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Northern Health Science Alliance
A Health Partnership for Northern England

HEALTH EQUITY NORTH

AGEING NORTH

AGEING IN THE NORTH

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This report is produced by the Northern Health Science Alliance's (NHSA) Ageing North network and Health Equity North

About Ageing North: Ageing North is a pan-northern network of healthy ageing experts convened by the Northern Health Science Alliance (NHSA) across its membership. Drawing expertise from across the NHSA's university and NHS trust members, the group seeks to address the challenges of an ageing population by working collaboratively to explore research and innovation opportunities.

This report has been produced by the following Ageing North members:
- The University of Sheffield
- The University of Manchester
- Lancaster University
- Newcastle University
- Durham University

About Health Equity North (HEN): Health Equity North is a virtual institute funded by the Northern Health Science Alliance (NHSA) and the Universities of Liverpool, Manchester, Newcastle, and York. HEN focuses on place-based solutions to public health problems and health inequalities. It includes NHSA members across the north, bringing a unique understanding of their regional communities, creating research and policy solutions of local benefit, but also with the potential for national and international translation.

About the Northern Health Science Alliance (NHSA): The NHSA is a partnership of ten leading universities and nine NHS hospital trusts across the North of England, working together to improve health outcomes and drive inclusive economic growth through collaborative research, innovation, and policy influence. Its members include the universities of Durham, Lancaster, Leeds, Liverpool, Manchester, Newcastle, Sheffield, York, Central Lancashire and Teesside, alongside the NHS trusts: Alder Hey Children's NHS Foundation Trust, the Newcastle upon Tyne Hospitals NHS Foundation Trust, South Tees Hospitals NHS Foundation Trust, Leeds Teaching Hospitals NHS Trust, Sheffield Teaching Hospitals NHS Foundation Trust, Manchester University NHS Foundation Trust, Liverpool University Hospitals NHS Foundation Trust, Mersey Care NHS Foundation Trust and Hull University Teaching Hospitals NHS Trust

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Foreword

Anna Dixon
MP for Shipley

As we are all living longer, it's imperative that we create an environment which supports us to live and age better.

People in later life make a huge contribution to our communities and society through working longer, caregiving, volunteering and much more. Yet for too long, their contribution has been ignored or undervalued.

There are a whole host of factors that influence the kind of old age we experience - starting from birth and continuing throughout the life course.

Where we live can play a significant role in how long we live, our health and wellbeing, and our income. As this report shows, the ageing experience is felt differently across the country with clear regional inequalities.

This report examines the many facets that shape the ageing experience – from income and wealth, health and wellbeing, social care, social participation, ethnicity and housing. The stark inequities in the ageing experience between people in the North of England and those in the South was evident in almost every aspect analysed by the research team.

It is not acceptable that where you live can have such a profound impact on how you age.

As a Member of Parliament, I am determined to do what is within my power to ensure people have the opportunity to live their life in good health, no matter where they are in the country.

The structural and societal issues that impact those at greater risk need to be addressed urgently.

We must look at solutions covering all aspects of life that help people remain active, live full lives, and contribute both economically and socially for as long as possible.

The time is now to take action to reverse the trends highlighted in this important report so those currently in later life and future generations can age more equally.

Foreword by Older People: Agents of Change

Anne Raffle, Chair of the Newcastle Elders Council

Elaine Unegbu, Chair of the Greater Manchester Older People's Network

Ageing in the North – A Call for Justice, Action, and Change

The release of this vital report, Ageing in the North, finally shines a much-needed spotlight on the deep rooted inequalities faced by older people living across northern England. As older people based in Manchester and Newcastle, we have dedicated many years of our lives advocating for fairness, dignity, and social justice for our generation and those who follow.

For far too long, older people in the North have lived with unfair disadvantages shaped by a lifetime of historical inequalities. Inequalities born from decades of uneven industrial growth and decline, compounded by persistent neglect in regional investment and policies shaped by ageist attitudes that fail to adequately consider older people's lived realities.

The prevailing bias towards the South in national policy making and funding continues to disadvantage our friends, neighbours and communities. Older people from minoritised ethnic backgrounds are at a much higher risk of loneliness in the North, whilst our colder climate and often inadequate housing place heavier burdens on older northerners.

Enough is enough—now is the time to challenge this unjust status quo head-on.

For a long time, decision makers have overlooked the specific struggles older people living in the North, where more of us live in poverty, poorer health and have shorter lives compared to other parts of England. One-size-fits-all policies are not enough; we need focussed efforts and investment that directly tackles these entrenched regional differences.

It's time for solidarity, action and accountability.
As older people representing our localities and regions, we urge policymakers along with everyone across society to seize this opportunity to rewrite the story of ageing in the North. Together, we can create a future where ageing is not defined by inequality or neglect, but fairness, dignity and opportunity. With the right investment, this is the future we can achieve for ourselves and for the generations that follow us.

Executive Summary

60 SECOND SUMMARY

The experience of growing old in England is unequal. Older people in the North of England come up against an alarming range of disadvantages in health, housing, employment, and living standards, compared to those in the South.

They are more likely to be poorer, less healthy, physically inactive, lonely and live shorter lives. They have access to fewer jobs at lower rates of pay and face higher levels of unemployment. This exacerbates poverty among the older population in the North.

Older people in the North are more likely to exit the workforce due to poor health, contrasting with their healthier and wealthier counterparts in the South who are more likely to retire. This difference highlights significant regional disparities that affect various aspects of their lives.

This report examines some of the cross-cutting health and social factors that play a role in shaping how we age. The picture it paints is shocking. In almost every aspect we looked at, there are clear inequities between the North and the South.

Almost a third of the country's older population live in the North. The challenges and inequities they face as they age must be recognised and prioritised by policymakers.

Our message is clear – this inequity is not inevitable, and it can be reversed. Economic and social factors are the main drivers of unequal ageing, more so than individual characteristics.

Our report offers achievable, evidence-backed policy recommendations to tackle the root causes of unequal ageing, to help break down the regional barriers and vastly improve the ageing process and the lives of older people.

KEY FINDINGS

Why is Ageing so Unequal?

Over 3 million

older people live in the North of England - 29% of the country's older population.

The failure to recognise the inequities faced by older people in the North results in increased hardship for them, their families and their communities. This is also shortsighted in policy terms. With targeted investment in the North significant annual costs could have been reduced or avoided - **£10.9 billion in lost productivity, £315 million in NHS costs from falls and hip fractures and £588m in NHS costs from non-decent housing**

Poverty, Inequality, Deprivation & Employment

The entrenched wealth gap between the North and South is even more pronounced among the older population, increasing with age.

People in the South are more likely to retire, whereas people in the North are more likely to leave the labour market due to poor health. For the 370,800 people aged 50 to 64 in the North of England who are economically inactive due to long-term sickness, this wealth gap of £1.19 million per household results in the loss of a potential

£440 billion

in additional wealth to fund retirement and inheritance.

The North East and Yorkshire and the Humber have seen around a 10% increase in rates of poverty among people aged 65 and over in this period.

Poverty levels in the North East increased by six percentage points during the COVID-19 pandemic.

Poverty levels increase with age far more sharply in the North – there was a 12 percentage point increase from 25% in the 65 and over age group to 37% in the 85+ age group, compared to a 5 percentage point increase in the South over the same age groups.

The North is much more deprived in terms of housing and education, limiting lifelong earnings and wealth accumulation.

Across the North of England, over 900,000 people aged 50 to 64 are economically inactive, contributing to a potential reduction in GDP of

£10.9 billion

per year

People aged 65 and over are 5% more likely to be deprived in the North (68%) than the South (63%) and are more likely to be severely deprived.

The proportion of people aged 65 and over in poverty increased in all regions over the ten years from 2012-2022.

The North East and Yorkshire and the Humber have seen around a

10%

increase in poverty in people aged 65 and over in this period.

The South East is the wealthiest region in the UK, with median household total wealth of

£503,400

more than twice the amount of household wealth in the North.

Between 2020/21 and 2022/23, pensioner couples in the North East region had an average income 14% lower than the national average and 25% lower than their counterparts in the South East.

Over a third of older people in the South are likely to be unemployed for less than three months, whereas a quarter of older people in the North had been looking for work for 6-12 months.

The North has a higher percentage of older workers (aged 50-74) in the manufacturing sector - 11% compared to 8% in the South.

The South has a higher proportion of older people in the higher paying banking and finance sector - 20% compared to 16% in the North.

Older workers in the South are more likely to have higher-skilled and higher-paying managerial and professional positions - **49% compared to 43% in the North**

47% of people in the North aged 50+ in receipt of a pension were only in receipt of a state pension. Whereas 58% of people in the South were in receipt of other pension income as well as a state pension.

Health Expectancies

People living in the North have a lower life expectancy and lower disability-free life expectancy, compared to the national average.

There is a two-year life expectancy gap between the northern regions and the rest of England, and premature death rates are

20% higher for those living in the North.

People living in the North East have the lowest life expectancy; shorter by **3 years for men and 2.8 years for women** compared to the South East.

People living in northern regions spend fewer years disability-free - four of the five Local Authority areas with the lowest disability-free life expectancy are in the North.

For women, the North East also has the highest unhealthy years of life at 23.7 – compared to 19.4 years in the South East. In Yorkshire and the Humber it's 22.6 and in the North West it is 21.4.

Men in the North East have the highest average predicted unhealthy years of life at 20.2 years, followed by Yorkshire and the Humber at 19.1 years, and the North West at 18.2 – compared to the South East, which has the lowest unhealthy years, at 16.6.

Many of the likely determinants of disability (e.g. poor child health, complex multimorbidity, obesity, Long COVID) are all more common in the North.

Multiple Long-Term Conditions

Only 53.5% of people aged 50-65 with two or more chronic conditions remain in full-time employment in the North, significantly lower than the 60.8% in the South.

While multiple long-term chronic condition prevalence rates appear numerically similar across England, the type, severity, and impact of conditions varies significantly between the North and South. The North faces a greater burden of severe disabling chronic diseases, such as arthritis, which disproportionately affect employment, quality of life, and long-term health outcomes, and lead to increased healthcare demand.

Arthritis is significantly more prevalent among individuals aged 55-64 in the North (28%) compared to the South (23%). Research also shows that people with arthritis are up to 20% less likely to be in work than those without the condition. This difference results in around 19,400 additional people out of work due to arthritis, costing the taxpayer £232.7 million annually.

Just 51% of people with confirmed inflammatory arthritis in the North East and Yorkshire and the Humber, and 60% in the North West are seen within the national target of 3 weeks from referral to start their treatment. This contrasts with 79% of people in the South West and 64% in the South East. Only the East of England performs worse with 41% within the target.

Frailty, Falls and Fractures

Older people living in the North East and North West are 1.61 and 1.33 times, respectively, more likely to be frail, 1.16 and 1.06 times more likely to have a fall that requires hospital treatment, and 1.14 and 1.12 times more likely to have a hip fracture compared to older people living in the South East.

The cost to the NHS of falls and hip fractures in the North is

£55.7 million and

£258.8 million respectively

Physical Activity

Compared to their counterparts living further South, older residents in the North of England are more likely to be inactive and less likely to achieve healthy levels of aerobic or muscle strengthening exercise than older people in the South.

31% of those aged 55-74 and 53% of those aged 75 or older living in the North East are inactive compared to 22% and 41% respectively in the South East. For the North West, it's 28% and 48% and for Yorkshire and the Humber 29% and 48%.

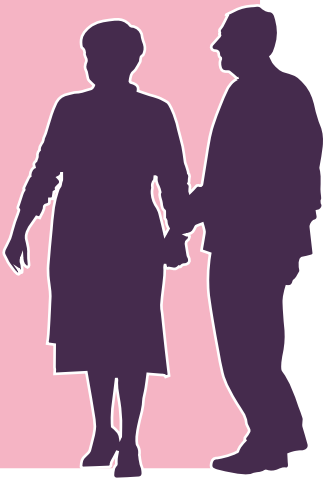
Physical inactivity amongst people 55 and over is higher in the North East (31%), North West (28%), and Yorkshire and the Humber (29%) than the South East (22%), contributing an estimated £256.3 million annual cost to the economy.

Nutrition

Northern adults aged 65 and over are

27% more likely

to experience food insecurity compared to older adults in the South of England



The North East and North West have the highest rates of food insecurity with approximately 12% of all households living with food insecurity, compared with 6% in the East, 7% in the South West and 8% in the South East.

Food insecurity, poor nutritional status, and inadequate dietary intake contribute to elevated risks of diabetes, cardiovascular disease, cognitive decline, and certain cancers.

Dementia and Cognitive Frailty

While dementia prevalence in older adults (60+ or 65 and over, depending on data) shows no clear regional differences across England, key risk factors (e.g., low education, pollution) are either more prevalent in the North or interact with poverty in ways that heighten vulnerability to dementia and cognitive frailty.

Cognitive frailty in old age is more common in the North than the South. The overall proportion of people living with cognitive frailty across England is 8.21%. **It is 11.8% in the North East, compared to 6.1% in the South West, 6.2% in East of England, and 7.0% for the South East.**

Social Support and Unpaid Care

The three northern regions have the highest proportion of people aged 65 and over living in care homes, costing an estimated

£4.83 billion

per year in care home fees.

In the North East, 2.9% of residents aged 65 and over live in care homes, 2.8% in the North West, and 2.6% in Yorkshire and the Humber, compared to 2.2% and 2.1% in the South East and South West respectively.

