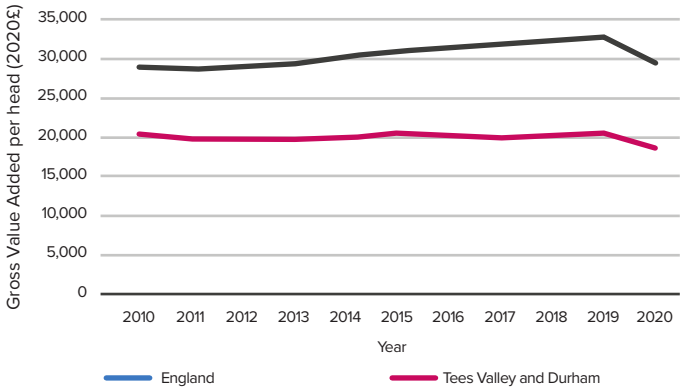
Given this gap in GVA per head of £12,265, and a population of 1,206,038 living in County Durham and Tees Valley, this equates to a total loss of productivity of £14.8 billion per year (£12,265 x 1,206,038).

Table 4.1: Gross Value Added (GVA) per head (in 2020 prices) and populations in 2019

	GVA per head (£)	Total population
County Durham and Tees Valley	20,476	1,206,038
English average	32,741	56,286,961

Source: ONS[271]

Figure 4.4: Gross Value Added (GVA) per head in 2020 prices; 2010 to 2020

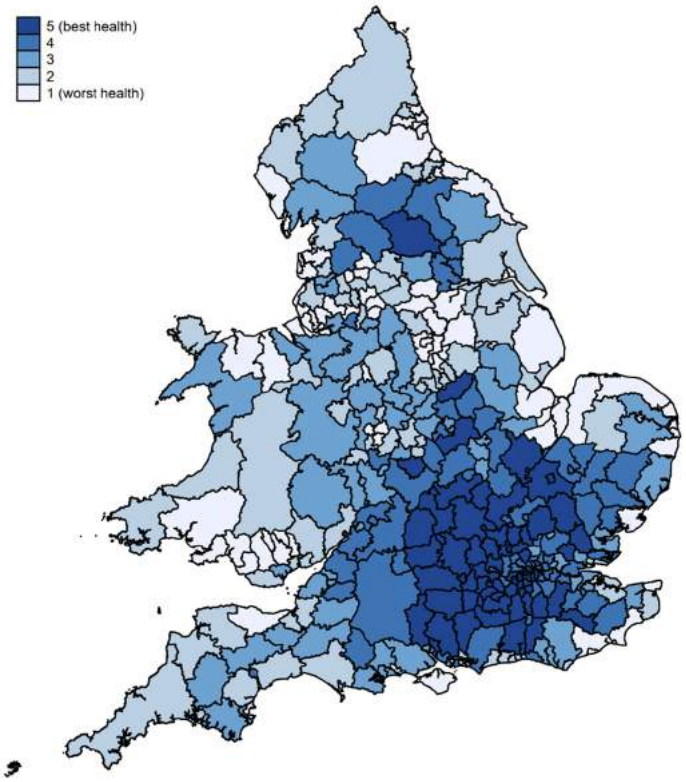


Source: ONS[269]

Figure 4.5: Percentage growth in Gross Value Added (GVA) per-head in 2020 prices; 2010 to 2019 and 2010 to 2020

Source: ONS[270]

Figure 4.6: Map of health index at Local Authority District (LAD) level in 2019



4.2 The relationship between health inequalities and economic inequalities in County Durham and Tees Valley

Here we examine if there is a relationship between inequalities in health and inequalities in economic outcomes.

We start by combining information on various health outcomes together to create one index of health. We do this to avoid using multiple outcomes that are strongly associated with each other. A map of this health index is presented in Figure 4.6. Darker areas correspond to better levels of the health index. Health in County Durham and Tees Valley typically in the worst or second worst quintile (the lightly shaded areas).

Similar to the approach in the Northern Health Science Alliance (NHSA) reports[272,273], we then regressed our health index on GVA per-head to see if there was a statistical relationship between the two.[274] We included an interaction term between the health index and whether a LAD was in County Durham and Tees Valley to see if there were potentially larger economic returns to be had by improving health in County Durham and Tees Valley.

In England as a whole, there is a positive and statistically significant relationship between health and GVA per head.[275] In County Durham and Tees Valley, there is an additional GVA per-head gain of £198 associated with an increase in health over-and-above that experienced nationally.[276]

Therefore, there are gains to GVA per-head to be made by improving health in England as a whole, but there are even larger GVA per-head premiums in County Durham and Tees Valley.

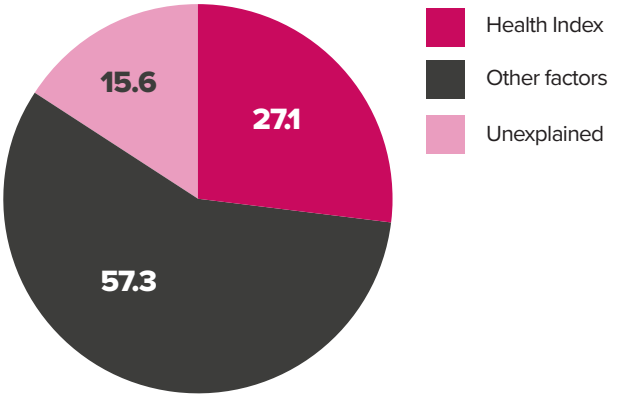
We can go further and deconstruct the gap in GVA per-head into explained and unexplained components (see the NHSA report[277] for further details).

When we do this, we observe that 27 per cent of the gap in GVA per-head between County Durham and Tees Valley and the English average can be explained by worse health (Figure 4.8).

If we were to completely eradicate the gap in health between County Durham and Tees Valley and the English average, this could generate an additional £4 billion (0.27 x £14.8bn) in increased productivity per year.

Education and skills are also affected by health, and hence there are likely to be indirect effects on GVA per-head that could be brought about by improving the health of people living in County Durham and Tees Valley. For example, improved health leads to better educational opportunities, which lead to better productivity. Hence, there are also indirect effects to be considered. However, these indirect effects are not possible to quantify in this model.

Figure 4.8: The effects of health and other factors in explaining the productivity gap (GVA per head) between County Durham and Tees Valley and the English average



Other factors include education-levels, age structure, population size, a measure of the wages to unemployment benefit ratio, and year and LAD fixed-effects. Unexplained factors are things not included in the statistical models. The size of the segment represents the percentage of the variability of GVA per-head explained/unexplained.

Other factors include education-levels, age structure, population size, a measure of the wages to unemployment benefit ratio, and year and LAD fixed-effects. Unexplained factors are things not included in the statistical models. The size of the segment represents the percentage of the variability of GVA per-head explained/unexplained.

4.3 Conclusion

- Economic outcomes in County Durham and Tees Valley are lower than the English average. This is particularly true for wages and economic productivity.
- These worse economic outcomes can be linked to poorer health in County Durham and Tees Valley.
- Similar to widening health inequalities, the gap between economic outcomes in County Durham and Tees Valley and the English average has been growing over time.
- Applying population estimates, this per-person 'gap' in 2019 is equivalent to £14.8bn in lost productivity.
- 27 per cent of the gap in productivity between County Durham and Tees Valley and the English average is directly attributable to worse health in County Durham and Tees Valley. If this gap were to be removed, this would generate an additional £4bn per year.
- Improving health could lead to higher economic returns in County Durham and Tees Valley.

CHAPTER FIVE
RECOMMENDATIONS

REPORT RECOMMENDATIONS

Give community foundations a role in the proposed Community Wealth Funds

- Community foundations are trusted, experienced grant makers that work flexibly with community groups and are best placed to distribute dormant assets in a way which best contributes to communities.
- Community foundations reach all areas of the country, so every community in need will benefit.
- Community foundations have experience of providing high-level reporting to funding bodies and government, which will ensure the best value for communities is evidenced.
- Community foundations create long-term resilience by ensuring that the money is spent locally where it is most needed, with local ownership providing greater levels of accountability.