The North East has the worst health among unpaid carers age 50+, the lowest level of home care services per 100,000 population over 65, and the highest levels of reported disability.

The North East has the highest proportion of people (of any age) providing unpaid care, whilst the North East and North West are the English regions with the highest levels of intensive caregiving.

Care home bed occupancy in the North East and North West is higher than the national average.

Social Isolation and Loneliness

Risk factors for loneliness, like being female, having a minoritised ethnic background, living alone, having poor health are particularly more noticeable among older adults in the North compared to other regions.

Older adults in the North are

23.3%

more likely to feel lonely compared to those in the South.

Older women in the North are 1.55 times more likely to be lonely than men.

People from black and minoritised ethnic backgrounds are at much higher risk of loneliness than White British people in all regions except in the South. The highest risk is in the North: those from black and minoritised ethnic backgrounds were 3.81 times more likely to be lonely than White British, followed by 2.33 times in the Midlands and East and 2.43 times in London.

Housing

In total, 1.47 million northern homes are considered non-decent, with over a third housing over-60s residents. The cost to the NHS of these non-decent housing conditions is estimated at

£588 million

per year, in addition to the societal cost of £7.77 billion per year.

Older people in unsafe, cold, damp homes face heightened risks for chronic illnesses, respiratory issues, and mental health challenges.

One in eight preventable deaths in the UK involve an older person having a fall, with unsuitable home environments significantly increasing this risk.

Non-decent housing in the North of England is concentrated among lower-income households, especially older homeowners: **82% of non-decent homes occupied by someone aged 60 or over are owner-occupied, comprising around 403,000 properties.**

Of those with older residents, nearly 60% are in the North West - the highest concentration of non-decent housing in England.

Ethnicity

The regional context is vital to understanding ethnic inequalities in ageing, influenced by historical migration, employment, and settlement policies. Older adults from minoritised ethnic groups, especially in urban and post-industrial areas, face health challenges shaped by lifelong socioeconomic disadvantages.

Self-reported health is a useful indicator to explore how ethnicity and region jointly affect wellbeing in later life.

The scale and nature of ethnic health inequalities differ by region. For example, when compared to their White British counterparts, Indian respondents report lower odds of good health in all regions, while Mixed ethnicity and Pakistani groups show region-specific disparities, highlighting the need to consider intersecting regional and social factors.

Regional differences are pronounced: self-rated health is generally better in London and the South than in the North, though these patterns vary across ethnic groups, reflecting complex socioeconomic and infrastructural factors.

Ethnic health disparities persist among those aged 65 and over, with minoritised ethnic groups consistently reporting poorer self-rated health than White British peers, even after adjustment for age and other factors.

Recommendations

1. Adopt a cross-government approach to prevent unequal ageing by embedding a life course perspective across all departments, including education, housing, employment, and health, with targeted action in the North of England, where lifelong inequalities have led to some of the poorest outcomes in later life.
2. Strengthen place-based collaboration between local government, combined authorities, housing developers, the NHS, and older adults, with an emphasis on devolved, co-produced policymaking in northern regions most affected by health and social care challenges.
3. Develop and deliver a national housing strategy for older people that prioritises ageing in place and invests in age-friendly, accessible homes, with a strong focus on addressing regional housing disparities and ensuring the voices of older adults in the North are heard and acted upon.
4. Significantly increase investment in adult social care in the North of England, where higher levels of need and long-standing underfunding are placing local authorities under severe strain and deepening inequalities between regions.
5. Develop an NHS-led, UK-wide strategy to address physical inactivity as a key driver of later-life health inequalities. Prioritise sustained investment in local, community-based programmes particularly in the North of England, where risk factors are higher. Ensure physical activity is a core component of healthy ageing policies, integrating it into health, social care, and planning systems to support prevention, independence, and quality of life for older adults.
6. Produce a national strategy to recognise and address cognitive frailty as a preventable condition distinct from dementia. Include early screening, tailored community support and targeted investment in high-risk areas such as the North of England.
7. Prioritise region-specific responses to high-impact disease clusters (such as arthritis, cardiovascular disease, and diabetes) by strengthening early intervention, expanding community-based services, and supporting older workers to manage long-term conditions, particularly in areas like the North of England where prevalence and impact are greatest.
8. Expand workplace health programmes and improve healthcare access disparities, to help people with multimorbidity stay healthy, continue working if they want, and so reduce the risk of financial insecurity and involuntary workforce exit.
9. Develop tailored place-based strategies to reduce loneliness among older people, focusing on groups at highest risk, such as women, minoritised ethnic groups, those living alone, or with poor health, in northern communities where isolation is often compounded by limited services and public transport.
10. Address food insecurity in later life through stronger national tracking and targeted local action, ensuring older adults in the North can access affordable, nutritious food to support healthy ageing and reduce risks of cognitive decline.
11. Improve the collection and use of ethnicity and regional data across health and care systems, to better understand how ethnicity intersects with geography in shaping health outcomes, and to inform culturally appropriate, regionally sensitive responses, especially in diverse communities across the North.
12. National government to strengthen support for unpaid carers of older people by increasing carer's allowance and carer-related benefits, and ensuring carers are recognised and supported as partners in the planning and delivery of health and social care.

Chapter 1: **Introduction**

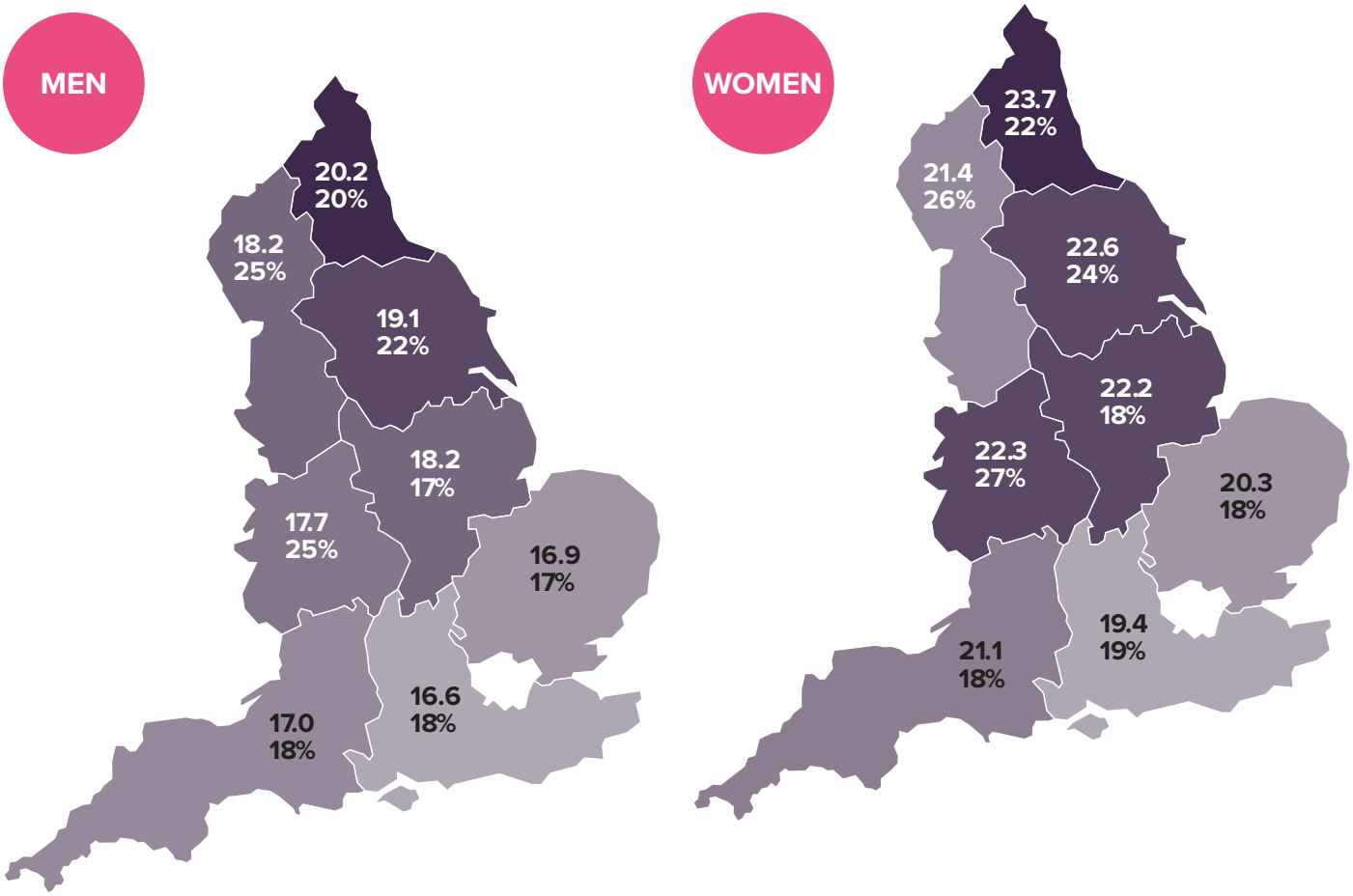
Author: Alan Walker

Older people in the North have survived a multitude of challenges in their lives, including for some a World War, and previously unimagined social and economic transformations. In addition, their ageing has been unequal. From conception, some of them were set on a life course of relative advantages, while for others, it was mainly disadvantages. The transition from birth to later life is not predetermined, however, because various factors can intervene and alter its course, such as education and the resources it provides for human agency. But, for many, the advantages or disadvantages tend to accumulate and, eventually, influence the kind of old age that people can experience. Intersecting those broad categories of relative advantage and disadvantage are social positions and identities, such as gender, social class, race, and ethnicity, which also have a profound impact on the ageing process. Finally, there is old age itself which, when reached, often comes with negative attitudes, especially age discrimination or ageism, which exclude older people, for example from the labour market, undermine their wellbeing, and prevent them from being fully participating members of society. The potentially brutal impact of ageism was demonstrated by the alarming death toll among older people in the COVID-19 pandemic, when 84% of those who died in the UK between 2020 and 2021 were over the age of 65. Despite the serious downside of ageism, ageing remains one of the great success stories of the 20th century, and the majority that survive into old age are the 'lucky ones' because too many of their peers die prematurely, often from preventable chronic health conditions.

On top of these challenges and life course inequalities, geography has imposed further inequities. Compared to older people in the South of England, those in the North experience a startling range of disadvantages, including in health, housing, employment, and living standards. They are more likely, on average, to be poorer and less healthy, and to die sooner. As the latest State of Ageing report emphasises, both life expectancy and healthy life expectancy are lowest in the poorest parts of the country.[1] Many of those places are in the North. Not all of them though, there is poverty, deprivation and disadvantages in ageing and later life in the South too. It was authored by a multi-disciplinary team of researchers from five universities - Durham, Lancaster, Manchester, Newcastle, and Sheffield - all members of NHSA's Ageing North Network, plus Manchester Metropolitan; and spanning a wide range of disciplines, from Biology to Sociology.

There are just over three million older people (defined in this report as people aged 65 and over unless otherwise stated) living in the North of England (in this report: the North East, the North West and Yorkshire and the Humber; which we compare with the South East (excluding London), South West and East of England). This represents 29% of the country's older population. We cannot comprehensively cover all of them or represent every facet of their lives. What this report does is focus on some of the main dimensions that shape the nature of ageing and the kind of lives that older people lead: income and wealth, various facets of health and wellbeing, social care, social participation, ethnicity and housing. Following the Child of the North and Woman of the North reports, we place particular emphasis on health because it is such a vital determinant of many aspects of ageing and quality of life in old age. The picture provided is a stark and shocking one: in almost every aspect

Figure 1.1 Number of Average Predicted Unhealthy Years of Life and Proportion Living in Poverty, Among Those Aged 65 and over



of ageing that this report examines, there are clear inequities between the North and South of England. This North-South divide in health is not recent in origin: a long-established North-South gradient in death rates was observed by the Health Education Council nearly 40 years ago.[2]

Why does the mere accident of geographical location appear to have a major impact on the ageing process and, therefore, on the quality of later life? There are historical factors (Chapter 2), such as the location of certain heavy industries in the North and the devastating impact of their subsequent decline and eventual obsolescence. But there are also southern biases in national government economic and regional policies, which have reinforced and perpetuated the negative effects of deindustrialisation. Thus, stereotypes which blame the North for its own decline are entirely wrong. To recover well from deindustrialisation, the North required more of the national economic development cake, but it received less than the South, especially London. The contours of this long-term unequal economic development are mirrored in country-wide differences in the distribution of social class, and class is a major source of inequity.