Give families with children enough money and security of income to meet their basic needs

- National government to commit to ensuring that benefits rise in a timely way in line with inflation long-term so that recipients aren't subjected to 'poverty tax' through no fault of their own.
- National government to immediately pause the Universal Credit five-week minimum wait, sanctions and deductions for families and consult on wider reforms to the social security system in order to invest in the reduction of child poverty.
- Remove the two-child cap on Universal Credit to recognise that additional dependants require additional money to maintain a decent quality of life and avoid poverty for the entire family.

Make sure children have enough healthy food to eat

- National government to expand Free School Meals (FSMs) to all children whose families are in receipt of Universal Credit.
- Central and local government to ensure consistent, properly planned and funded long-term support so that children and their families do not go hungry during school holidays.

Ensure that there is a joined-up and place-based community approach by national and local government to address poverty, health inequalities and the cost-of-living crisis

- National government to prioritise the development of an integrated health inequalities strategy as part of 'levelling up', with an explicit focus on children and addressing child poverty and community-wealth building, and which involves local and regional partners in its development.
- National government to increase funding allocations to local authorities to work with appropriate bodies, including community foundations, in areas with the highest socio-economic deprivation and in areas most affected by COVID-19 and ensure that this funding is consistent and long-term (eg. 10-15 years)
- National and local government to commit to funding for community wealth-building initiatives in local areas over the long-term to address health and economic inequality, which would give local residents more control over living conditions, services, and the development of local social and economic infrastructure.
- National government to consult on a new Community Power Act that would give local residents new local powers and rights (including rights in relation to significant assets of community value, to shape public services and in spending decisions).
- Integrated Care Systems to maximise their roles as local health and economic 'anchor organisations', commissioning to ensure social value, including ensuring that there is balance between investments in community-based health promotion (including community power initiatives, community hubs, advocacy services), condition management and other prevention services that promote the health and wellbeing of the local workforce.
- Area-level measures of physical and mental health should be developed to better understand place-based inequalities and be integrated into funding decision-making.

APPENDIX

Life expectancy is used as a measure of the health outcomes of a specific population. Life expectancy at birth is defined as how long, on average, a newborn baby can expect to live, if current death rates do not change. Longer life expectancy is associated with a number of factors, including higher standards of living, improved lifestyle and better education, and greater access to health services. We also report information on 'healthy life expectancy', defined as the average number of years that an individual might expect to live in "good" health in their lifetime.

The **healthy life expectancy** measure adds a 'quality of life' dimension to estimates of life expectancy by dividing it into time spent in different states of health. The number of years of life in poor health is also important as it relates more closely to the demand for health and social care and the associated costs.[278]

However, when comparing outcomes for groups with very different life expectancies, the **proportion of life spent in poor and/or good health** is also useful.[279] Two populations may both spend on average 15 years in poor health which might be a quarter of life for a group with life expectancy of 60, but only a sixth for a group with life expectancy of 90.

Standardised mortality ratios (SMRs)[280] are obtained by calculating the expected number of deaths by applying age-specific death rates for England in the period 2016 to 2020 to each smaller area's population. SMRs were calculated by dividing the observed total deaths in the area by the expected deaths and multiplying by 100. By default, the English average SMR is 100.

Age standardised mortality rates are constructed to allow between area comparisons in the number of deaths. They account for the unequal spread of ageing between areas and accordingly adjust for this. For example, two areas which had 100 deaths may well have different age standardised mortality rates due to different sized populations and different age structures.

Information from the 2011 Census provides very rich information on how **individuals self-perceive their own health**. Census records provide the only 'whole population' surveys of self-reported health. Individuals are asked "How is your health in general?" and can respond "Very good", "Good", "Fair", "Bad", or "Very bad". Whilst this may seem a crude measure of health, it has been shown to be strongly associated with more objective measures of health. Additionally, it accounts for an individual's own perceptions and feelings about their health.