This unequal treatment of the North and South continues unabated, and older people in the North have borne an unfair share of the multiple crises the country has faced in recent years - some as a direct result of government policies and others exacerbated by policy failure - including austerity, the COVID-19 pandemic, and the rising cost of living. While older people have received some protection from the latter in the form of higher uplifts in pensions compared to other social security beneficiaries, they have been hit hard by the cuts to vital services such as social care. If frail older people suffer a loss of social support, this usually directly affects not only them but also their family (mainly female) carers, most of whom are likely themselves to be older people too. Cuts to social security and public health funding have hit the most deprived communities in the North the hardest. For example, cuts to public health funding have disproportionately affected the Midlands and North, with the North experiencing per-person cuts 15% higher than the average for England.[3] Figure 1 provides a regional picture of two summary statistics – the average number of years older people spend in poor health and their average relative poverty rate. Older people in the North are poorer and spend more of their lives with ill-health than those in the South (the profiles for men in the West Midlands resemble the South in terms of health and the North in terms of poverty, while for women, both indicators are closer to the North than the South). A more generally disappointing aspect of these maps is the relatively high level of unhealthy life years across the whole country, when most of the causes of poor health and disability in old age are preventable.[4] A similar map of Sweden would show an average of 12-14 unhealthy years, and Swedes have a longer average life expectancy.[5]

Policymakers have failed to recognise the inequities faced by older people in the North. They have also failed to combat the inequities faced by northern younger adults and young people as they age. Until this policy failure is corrected, these inequities will continue and be carried into old age by future generations. The North experiences higher levels of deprivation in housing and education, which limits lifetime earnings and wealth accumulation. As shown in Chapter 3, poverty in old age is more prevalent in the North because there are fewer jobs, more low-paid jobs, and longer periods of unemployment and economic inactivity (largely due to ill-health). Older people in the South are more likely to retire, whereas those in the North are more likely to leave the labour market because of poor health.

As well as living more years in poor health, older people in the North have lower life expectancy than those in the South (Chapter 4). This is not due to any inherent characteristics of northerners but because the main determinants of poor health, social and commercial, are more common in the North. This includes poor maternal and child health, obesity, and Long COVID, all of which are highly associated with poverty and deprivation. These wider determinants of health increase the risk of later life frailty and multiple long-term conditions. They are also likely to underlie the higher rates of early-onset dementia in the North (Chapter 9). As Chapter 5 shows, the multiple long-term conditions experienced by older people in the North tend to be more severe than those suffered by their southern counterparts, with a consequential greater impact, such as forced early labour force exit. Northerners aged 65 and over are more likely than southerners of the same age to experience falls and hip fractures (Chapter 6). Physical activity is vital for sound health and wellbeing, but older people in the North have higher levels of inactivity (Chapter 7). Similarly, with healthy diets: a greater proportion of older people in the North fail to adhere to the Eatwell Guide to healthy eating, compared to those in the South (Chapter 8).

Turning to social care, Chapter 10 shows that older people in the North more often live in care homes than their southern counterparts – the likely result of the higher levels of frailty and severe multiple long-term conditions, and the higher incidence of falls and fractures in the North (Chapter 6). The North East has the lowest level of Home Care Services for people aged 65 and over, provision being particularly sparse in rural areas, plus the highest proportion of people providing unpaid care, and unpaid carers (50+) have worse health than carers in all other regions. In terms of loneliness and social isolation (Chapter 11), living alone increased the risk of feeling lonely in all regions. Although nationwide rates of loneliness among older people are relatively low compared to young people, in the North they are more likely than those in the South to report being lonely.

Regarding housing, Chapter 12 reveals that a total of 1.47 million northern homes are designated as non-decent. Almost half are over a century old, presenting cold, damp, fire and fall risks, almost half are occupied by someone with a long-term illness or disability; and over one-third house people aged 60 and over. Of those with older residents, nearly 60% are in the North West, the highest concentration of non-decent housing in England. Poor quality housing undermines health and wellbeing, creating heightened risks for chronic illness, respiratory problems, and mental ill-health. Up to one in eight preventable deaths UK-wide involve older people having a fall.

The negative health outcomes between older people in the North and South documented in Chapters 5 to 8, including lower life expectancy and higher morbidity rates, are further amplified among minoritised ethnic groups. Those from minoritised ethnic backgrounds consistently report poorer health compared to those from the White British majority. However, the effect of ethnicity is not uniform across regions. As shown in Chapter 13, ethnicity intersects with place-based inequalities in complex and context-specific ways.

In addition to the analyses conducted by the chapter authors, Professor Heather Brown and Daniel Clarkson, from Lancaster University, were able to provide some economic impact costs for some of the report's most important findings. Rather than position these in a separate chapter, they have been integrated into each chapter summary and the overall summary. The bases for these calculations are set out in full in Appendix 1.

This report unearths a paradox and a host of inequities that urgently need rectifying. Older people in the North are likely to have grown up and grown older in one of the most beautiful parts of England, quite likely within a highly supportive environment, fostering community cohesion, deep civic pride, and a sense of place. Paradoxically, however, the lifelong ageing process for a large group of them has been largely determined by social and economic factors that are not entirely under their personal control. Chief among them are poverty and deprivation, intersecting with gender and minoritised ethnic status, resulting in compromised health and wellbeing. These factors shape the inequities that form unequal ageing and are very rarely recognised by those involved nor debated publicly (Chapter 3). Even less visible is the fact that the gap in the experience of ageing between the North and South of the country is not narrowing but widening.[1]

This paradox and the process of unequal ageing are not inevitable: the health and wellbeing of ageing people in the North could match that of those in the South. Indeed, we argue strongly that the inequities that

divide them should be eliminated. We show how this can be achieved by a series of achievable policy recommendations. These are underpinned by two basic truths derived from research and practice:

- Unequal ageing is not inevitable and can be overcome by known policy instruments. The most important of these is 'radical prevention', meaning a prevention priority in all spheres where poor outcomes in later life are forged (often early in the life course): education, employment, housing, commercial activities and products, and so on.[7]
- The unacceptable chasm in the experience of ageing and later life between the North and South is also not inevitable. It is largely the result of policy failure and, therefore, can be eliminated by purposeful policy interventions aimed at achieving that goal.

Although our focus is regional, the inequities we expose in ageing between the North and South should not be regarded as a purely local problem, they are a national problem. It is the whole country that is divided, because of long-term national policies. This chasm can only be closed by new national policy approaches, forged in collaboration with northern councils, Mayors and health services.

In conclusion, our purpose is clear, we are concerned by the inequities that beset the ageing process, and which have come to be seen as an unavoidable part of it. The research evidence tells us that this is not the case, and that both the ageing process and, consequently, the lives of older people, can be vastly improved by making them far less unequal. If this were made a new national priority, it would not only benefit the multiple generations involved but also bring economic benefits to the whole country as fewer ageing workers would be compelled to leave the labour force due to ill-health and able to continue to work productively. Therefore, we join with the authors of the Child of the North and the Woman of the North reports in calling for a seismic shift in national priorities aimed at reuniting a country currently divided by widespread inequities between the North and South. We also stand in solidarity with present generations of older people in the North and with the future ones now ageing, in rejecting both unequal ageing and the inequities that continue to divide the North from the South. They must be ended by levelling up the experience of ageing in the North to that enjoyed by the majority in the South. We back up this plea with evidence on the damage that unequal ageing causes to individuals, families and society as a whole, and make practical recommendations for policy interventions that would begin the process of combating it.

Acknowledgement
I am grateful to Rachel Crossdale and Chris Todd for their help with this chapter.

Chapter 2: **Why is Ageing so Unequal?**

Authors:
Alan Walker and
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Summary

This chapter sets the scene for the report by introducing the idea of unequal ageing and highlighting the main factors that drive both it and the glaring inequities in the experience of later life, between the North and South of England. The key points are:

- Unequal ageing derives mainly from economic and social factors rather than innate individual characteristics. This means it is not inevitable and can be reversed.
- The experience of later life is largely the product of an older person's previous life course, over which advantages and disadvantages accumulate.
- On top of national inequities in ageing and old age, older people in the North fare worse, on average, than those in the South. They tend to be poorer, in poorer health, and they die sooner.
- While there are historical factors behind this North-South divide, such as the legacy of industrial growth and decline in the North and regional funding inequalities between the North and South, history is being repeated constantly by continuing southern biases in economic management and social policy. For example, the failure to protect older people in the COVID-19 pandemic resulted in excess deaths in the North compared to the South, and the loss of winter fuel payments has fallen particularly hard on older people in the North East.
- The failure to recognise the inequities faced by older people in the North results in increased hardship for older people, their families and communities. This is also shortsighted in policy terms. With targeted investment in the North, significant annual costs could have been reduced or avoided - including £10.9 billion in lost productivity, £315 million in NHS costs from falls and hip fractures and £588m in NHS costs from non-decent housing.

Context

While previous Health Equity North reports have exposed the huge gap in the life chances of children and women, between the North and South of England, this one focuses on the gulf in the experience of ageing and being old. As shown in the summary above, these inequities are both startling and comprehensive, ranging from incomes to housing, and from health to employment. Before providing a detailed account of these inequities, let's examine why they exist and continue to persist.

Unequal ageing

First, the inequalities documented in this report do not arise naturally from biological differences between people, or because they happen to be old. They are not the product of genetic inheritance or innate natural disposition or race. In fact, genetic inheritance plays a minor role in determining life chances – only around 20% regarding the cause of death after the age of 30, for example. The major factors are the social and commercial determinants of health and wellbeing: income, wealth, social class, education, ethnicity etc.[7]

Second, because these inequalities are largely determined socially and economically, they should be regarded as inequities which result from unfairness in the organisation of society, or a systemic failure to tackle their root causes. This perspective enables us to explain unequal ageing generally across England, by examining the development of inequities over older people's life courses, because they carry with them into old age socio-economic positions that were formed at earlier stages of their lives. Retirement has an impact on this process, particularly on economic status and the resources that accompany it, but the prior life course is the primary site for the creation of the unequal structure of income, wealth, and health between different groups of older people.[8]

Relative advantages and disadvantages tend to accumulate across the life course.[9] This process starts before birth, with parental social class, income, wealth, and educational levels being particularly influential: some people are born with higher life chances than others. Such influences are felt immediately in childhood but may also have long-lasting effects. For example, clinically significant increases in systolic blood pressure are found among those in early old age who grew slowly when they were children.[10] The influence of parental social class continues through a child's early years, including having a significant impact on educational attainment. The mean GCSE score for children from higher professional families is 28 points higher than for families from routine manual and service occupations.[11] Early years inequities have long-term consequences. For example, among those aged 75 and over, one in four who were in managerial or professional occupations had a university degree, compared with 0.3% from the routine manual sector.[12]

Birth and later years inequities are not set in stone, but they do play an influential role in subsequent life chances, including in old age. Mid-life can be a stage that cements relative advantages and disadvantages but, through employment and training, it also offers the opportunity to alter a person's early life course trajectory.

Other key influences that can be the source of mid and then later life inequities, and which often intersect with each other, include:

- Gender (women are more likely than men to work part-time and less likely to have occupational pensions).[13]
- Partnership status (married/cohabitating, widowed and divorced/separated older women are less likely than men or single women to have a private pension).[14]
- Ethnicity (there are huge disparities in employment, occupational class, and income between different minoritised ethnic groups).[15]
- LGBTQ+ status (largely missing from conversations on diversity in ageing; recent research has shown the older LGBTQ+ community have a higher risk of socioeconomic exclusion[16] and financial insecurity, linked to discrimination and limiting opportunities throughout working life).[17]

Greater inequities in the North

Superimposed upon this general pattern of unequal ageing across Britain is the gulf between those who age and are old in the North and their counterparts in the South. On average, older people in the North tend to be poorer, more deprived, sicker, and die sooner. These negative outcomes result chiefly from a combination of economic trends and how they are managed by governments, regional disparities, and systematic inequalities, some of which have been entrenched over a long period of time.

Legacy of industrial growth and decline

The industrial revolution forged a concentration of heavy industries in the North: coal mining, steel production, textiles, and shipbuilding. As these industries declined due to international competition and technological change, along with restrictive national economic policies, many northern workers lost stable, and in a local context, well-paid jobs.[18] Depressions in the 1920s and 30s, and government failure to manage them, equitably exacerbated this decline.[19] The combination of rapid decline in these industries and the clustering of the new growth industries – light engineering, electrical, and consumer goods – in the South, East, and West Midlands, opened a substantial 'jobs gap' between

the North and South, which persists today. After the Second World War these divisions became further entrenched. Deindustrialisation had a big impact overall but especially so in those areas (mainly in the North) dependent on specialised long-established industries that were also less likely to be economically diversified.[20] The South East, South West, and East of England were less vulnerable to deindustrialisation and led the expansion of high technology and service industries. The South East's, and especially London's, long-term monopoly over banking and finance remained intact.

Older people in the North who spent their working lives in the declining industries, may not have been able to build significant savings, pensions, or housing equity compared to those in the South, where employment opportunities in finance, technology, and services have grown.

Lower lifetime earnings

Jobs in the North, particularly in heavy industries, tended to pay less than those in the South. Even for those who remained employed during deindustrialization, wages often stagnated or declined, leading to lower lifetime earnings. Lower earnings translated into smaller workplace pensions and less ability to save for retirement, contributing to higher levels of poverty among older people in the North. ONS data show that these inequities persist: in 2022 gross disposable household income (for the population in general) ranged from £18,000 in the North East to £26,000 in the South East.[21] The lasting effects of deindustrialisation, including higher levels of worklessness and a higher proportion of insecure low-paid jobs in the North vs the South means that more northerners rely on benefits.

Housing wealth disparities

A major contributor to wealth inequality between older people in the North and South is the stark and widening difference in property values. Housing in the South, particularly in London and the South East, has seen dramatic price increases over the past few decades. Older people in the South who own property have benefited from significant wealth accumulation, which they can use to support their retirement. In contrast, house prices in the North are much lower and have either declined or not appreciated as much as those in the South, leaving northern retirees with far less housing wealth.[22] Largely as a result of these housing wealth disparities, the South East is the wealthiest region in the UK, with median household total wealth of £503,400, more than twice the amount of household wealth in the North.[23]

Health and life expectancy

As shown in Chapter 4, older people in the North often face poorer health outcomes and shorter life expectancy than those in the South. There is a sustained, substantial northern excess mortality, at an average of 13.8% (though larger for men than women).[24] Chronic illnesses and disabilities associated with manual labour and industrial work can reduce their ability to work into older age or enjoy retirement. Poor health also incurs additional costs, such as higher spending on heating, care, or medical expenses, which can exacerbate financial difficulties in old age and contribute to unequal ageing between the North and South.

Pensions and savings

Occupational (defined benefit) pensions, which provide a guaranteed income in retirement, were more common among white-collar workers in the South, particularly those in professional and managerial roles. In contrast, northern workers, more often in manual or factory jobs, were less likely to have access to such generous pension schemes. Furthermore, lower wages in the North meant less ability to contribute to private pensions or savings accounts, leaving many reliant on the Basic State Pension alone, which is insufficient for a reasonable quality of life.

Research by the Phoenix Insights think tank found that workers aged 45 and over in Greater London had an average of £144,000 in pension savings, compared to £91,400 for their counterparts in the North West.[25]

Regional funding and investment gaps

The North has historically received less public investment compared to the South, particularly in areas like infrastructure, public services, and healthcare. Contemporary major investment projects like HS2, Crossrail, and the Elizabeth Underground line, emphasise that these investment gaps are still being generated by conscious acts of policy. These policy inequities compound social and economic inequalities, affecting the financial well-being of older generations. They also contribute to perpetuating unequal ageing for future generations of older people. For example, on average pupils in London receive 9.7% more educational investment funding than those in the North.[26] The Government's mayoral devolution strategy, promised as the key to unlocking regional growth, has been largely undermined by local government spending cuts.[27]

Cost of living vs wealth accumulation

While the cost of living in the North is generally lower than in the South, this has not compensated for the wealth gap. Also, lower costs equate to less opportunity for asset appreciation, such as in housing or investments, which limits wealth accumulation over time.

Social mobility

Social mobility has often been higher in the South, where access to better education, jobs, and networks has enabled many to improve their financial standing over their lifetimes. In contrast, economic stagnation and limited opportunities in some areas in the North have restricted upward mobility, particularly for older generations. According to the Institute for Fiscal Studies, men who grew up on free school meals earn £8,700 more at age 28 if they lived in high-mobility areas around London compared to low-mobility areas in the North.[28]

Social security and other funding cuts

As of mid-2025, there is no Minister for Older People in Government and no independent Commissioner for Older People and Ageing.[29] This is shocking considering the size and growth of the older population, and suggests that the needs, rights, and protections of older people are not a government priority. This is further demonstrated through recent policies that have actively harmed the older population.

The Winter Fuel Payment, previously a universal benefit to assist all pensioners with increased heating costs, was limited in 2024 to only older people receiving means-tested benefits. This change meant that more than 10 million older people did not receive fuel payment in winter 2024/25.[30] Despite the government's claim that the majority of pensioners will be better off following a state pension and pension credit increase in April 2025, its own official estimates suggest the change to the winter fuel payment will push 50,000 more pensioners into relative poverty.[31] Research by Age UK suggests that this change will have a particularly harsh impact on the North East region, with 74% of people aged 65 and over in poverty or just above the poverty line losing their winter fuel payment.[32] This negative impact has been compounded by the cost-of-living crisis: the ability of older people to afford to keep their home warm has declined in recent years[33] and increased sickness in the older population was expected over the 2024/25 winter.[34] Age UK's 2023 report 'Tackling the cost of living crisis for older people', called for an urgent, government-funded, discount on energy supplies for older people but, at the time of printing, this has not been realised.[35]

The cost-of-living crisis following the COVID-19 pandemic had a particularly severe impact on people aged 60 and over, forcing a reduction in spending on necessities such as health and social care. In 2022, one in 10 older people reduced or stopped their social care due to struggling with the cost of living. A further 22% stopped spending on medications and specialist foods, and 1 in 7 were skipping meals.[36] These necessary cost reductions have also served to increase loneliness and

isolation among older people, as pensions often do not stretch to cover transport, leisure, or social costs. This is also associated with an increased risk of mental illnesses such as anxiety and depression.[37]

The COVID-19 pandemic

The impact of the COVID-19 pandemic in 2020 was substantial, increasing the proportion of deaths for all age groups with lasting effects to 2023 (Figure 2.1). However, this effect was starkest for the older population (Figure 2.2).

The three northern regions had a higher proportion of deaths in 2020 than the average for the whole of the UK (Figure 2.3). There is a clear North-South divide between the percentage change in deaths 2019-2020 (Figure 2.4). The North East region suffered particularly hard, seeing a 0.63% increase in deaths of people aged 65 and over: an excess of 3,700 more deaths in 2020 than 2019. This increase is largely attributed to COVID, coupled with governmental failure to protect vulnerable older people.

Figure 2.1 Proportion of deaths per age group, UK

	65-69	70-74	75-79	80-84	85-89	90+
2018	1.19%	1.86%	3.28%	5.82%	10.97%	22.55%
2019	1.15%	1.81%	3.13%	5.65%	10.45%	21.36%
2020	1.29%	2.04%	3.58%	6.49%	11.95%	24.71%
2021	1.29%	2.00%	3.37%	6.08%	10.86%	22.75%
2022	1.21%	1.93%	3.18%	5.89%	10.65%	22.61%
2023	1.20%	1.91%	3.12%	5.79%	10.55%	22.56%

Figure 2.2 Proportion of deaths per age group, UK

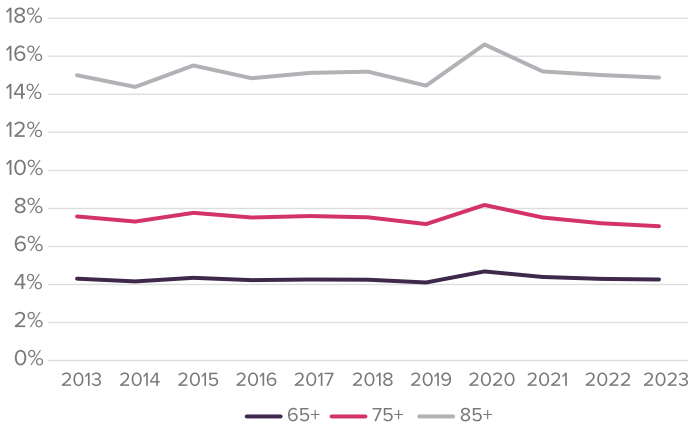
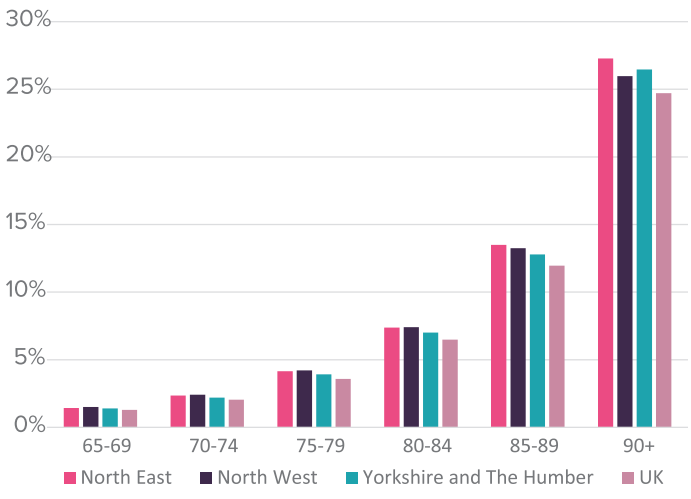


Figure 2.3 Proportion of deaths per age group, 2020



Conclusion

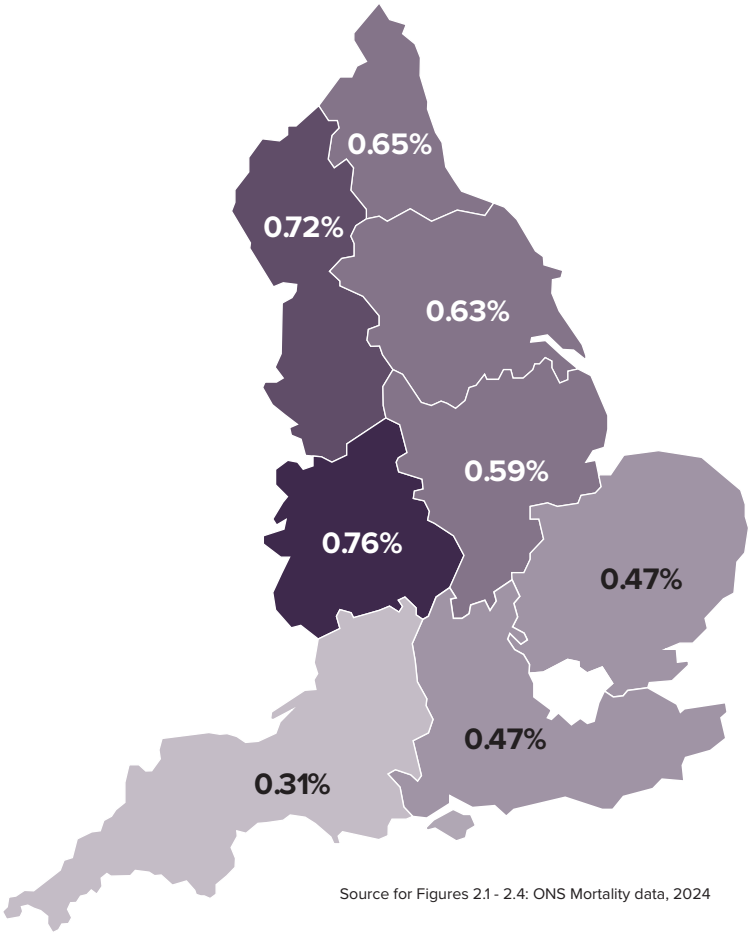
Inequities in ageing and the experience of old age between the North and South derive from some long-term and deep-seated factors but, also, they are being actively recreated and exacerbated by current social and economic policies. In the North, these inequities are intertwined with and reinforce the various national intersectional forms of unequal ageing. Unless policy changes are forthcoming, it is expected that the inequities in ageing and old age between the North and South will continue to grow.

Recommendations

- Nationally, there is an urgent need for a thorough adoption of radical prevention across all policy spheres, with an explicit mission to prevent the causes of unequal ageing. This should include preventing the loss of skills and preventing ill-health and disability.
- There is an equally urgent need to redress the existing North-South inequities in ageing, and to prevent new ones arising or existing ones being reinforced. This requires a proportionate universal approach[38], in which resources are distributed universally but in proportion to need, which means greater investment in the North than the South. One critical element of this is the closure of the jobs gap in both numbers and quality.
- To begin the process of overcoming existing inequities in ageing and to prevent new ones, it is essential for policymakers to adopt a life course perspective, because this does not silo youth and old age but, instead, recognises the direct connections between them, and in policy terms the many common interests they share.

Acknowledgements
We are grateful to Mark Green and Dan Holman for their help with this chapter.

Figure 2.4 Increase in deaths among people aged 65 and over 2019-2020



Source for Figures 2.1 - 2.4: ONS Mortality data, 2024

Chapter 3: **Poverty, Inequality, Deprivation and Employment**

Authors:
Rachel Crossdale
and Alan Walker

Summary

- The entrenched wealth gap between the North and South is even more pronounced among the older population, increasing with age.
- People in the North have had (and continue to have) access to fewer jobs at lower pay with higher levels and longer periods of unemployment and economic inactivity. This has resulted in increased poverty among the older population.
- There are an estimated 904,200 economically inactive 50 – 64 year olds in the North: 170,100 in the North East, 428,600 in the North West, and 305,500 in Yorkshire and The Humber. This results in a total cost to the taxpayer of approximately £10.9 billion each year. (See Appendix 1).
- People in the South are more likely to retire, whereas people in the North are more likely to leave the labour market due to poor health. Across England, those leaving the workforce due to long-term sickness have £57,000 in median household wealth, compared to £1.25 million for people choosing when to retire. For the 370,800 people aged 50 to 64 in the North of England who are economically inactive due to long-term sickness, this wealth gap of £1.19 million per household results in the loss of a potential £440 billion in additional wealth to fund retirement and inheritance.
- The North is much more deprived in terms of housing and education, limiting lifetime earnings and wealth accumulation.

Context

1.9 million older people were living in poverty in the UK in 2022/23[39], an increase of 65,000 over 2015/16.[40] Figure 3.1 shows that the proportion of older people in poverty has been steadily increasing from 13% in 2012/13 to 17% in 2022/23, peaking at 18% post-pandemic in 2021/22. However, the number of older people living in relative poverty (in households below 60% of the median income), after housing costs, has largely increased over the last 10 years (Figure 3.2). The declining trajectory of poverty among people aged 65 was reversed in 2005/06. The 2007/08 Great Recession and subsequent economic crisis had a marked impact, but the numbers in poverty returned to lower levels and continued to fall to 2010/11 due in large part to the impact of Pension Credit.[41] Since then, the number of older people in poverty steadily increased under the Conservative Government's austerity regime. While the number of people aged 65 and over in poverty dropped slightly in 2022/23, the figure remains much higher than pre-pandemic.