Here, we focus on the percentage of people within areas who rate their health as (i) either 'very good' or 'good' and (ii) either 'bad' or 'very bad'.

In the 2011 Census, all individuals were asked: "Are your day-to-day activities limited because of a health problem or disability which has lasted, or is expected to last, at least 12 months?" They could reply "Yes, limited a lot", "Yes, limited a little", or "No". An individual was coded as having a **limiting long-term illness** if they answered either "Yes, limited a lot" or "Yes, limited a little".

Data on the prevalence of specific health conditions are based on administrative data collected by GPs' records. Data are computed as the number of people registered to a GP practice who are diagnosed with the condition, divided by the total list-size (population served) of the GP practice.

We use data coded in the British National Formulary (BNF) directory as an **antidepressant** which include: tricyclic and related antidepressant drugs, monoamineoxidase inhibitors, selective serotonin re-uptake inhibitors and other antidepressant drugs. The dataset is a complete record of detailed information relating to prescriptions issued in England (but may have been dispensed in England, Wales, Scotland, Guernsey, Alderney, Jersey, and the Isle of Man). Data are coded at the GP practice level, but are aggregated and released at the Clinical Commissioning Group (CCG) level. CCGs are clinically-led statutory National Health Service (NHS) bodies that have a responsibility for the planning and commissioning of health care services in their local area. They were created following the Health and Social Care Act in 2012, and replaced Primary Care Trusts (PCTs) on 1 April 2013. The number of CCGs has fluctuated overtime following mergers. In the dataset we use, there are 106 CCGs in England.

To calculate the rate of **anti-depressants prescribed per person** we used the total quantity of prescriptions and population sizes in CCGs. Using per-person measures accounts for the unequal sizes of CCGs. However, it does not account for the fact that the prevalence of mental health conditions may differ by CCG.

Standardised Admission Ratios (SARs) are defined as the number of observed admissions divided by the adjusted expected admissions for an area with the same age profile. That is, the level of such admissions at a local level compared to those expected given the age structure of the local populations. A ratio of 100 indicates an area has an admission rate consistent with the national average, less than 100 indicates that the admission rate is lower than expected and higher than 100 indicates that the admission rate is higher than expected taking into account the age and gender profile of the area.

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216 Barr et al (2012) https://doi.org/10.1136/bmj.e5142
217 Royal College of Physicians (2022) https://doi.org/10.1136/bmj.o1231
218 For example, research has found that reducing poverty through increasing pensions improved mental health (Albani et al, 2022: https://doi.org/10.1016/j.socscimed.2022.115316)
219 The IMD is the official measure of the relative deprivation of small areas in England and is formed of seven domains: income; employment; health deprivation and disability; education, skills and training; crime; barriers to housing and services; and living environment. https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019
220 https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019