Deprivation is measured by four dimensions: Employment (if a member of the household is unemployed or disabled), education (if no one has at least level 2 education), health and disability (if a member has a disability or is in poor health), and housing (if the accommodation is overcrowded, shared, or has no central heating).[42] In 2021, 65% of people aged 65 and over in England were deprived in one or more household dimension.[42]

The regional divide

The wealth gap between the North and South is well-evidenced, with this gap set to grow to £228,800 per head by 2030.[27] Deprived areas can be found all over the country, however there is a higher concentration of these areas in the northern regions[43] and higher rates of poverty. Poverty rates were two percentage points higher in the North than the average for England in 2023/23, whereas the same figure for the southern regions was two percentage points lower than the national average. Figure 3.3. shows a clear North/South divide in levels of relative poverty across England.

Average earnings in the North are lower than in the rest of England, with

Figure 3.1 Proportion of people aged 65 and over in relative poverty in the UK

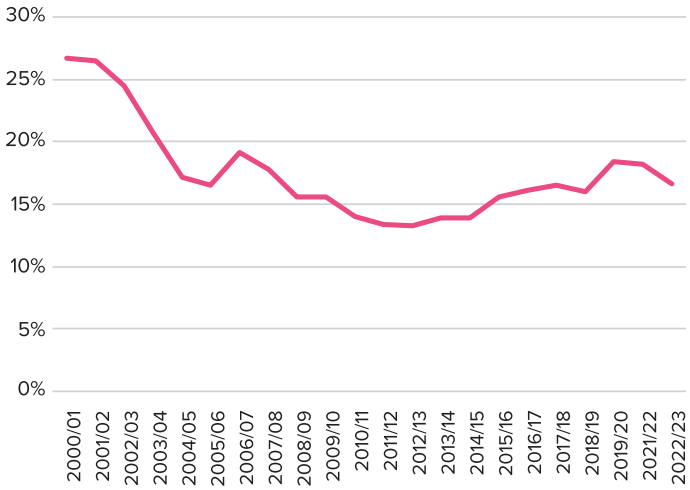
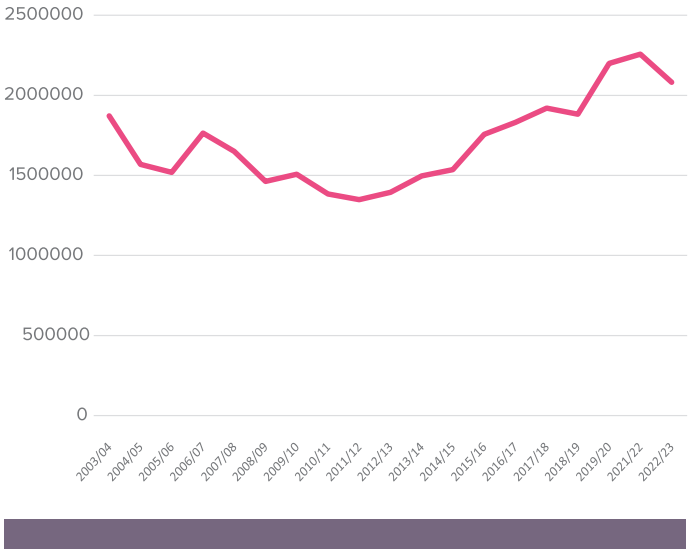


Figure 3.2 Number of people aged 65 and over in relative poverty in the UK



the North East region having a lower level of average wealth in 2022 than in 2006.[44] Between 2020/21 and 2022/23 pensioner couples in the North East region had an average income 14% lower than the national average and 25% lower than their counterparts in the South East.[45] The North also has higher rates of economic inactivity, stemming in part from job growth at less than 1% in the North since 2004 compared to over 12% in the South (including London).[44] The Government's devolution strategy, aiming to give greater power to local government and heralded as the key to unlocking regional growth, has been largely undermined by local government spending cuts.[43]

Poverty in old age in the North

The North has consistently had higher levels of poverty among people aged 65 and over than the South since 2014 (Figure 3.4). The North has seen a much greater increase in the proportion of people aged 65 and over in poverty than the South, which has seen a relatively stable trend compared to the North's 8% increase. Looking at the northern regions individually, the proportion of people aged 65 and over in poverty has increased in all regions over the ten years from 2012-2022, with the North East and Yorkshire and the Humber seeing around a 10% increase

in poverty in people aged 65 and over in this period (Figure 3.5). Poverty levels in the North East were particularly affected by the COVID-19 pandemic, increasing by six percentage points over the pandemic period.

Poverty trends over the age of 50 are similar for the North and South, with a peak at 60-65, known as 'pre-retirement poverty'.[46] However, the North consistently has a higher proportion of people in poverty than the South for all age groups over 50 (Figure 3.6).

Poverty levels increase with age in both the North and the South (Table 3.1), but the North has a far sharper 12 percentage point increase from 25% in the 65 and over age group to 37% in the 85+ age group, compared to a 5 percentage point increase in the South over the same age groups.

Deprivation

People aged 65 and over are 5% more likely to be deprived in the North (68%) than the South (63%) and are more likely to be severely deprived (in more than one dimension). Older people in the South East and South West regions are much less likely to be severely deprived (Figure 3.7). People in the North are more likely to be deprived in the housing and education dimensions than their counterparts in the South. Those aged 65 and over in the North are more than twice as likely to be in material deprivation than their equivalents in the South (14% and 6% respectively).

Employment

The employment issues that divide people in the North from the South: lower average earnings, higher economic inactivity, and lower average wealth, are also issues for the older population. While both the North and South follow the same declining trajectory in labour market activity from age 50 to 74, the North has a consistently lower proportion of people active in the labour market (Figure 3.8). People in the North are also more likely to be working full-time in the lead-up to pension age (74% in the North compared to 72% in the South aged 50-65).

Figure 3.9, from the latest State of Ageing report, shows that the employment rate gap or 'age penalty' (the gap in employment rates between people aged 35-49 and those age 50-65) is largest in the North East (19.8 percentage points), and lowest in the North West (11.6) and the South East (13.9).[1]

Older people in the South are more likely to be retired or not need employment, whereas those in the North are more likely to be inactive due to long-term or temporary sickness, disability, or injury (Chapter 5). Older people in the North are less likely to have retired before state pension age than their counterparts in the South (Figure 3.9).

The State of Ageing 2023[47] report showed that people with higher incomes were more likely to have the freedom to choose when to leave the labour market, and that older workers on lower incomes were more likely to be forced out due to poor health. This is also linked to higher rates of benefit claims in the North (38%) compared to the South (33%). People in the North are much more likely to be claiming benefits while out of work, which can be explained partly by the higher proportion of people who are economically inactive due to sickness and disability (see Chapters 4-9 for more information on health). There are significant differences in the duration of unemployment between the North and South: briefer in the South, longer in the North. Over a third of older people in the South are likely to be unemployed for less than three months, whereas a quarter of people in the North had been looking for work for 6-12 months.

International competition and technological change have caused a massive decline in predominantly northern manufacturing industries such as mining, steel production, and textiles. Older people who had lifelong careers in these declining industries may have less financial stability in older age as there were fewer job opportunities compared to in the South. The North continues to have a much higher percentage of older

Figure 3.3 Proportion of each region in relative poverty (all ages)

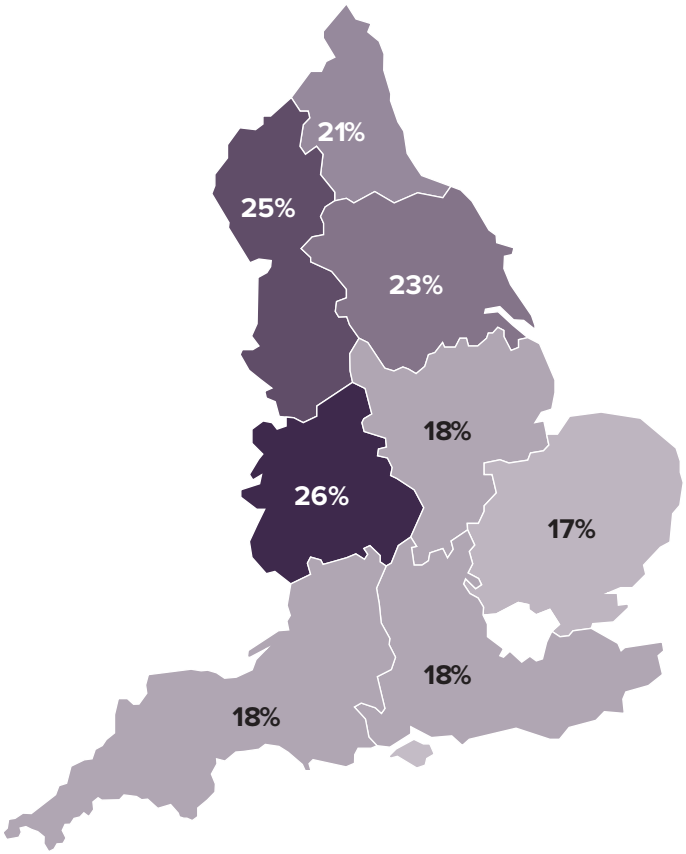


Figure 3.4 Proportion of people aged 65 and over in poverty by broad region

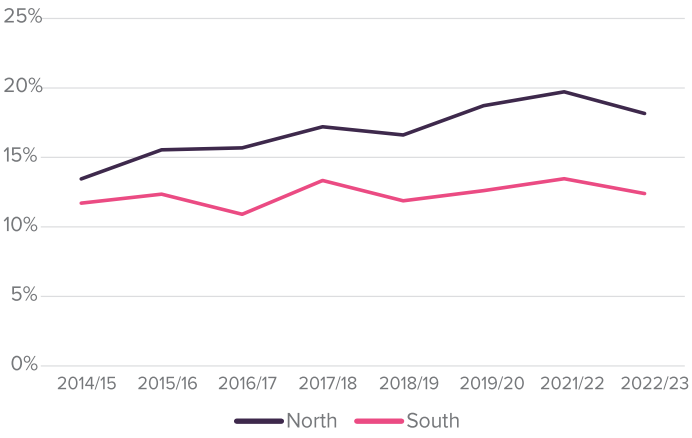
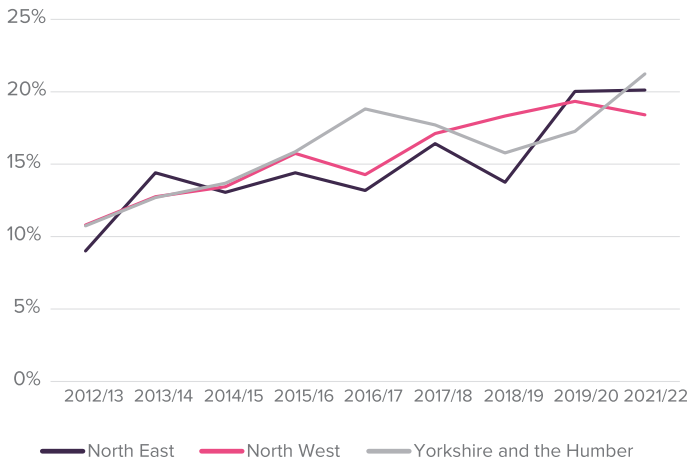


Figure 3.5 Proportion of people aged 65 and over in poverty by region



workers (aged 50-74) in the manufacturing sector (11% compared to 8% in the South), whereas the South has a higher proportion of people in the higher paying banking and finance sector (20% compared to 16% in the North). Older workers in the South were also more likely to have higher-skilled and higher-paying managerial and professional positions (49% compared to 43% in the North), whereas older workers in the North were more likely to have routine occupations (26% compared to 20% in the South).[48] As noted in Chapter 2, this has implications for later-life health, as prolonged exposure to the cumulative risk factors associated with more industrial and manual occupations increases the risk of work-related illness and can contribute to a lowered life expectancy.[49]

Pensions

Pensions are a major source of unequal ageing. In 2021, more than half of people in England and Wales were retired by the age of 66. The pandemic had a notable impact, increasing the proportion of people aged over 50 who had stopped working.[50] As of 2024, 58% of people aged 65 and over were active in the labour market, with the average age of exit 65.7 for men and 64.5 for women.[51] A quarter of people aged 50-65 in both the North and South regions expect to retire around state pension age (67). However, 19% of people in the South expect they will be working beyond state pension age, compared to just 13% of people in the North.[52] 47% of people in the North aged 50+ in receipt of a pension were only in receipt of a state pension. 58% of people in the South were in receipt of other pension income as well as a state pension.
People in all northern regions are less likely to participate in a pension scheme than people in all southern regions, with those in the North East being the least likely to participate in a pension scheme.

Health

There is a well-established relationship between poverty and deprivation and health. Areas with more income deprivation are more likely to have a range of health conditions, including serious mental illness, obesity, diabetes, and learning disabilities.[53] There is a two-year life expectancy gap between the northern regions and the rest of England, and premature death rates are 20% higher for those living in the North.[27] The Northern Health Science Alliance's 2018 Health for Wealth report[54] identified health as a key reason for lower productivity in the North, summarising that tackling health inequalities would have a knock-on-effect to address economic inequality in the North. For more information on health inequalities see Chapters 4-9.

Conclusion

There is a long history of poverty, inequality, and deprivation in the North of England which persists into older age. When compared with older people in the South, the differences are stark, with older people in the North being generally poorer and having higher chances of poverty and deprivation. The circumstances that have led to older age poverty in the North; fewer jobs for lower pay, reliance on declining industries, increased unemployment rates, and lesser pension accumulation, all underpinned by poorer health outcomes, continue to pervade younger generations. Unless this cycle is broken by substantial policy change, future generations of older northerners will face similar levels of poverty, deprivation, and inequality.

Recommendations

- Policy changes need to tackle the root causes of poverty earlier in the life course to prevent the accumulation of disadvantage being carried into older age.
- The jobs gap between the North and South needs to be addressed to improve earning potential in the North and reduce the level of unemployment and inactivity. Both the quantity and quality of jobs needs to be improved.
- National recognition of regional inequality should mean more targeted initiatives, with more equitable allocation of national resources to the North to stem increasing poverty and deprivation.

Figure 3.6 Proportion of people in poverty by age and broad region

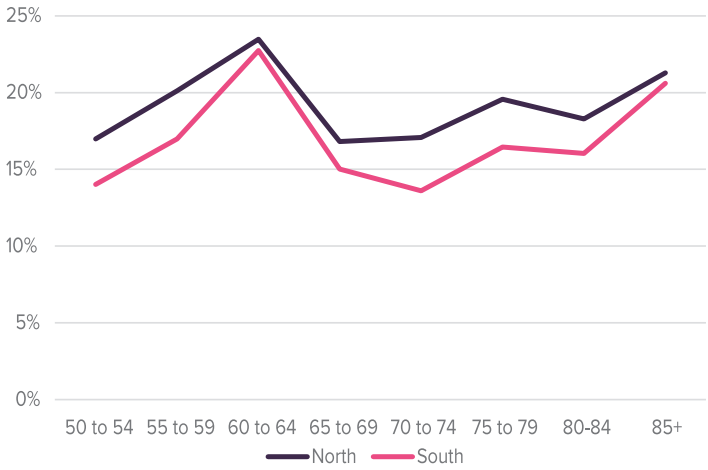


Figure 3.7 Proportion of people aged 65 and over who are severely deprived by region

	65+	75+	85+
North	25%	28%	37%
South	22%	26%	27%

Figure 3.7 Proportion of people aged 65 and over who are severely deprived by region

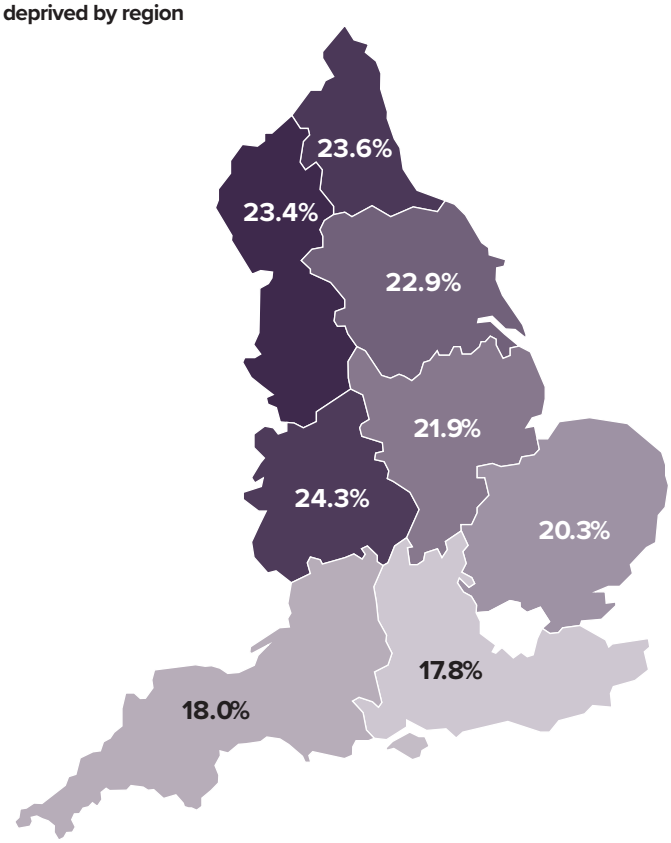


Figure 3.8 Proportion of people active on the labour market by age and broad region

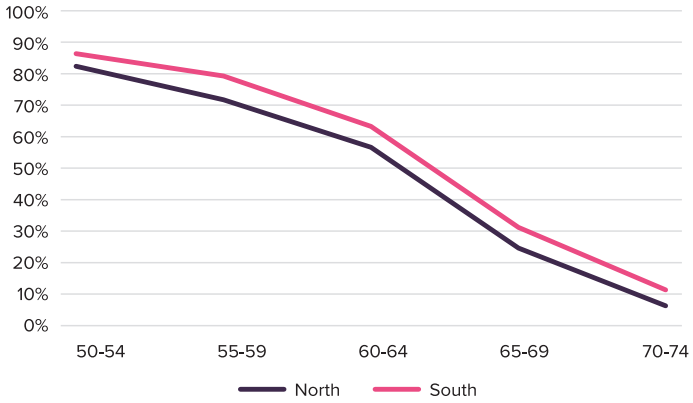


Figure 3.9 Difference in the employment rate of people aged 35 to 49 and 50 to 65 by region

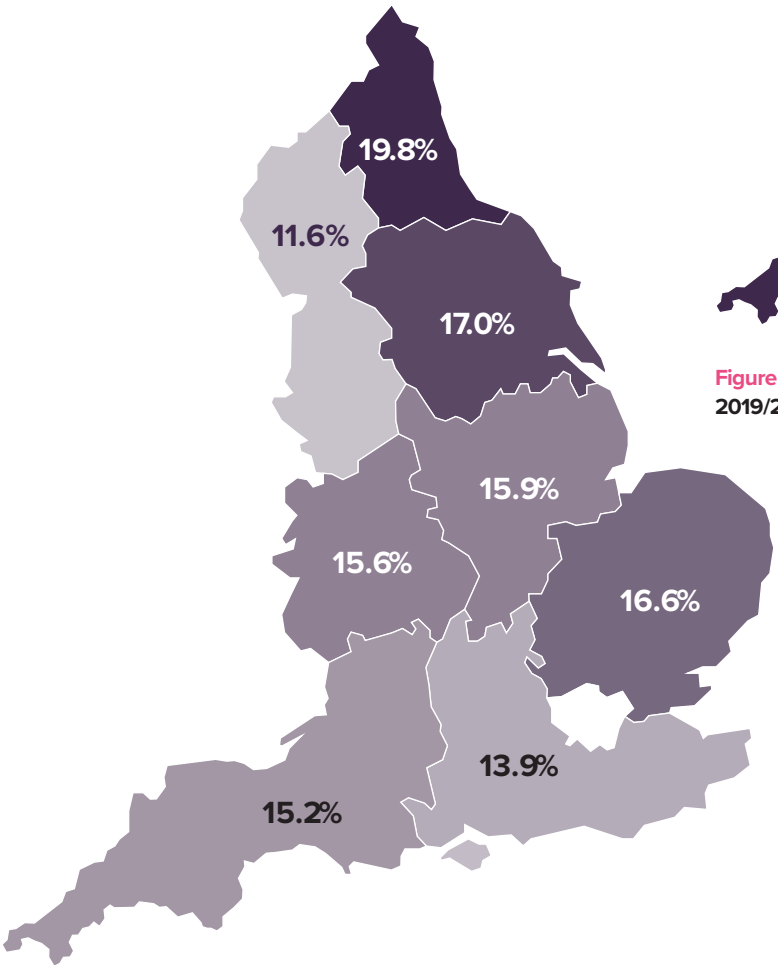


Figure 3.9 Proportion of people aged 50-65 who are not looking for work due to retirement

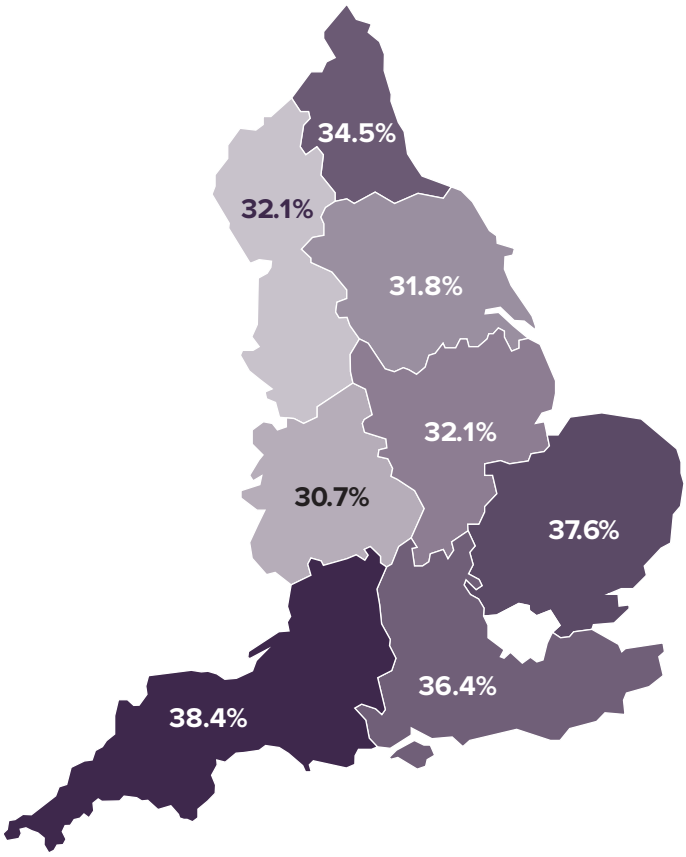
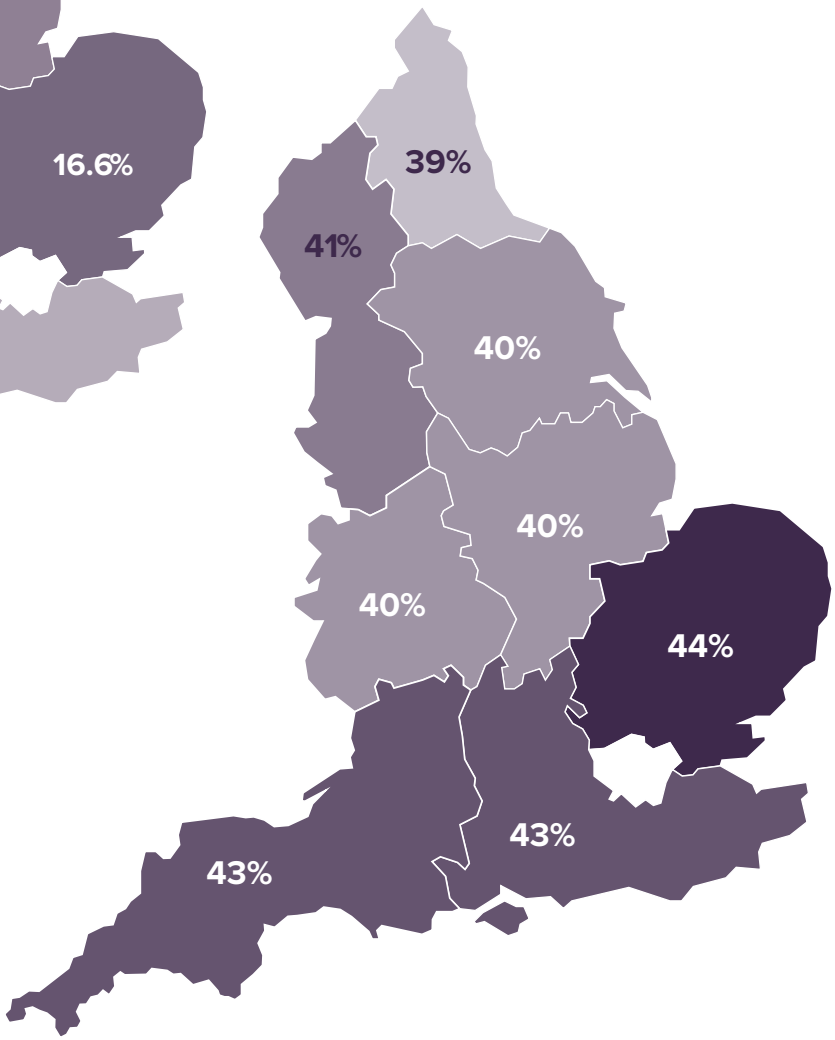


Figure 3.10 Percentage of all adults participating in a pension scheme 2019/20



Chapter 4: **Health Expectancies**

Authors:
Laurie Davies, David Sinclair,
Barbara Hanratty, Andrew Kingston

Summary

- People living in the North have a lower life expectancy and lower disability-free life expectancy, compared to the national average.
- The prevalence of disability and the proportion of the population claiming disability benefits are highest in the North East.
- Many of the likely determinants of disability (e.g. poor child health, complex multimorbidity, obesity, Long COVID) are all more common in the North.
- A multi-faceted approach, combining high risk and population level approaches will be needed to tackle North-South differences in life expectancy and disability-free life expectancy.
- Disproportionate investment in the North, in the context of high rates of premature mortality, disability, and multiple long-term conditions, will be essential to improve life expectancy at a national level.

Context

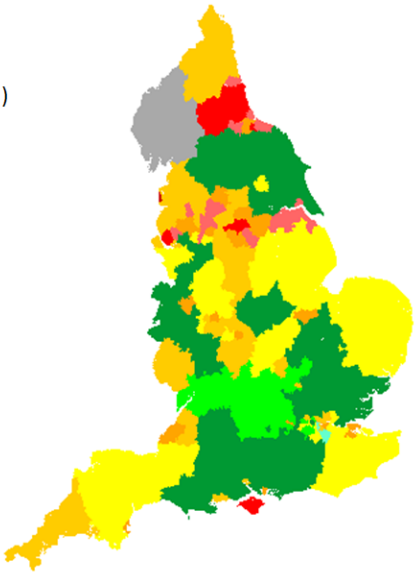
Improvements in life expectancy (LE) in England have stalled[55] and fallen since 2011,[56] following decades of improvement.[57] However, the national picture conceals stark differences between the regions, in both length of life and the number of years spent disability free. The Office for National Statistics defines disability-free life expectancy (DFLE) as the average number of years a person of a certain age would live without limiting long-term illness if they experienced the area's age-specific mortality and health rates throughout their life.