221 https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019
222 See Technical Appendix for a definition of life expectancy.
223 https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/lifeexpectancyforlocalareasoftheuk/between2001to2003and2018to2020#life-expectancy-at-local-level
224 https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/lifeexpectancyforlocalareasoftheuk/between2001to2003and2018to2020#life-expectancy-at-local-level
225 https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(21)00205-X/fulltext
226 https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(21)00205-X/fulltext - see "Supplementary Material" to access the life expectancy estimates
227 https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(21)00205-X/fulltext - see "Supplementary Material" to access the life expectancy estimates
228 See Technical Appendix for a definition of healthy life expectancy.
229 See Technical Appendix for a definition of 'good health'.
230 https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/datasets/healthstatelifeexpectancyallagesuk
231 https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/datasets/healthstatelifeexpectancyallagesuk
232 See Technical Appendix for a definition of SMRs and information on how they are calculated.
233 http://www.localhealth.org.uk/
234 http://www.localhealth.org.uk/
235 http://www.localhealth.org.uk/
236 http://www.localhealth.org.uk/
237 Census, 2011
238 Census, 2011
239 See Technical Appendix for a definition of how this variable is defined.
240 Note here that the national average refers to the whole of the UK rather than England.
241 Census, 2011
242 Census, 2011
243 https://www.gov.uk/government/organisations/department-for-work-pensions/about/statistics
244 See Technical Appendix for a definition of how these variables are defined.
245 https://fingertips.phe.org.uk/indicator-list/view/YTLNYBfOUK
246 See Technical Appendix for a definition of how this variable is defined.
247 https://openprescribing.net/bnf/0403/
248 https://fingertips.phe.org.uk/profile/public-health-outcomes-framework
249 See Technical Appendix for a definition of SARs.
250 http://www.localhealth.org.uk/
251 http://www.localhealth.org.uk/
252 http://www.localhealth.org.uk/
253 http://www.localhealth.org.uk/
254 https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/deathsduetocovid19registeredinenglandandwales2020
255 This is a count and is not age-standardised nor is it adjusted for population size. However, MSOAs have roughly equal population sizes.
256 ONS deaths from COVID-19 by local area https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/deathsduetocovid19bylocalareaanddeprivation
257 https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/deathsduetocovid19bylocalareaanddeprivation
258 https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/deathsduetocovid19bylocalareaanddeprivation
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260 https://www.thenhsa.co.uk/app/uploads/2018/11/NHSA-REPORT-FINAL.pdf
261 https://www.thenhsa.co.uk/app/uploads/2022/01/Overcoming-Health-Inequalities-Final.pdf
262 Tees Valley and Durham in one NUTS level 2 area (code UKC1). If data were not available at this level, we used population-weighted averages based on the six local authorities that make up Tees Valley and Durham: County Durham, Darlington, Hartlepool, Middlesbrough, Redcar & Cleveland, and Stockton-On-Tees.
263 https://www.nomisweb.co.uk/
264 https://www.ons.gov.uk/file?uri=/economy/grossdomesticproductgdp/datasets/uksecondestimateofgdpdatatables/quarter2aprtojune2022quarterlynationalaccounts/quarterlynationalaccountsdatatables1.xlsx
265 The results are similar if we use RPI or CPI to deflate prices to a common base.
266 https://www.nomisweb.co.uk/
267 https://www.nomisweb.co.uk/
268 https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/nominalregionalgrossvalueaddedbalancedperheadandincomecomponents
269 https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/nominalregionalgrossvalueaddedbalancedperheadandincomecomponents
270 https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/nominalregionalgrossvalueaddedbalancedperheadandincomecomponents
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272 https://www.thenhsa.co.uk/app/uploads/2018/11/NHSA-REPORT-FINAL.pdf
273 https://www.thenhsa.co.uk/app/uploads/2022/01/Overcoming-Health-Inequalities-Final.pdf
274 We applied fixed-effects linear regression models to account for unobserved factors that are constant within a LAD over time. Additionally we added year fixed-effects to account for macroeconomic fluctuations over the period, and controlled for the age structure of the population within an LAD in a given year, the (natural logarithm of the) total population size, the percentage of people who have no qualifications, and the wages to unemployment benefit ratio. Using fixed-effects models, with these additional control variables, allows us to estimate the direct effect of changes in health on changes in GVA. Failing to account for fixed-effects could lead to spurious correlations.
275 A one standard deviation increase in the health index would increase GVA per head by £1,596 in England as a whole (p=0.024; 95 per cent CI: 216 to 2978).
276 The coefficient on the interaction term indicates that the additional premium in Tees Valley and Durham is £198 (p=0.041).
277 https://www.thenhsa.co.uk/app/uploads/2018/11/NHSA-REPORT-FINAL.pdf
278 https://www.gov.uk/government/publications/health-profile-for-england/chapter-1-life-expectancy-and-healthy-life-expectancy
279 https://www.gov.uk/government/publications/health-profile-for-england/chapter-1-life-expectancy-and-healthy-life-expectancy
280 https://www.health.pa.gov/topics/HealthStatistics/Statistical-Resources/UnderstandingHealthStats/Pages/Standardized-Mortality-Ratio.aspx

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