Differences in life expectancy and disability-free life expectancy

North-South differences in premature mortality are long-standing and have widened over time.[58] People living in the North East have the lowest life expectancy; shorter by 3 years for men and 2.8 years for women compared to the South East.[59] These differences are more pronounced when considered at the local level. For example, in 2020-2022, male life

Figure 4.1 Disability free-life expectancy in years by local authority, for a) men and b) women[61]

a)

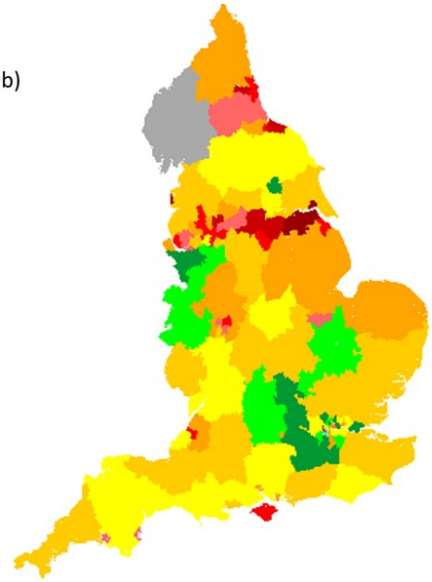


DFLE
(52,54]
(54,56]
(56,58]
(58,60]
(60,62]
(62,64]
(64,66]
(66,68]
(68,70]
NA

Top 5:
- Southwark, 68.9
- Bromley, 68.4
- Windsor and Maidenhead, 67.9
- Oxfordshire, 67.9
- Richmond upon Thames, 67.8
- Central Bedfordshire, 67.8

Bottom 5:
- Blackpool, 52.7
- County Durham, 54.1
- Isle of Wight, 54.2
- Sunderland, 54.3
- Barnsley, 54.5

b)

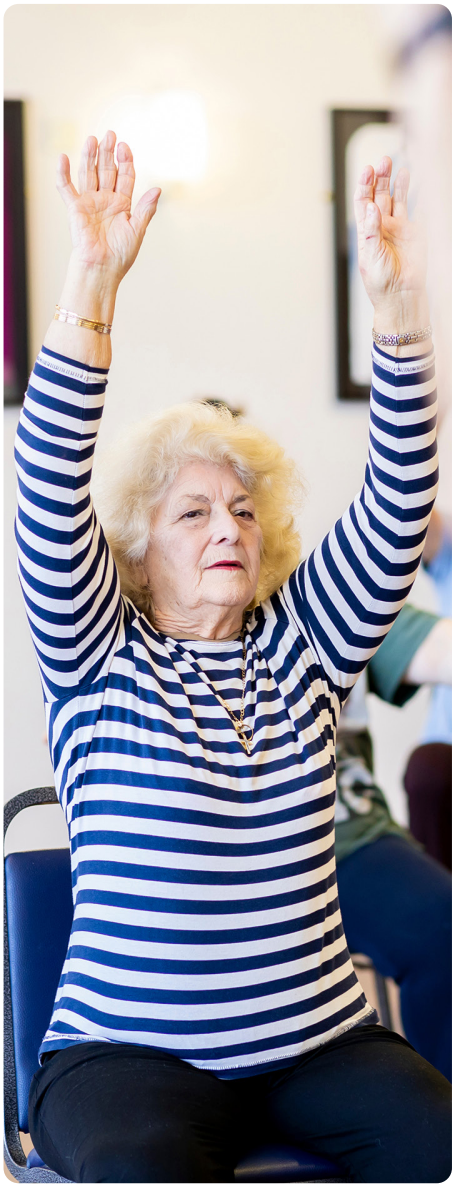


DFLE
(50,52]
(52,54]
(54,56]
(56,58]
(58,60]
(60,62]
(62,64]
(64,66]
(66,68]
(68,70]
NA

Top 5:
- Wandsworth, 68.8
- Kensington and Chelsea, 68.4
- Camden, 67.3
- Haringey, 67.2
- Central Bedfordshire, 66.8

Bottom 5:
- Kingston upon Hull, 51.5
- Blackpool, 51.7
- North Lincolnshire, 51.9
- Gateshead, 53.2
- Stoke-on-Trent, 53.2

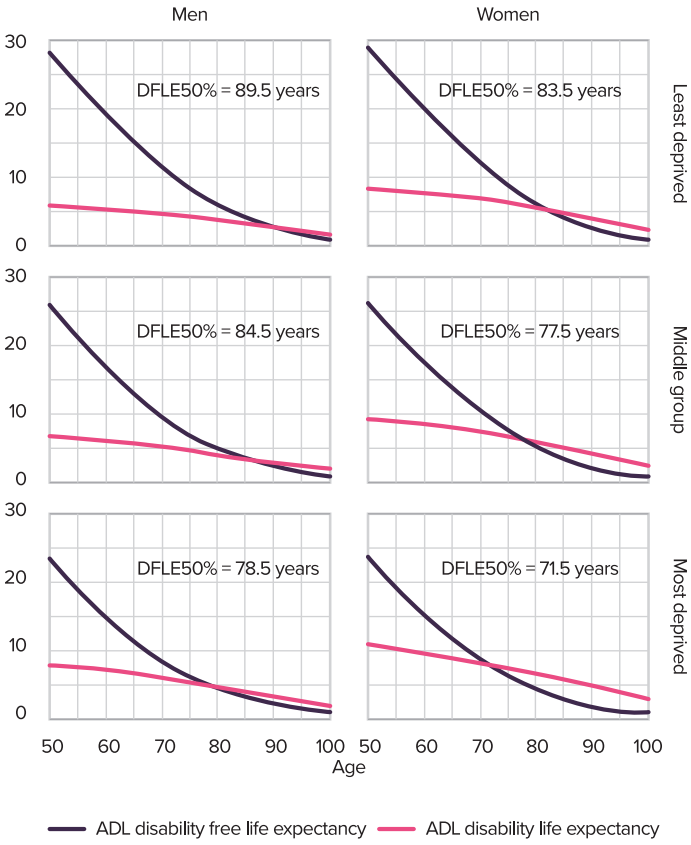
Data was not available for the new unitary authorities of Cumberland and Westmorland & Furness



expectancy was highest in the Hart district of Hampshire (83.7 years) and lowest in Blackpool (73.4 years), a gap of more than a decade.[59]

People living in northern regions also spend fewer years disability-free, particularly women. Figure 4.1 shows that for both men and women, four of the five areas with the lowest DFLE are in the North. These inequalities align with area deprivation. There is a gap of more than 15 years DFLE between the most and least disadvantaged areas in England measured by the Index of Multiple Deprivation.[60] The most disadvantaged women reach the age at which they will then spend half of their remaining life with ADL (activities of daily living) disability 12 years earlier than their least disadvantaged counterparts. For men, this difference is 11 years. This is termed the DFLE50% and is shown in Figure 4.2.

Figure 4.2 Remaining life expectancy spent with and without activities of daily living (ADL) disability for each socioeconomic group, in men and women from age 50



Source: combined data from the Newcastle 85+ Study, English Longitudinal Study of Ageing (ELSA)112 and Cognitive Function and Ageing Study II (CFAS II)62

Determinants of life expectancy and disability-free life expectancy

The prevalence of disability and the proportion of people claiming disability benefits are highest in the North East, suggesting that severity of disability is also high in this region.[63, 64] Many of the factors that underpin disability or lower life expectancy are more common in the North compared to the rest of England. These include public health issues such as poor child health,[65] along with complex multimorbidity[66] (obesity,[67] chronic pain,[68] chronic obstructive pulmonary disease[53]), and Long COVID.[69] Premature mortality from cardiovascular disease, alcohol and drug misuse is also highest in the North.[70, 71] During the pandemic, COVID-19 and all-cause mortality rates were higher in the North, leading to the suggestion that the health effects of deprivation were being amplified. [69, 72, 73]

There is also a North-South divide in educational attainment[74], and the North East has historically had a higher proportion of the population in lower socioeconomic groups and high levels of unemployment.[75, 76] Incomes in the North (already lower than the rest of England) also fell further during the COVID-19 pandemic, whereas they increased in the rest of the country.[73] This suggests that the North is being disproportionately impacted by the cost-of-living crisis,[74] following years of austerity.[78, 79]

Implications of poor health

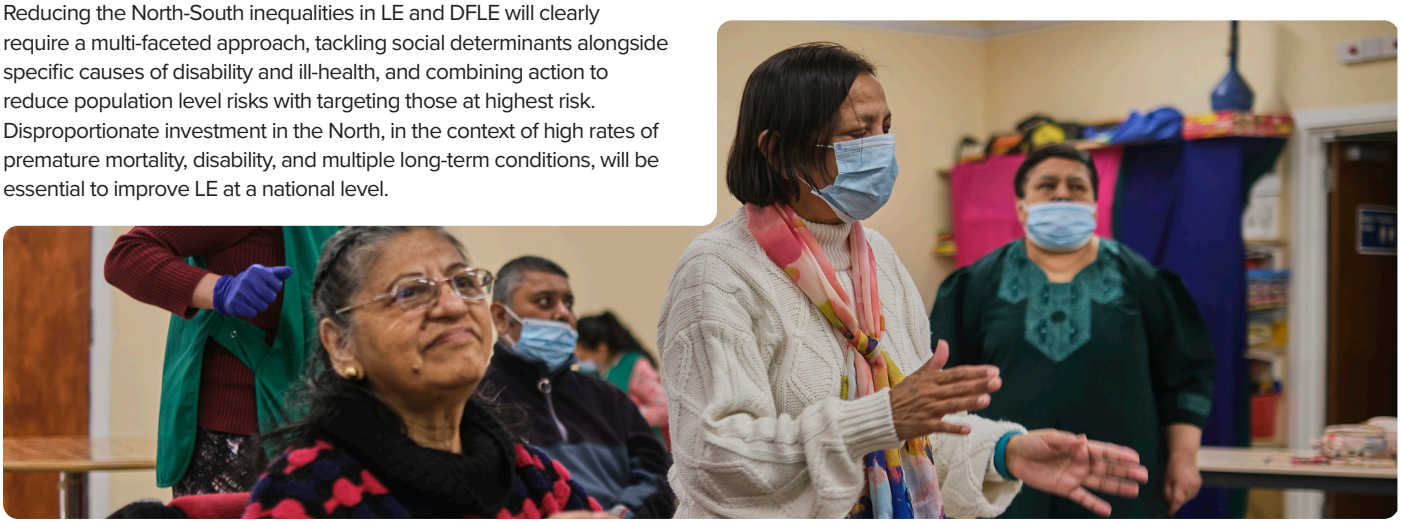
Along with mortality, there is evidence that disability can lead to many other adverse outcomes, such as poor quality of life and increased health and social care service use (and associated costs).[80, 81, 82] The provision of unpaid care, which is highest in the North East,[83] also has consequences for carers themselves.[84] Poor health is a key reason for lower productivity in the North, which implies that improving health in the North should bring economic gains.[54] The widening gap between life expectancy and healthy life expectancy means that disadvantaged groups may otherwise find it increasingly difficult to qualify for a state pension.[85]

Conclusion

Reducing the North-South inequalities in LE and DFLE will clearly require a multi-faceted approach, tackling social determinants alongside specific causes of disability and ill-health, and combining action to reduce population level risks with targeting those at highest risk. Disproportionate investment in the North, in the context of high rates of premature mortality, disability, and multiple long-term conditions, will be essential to improve LE at a national level.

Recommendations

- Preventive approaches are needed across the life course to delay the onset of disease, and reduce the time spent with disability. Disadvantaged areas of the North merit specific targeting.
- Primary, secondary, and tertiary prevention will all be essential to increase LE and DFLE.
- A combination of broad public health measures, investment in social infrastructure, and channelling spending in areas of greatest need is likely to be effective.
- Access to standardised data on disability and material disadvantage in health records could inform intervention development and enhance our understanding of the drivers of inequalities at a local level.
- Early intervention should be promoted, and better data would support this.



Chapter 5: **Multiple Long-Term Conditions**

Authors:
Ilaria Bellantuono &
Rachel Crossdale

Summary

- While multiple long-term condition (MLTC) prevalence rates appear numerically similar across England, the type, severity, and impact of conditions varies significantly between the North and South. The North faces a greater burden of severe disabling chronic diseases, such as arthritis, which disproportionately affect employment, quality of life, and long-term health outcomes, and lead to increased healthcare demand. This exacerbates existing inequalities.
- Arthritis is significantly more prevalent among individuals aged 55-64 in the North (28%) compared to the South (23.3%). Research also shows that people with arthritis are up to 20% less likely to be in work than those without the condition. This difference results in around 19,400 additional people out of work due to arthritis, costing the taxpayer £232.7 million annually (see Appendix 1).
- There is a need for improved data integration to build a more detailed understanding of MLTC regional disparities and support a targeted approach focused on high-impact disease clusters.
- Interventions should follow a dual strategy: immediate management and support in both healthcare and the workplace to mitigate short-term impacts, alongside a life-course preventive approach that addresses cluster-specific risk factors for more sustainable long-term improvements.

Context

As life expectancy increases, more people, particularly older adults and those in socioeconomically deprived areas, are living with MLTC such as cardiovascular disease, musculoskeletal, and mental health disorders.

MLTC, defined as the presence of two or more chronic conditions, is a growing public health challenge in the UK[86], with significant implications for healthcare policy, service delivery, and productivity. Functionally, each condition can pose challenges for an older person, but their combined impact is often far greater than the sum of their individual effects. For example, arthritis can make physical activity more difficult, leading to weight gain and exacerbating symptoms of heart disease and diabetes.

This creates a cycle where each condition potentially worsens the others. Analysis of the impact of MLTC in the northern regions (North East, North West, and Yorkshire and the Humber) reveals stark differences between North and South, which among other things, has a major impact on levels of productivity.

MLTC and regional disparities: The North-South divide

At a broad level, the prevalence of MLTC appears similar between the North and South of England when measured by simply counting individuals with two or more pre-defined chronic conditions. Among those aged over 50, MLTC rates are 57.8% in the North and 57.4% in the South, suggesting little apparent regional disparity.

However, this aggregate measure masks significant differences in the severity, progression, and impact of chronic diseases between regions. Not all conditions contribute equally to health outcomes, quality of life, or economic activity. Simply counting conditions fails to capture the complexity of how diseases interact, exacerbate one another, and collectively impact quality of life. Some conditions, such as hypertension, may be asymptomatic but are included in MLTC counts, whereas others, such as arthritis, profoundly affect an individual's ability to remain active, work, and maintain independence.

Disease burden in the North

A more nuanced approach reveals a greater burden of high-impact chronic conditions in the North. For example, arthritis is significantly more prevalent among individuals aged 55-64 in the North (28%) compared to the South (23.3%), a disparity that persists in those aged 65 and over. This is critical because arthritis is not only a debilitating condition on its own, but it also contributes to further functional decline and employment challenges, often leading to early exit from the labour force.

This is further compounded by the fact that 60-70% of patients with arthritis suffer from other high-impact chronic conditions such as cardiovascular disease and diabetes mellitus.[87, 88] Although data on the clustering of conditions by region are not available, research shows that individuals with osteoarthritis, the most common form of arthritis, are nearly three times more likely to develop cardiovascular disease or heart failure[89] and have a 61% higher risk of developing diabetes mellitus[90] compared to those without osteoarthritis. Furthermore, around 20% of people with osteoarthritis experience symptoms of depression and anxiety.[91] This clustering is influenced by shared risk factors like ageing, obesity, and physical inactivity, as well as underlying inflammatory processes.

Impact of MLTC on employment and productivity

MLTC has significant effects on employment and productivity.[92] This impact varies according to the number, severity, and type of chronic conditions a person has. They are responsible for increased absenteeism, presenteeism, reduced productivity, higher rates of early retirement, and greater vulnerability to dismissal. Research in the US has shown that single chronic conditions such as arthritis, diabetes, and cardiovascular disease are associated with missed workdays due to illnesses[93] and that missed workdays increased as the number of chronic conditions increased.[94] Specific chronic condition combinations such as arthritis/cardiovascular disease/diabetes have a high burden of disease in terms of productivity loss.[95]

This pattern is consistent with UK findings. Research indicates that people with arthritis are up to 20% less likely to be in work than those without the condition.[96] Similarly, the Institute for Public Policy Research reports that among working-age people who are economically inactive, nearly one in three have a heart, blood pressure, or circulatory condition, making this the leading health-related factor driving workforce exit.[97]

Data from the English Longitudinal Study of Ageing (ELSA, Wave 10) highlights regional disparities. Among 50–65-year-olds, 80.8% of those

without chronic conditions are in full-time employment in the North of England, compared to 81.4% in the South. However, among individuals with two or more chronic conditions, only 53.5% remain in full-time employment in the North, significantly lower than the 60.8% in the South.

Notably, early retirement patterns differ by region. Among those with MLTC, 6.1% in the South have taken early retirement compared to just 4.7% in the North. This suggests that individuals in the North are more likely to exit the workforce involuntarily, likely due to financial constraints and lower socioeconomic conditions, which prevent them from affording early retirement. These disparities further entrench economic and health inequalities.

Evidence suggests that MLTC is more common among those in lower socioeconomic groups and tends to develop 10-15 years earlier in life, at a stage when individuals would typically still be in the workforce.[98] This early onset of MLTC, coupled with a higher likelihood of work incapacity, exacerbates social and economic inequalities, limiting opportunities for stable employment and financial security.

Impact on NHS resources

Several studies indicate a curvilinear, near exponential relationship between the associated number of conditions and health care costs[99] due to increased number and duration of GP appointments and hospital admissions. Nearly 50% of people with MLTC are reported to have had a GP appointment in the last three months. This is in contrast with 29.1% of people with no long-term conditions.

When looking at access to NHS services, there does not appear to be a significant regional difference in GP waiting times or specialised services.[100, 101] However, the North fares worse in waiting time from referral to treatment for musculoskeletal issues, including arthritis, with patients in the northern regions waiting around a third longer on average than patients in the South West and South East regions.[101] Data from the National Early Inflammatory Arthritis Audit (NEIAA) (2023) which collects data from England and Wales, supports this. It showed that only 50.9% of people with confirmed inflammatory arthritis in the North East and Yorkshire and 60% in the North West are seen within the national target of three weeks from referral to start their treatment. This is in contrast to 79.2% of people in the South West and 64% in the South East. Only the East of England performs worse with 41% of people having been seen within the national target.[102]

Conclusion

While MLTC rates appear numerically similar across England, the type, severity, and impact of conditions varies significantly between the North and South. The North faces a greater burden of disabling chronic diseases, such as arthritis, which disproportionately affect employment, quality of life, and long-term health outcomes. Policies aimed at tackling MLTC must account for these differences to reduce regional health inequalities and support economic and social well-being in disadvantaged communities.

Recommendations

The broad measurement of MLTC fails to capture regional disparities in disease burden and functional impact, which have direct consequences for health service demand, workforce participation, and social care needs. A policy approach that focuses solely on disease count risks underestimating the true disadvantage faced by populations in the North, where conditions with a greater impact on disability, employment, and quality of life are more prevalent.

To address these disparities, policymakers must:

- Enhance data access and integration: Improve the quality and scope of available data by linking multiple datasets, expanding cohort size, and incorporating comprehensive information beyond health records. This should include employment history, educational background, socioeconomic status, and other determinants of inequality. Advanced analytical methods, such as clustering analysis, should be employed to identify and target populations experiencing the greatest comorbidity burden.
- Prioritise high-impact disease clusters (e.g. arthritis, cardiovascular disease, diabetes) specific for each region in health and employment policies, given their disproportionate impact on work capacity, health and social care costs, and quality of life.
- Expand workplace health initiatives while addressing regional healthcare access disparities to support individuals with MLTC in remaining active in society, staying in work if they wish so, reducing the risk of financial insecurity and involuntary workforce exit.
- Address determinants of health across the life course – The higher burden of disabling MLTC in the North is linked to higher deprivation levels and requires a pro-active preventive strategy (see Chapter 3). Policies should address common risk factors specific to high impact clusters of diseases such as obesity, physical inactivity across the life course, and improve socio-economic conditions.

Chapter 6: **Frailty, Falls, and Fractures**

Authors:
Abodunrin Aminu,
Alex Hall, Jane McDermott,
Lisa McGarrigle,
David Sinclair, Chris Todd.

Summary

- In this chapter, we look at the risk of frailty as well as rates of falls and hip fractures amongst older people living in northern regions of England compared to the South East.
- On all these important indicators of the ageing process, the northern regions do statistically worse than the comparator region in the South of England.
- Older people living in the two most northerly parts of England are (North East) 1.61 and (North West) 1.33 times more likely to be frail, 1.16 and 1.06 times more likely to have a fall that requires hospital treatment, and 1.14 and 1.12 times more likely to have a hip fracture compared to older people living in the South East. The cost to the NHS of falls and hip fractures in the North is £55.7m and £258.8m respectively (see Appendix 1).
- In overview, compared to their counterparts living further South, residents of the two most northerly regions of England are more likely to be frail, more likely to fall and more likely to have a fracture. Clearly there could be several drivers for these differences, but deprivation is likely to be a major driver of frailty, falls, and fractures. Steps must be taken to understand and address these regional disparities.

Context: Background to frailty, falls, and fractures

Frailty is a state of increased susceptibility to adverse health outcomes, characterised by diminished strength, endurance, and reduced physiologic function.[103,104] It is estimated that in England, about 8.1% of adults aged 50+ are frail,[105] and prevalence of frailty increases with age (for example, some 2.8% of those aged 50–54 compared to 40.8% for 90+ year olds). Frail individuals experience poorer recovery from minor events and are more clinically vulnerable to multiple adverse health outcomes, including falls, fractures, disability, hospitalisation, admission to residential care, dementia, and death.

Falls are the second leading cause of unintentional injury-related deaths worldwide; some 684,000 fatal falls occur each year.[106] Falls increase with advancing age, approximately one in three community-dwelling adults aged 65 and over fall at least once each year, and for those aged 80+ it is one in two.[107] Falls result in considerable morbidity in older adults.[108] Direct results of falls are minor injuries, 30-50% of falls result in contusions (bruising) and abrasions that do not require medical attention. However, 5-6% result in more major injuries (excluding fractures) that require medical attention, a further 5% result in fractures and some 1% result in hip fractures requiring hospitalisation.[107] As well as physical injuries, people who have fallen present with increased concerns about falling,[109] functional decline, and greater dependence on caregivers. This results in wider societal impact with increased costs on health and social care systems.[110]

Fragility fractures (hip, spine, rib, humerus, radius/ulna or pelvis; fractures requiring relatively low force, e.g. impact from a standing fall and commonly attributed to osteoporosis) increase with age and have an incidence of 38.4 and 98.6 per 10,000 per year in men and women aged 50+ respectively. Of these, hip fractures occur at annual rates of 9.9/10,000 for men and 28.2/10,000 for women.[111] In England, there are some 70,000 hip fractures each year, with serious consequences; about 25% of hip fracture patients die within a year, about 20% do not return home but have to be admitted to care, and about half can no longer walk without walking aids. Hip fractures cost the NHS about £2bn each year. For monitoring purposes, hip fractures provide a very useful case, as nearly all result in hospitalisation and surgery, and thus are identifiable in routine NHS data. We thus focus on hip fractures for this report.

Methods

To map frailty levels across England, we analysed data from the English Longitudinal Study of Ageing (ELSA).[112] Data are presented for each region of England in terms of the odds of being frail compared to the South East. To identify fall and hip fracture rates across England, we analysed data from the Office for Health Improvement and Disparities (OHID) public health profiles,[113] which are presented for each region as age-standardised rate of hospital emergency attendance or admissions per 100,000 population.

Figure 6.1 The likelihood of frailty amongst older people in each region of England, relative to the South East (indicated by red border).

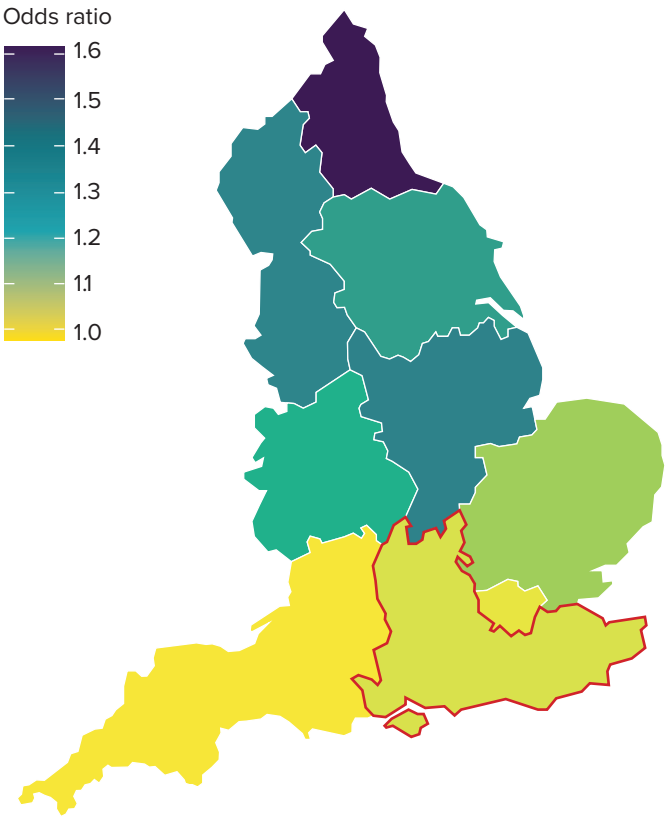


Table 6.1 Likelihood (odds ratios and 95% confidence intervals) of frailty amongst older people in each region of England relative to the South East

Region	Likelihood (Odds Ratio)	95% Confidence Interval
North East	1.61	[1.23-2.11]
North West	1.33	[1.05-1.68]
Yorkshire & the Humber	1.27	[1.00-1.60]
East Midlands	1.33	[1.06-1.65]
West Midlands	1.22	[0.98-1.54]
East of England	1.06	[0.85-1.31]
London	0.99	[0.75-1.29]
South West	0.97	[0.78-1.21]
South East	Reference region (i.e.=1.00)	

Results

Frailty: Figure 6.1 shows that older people living in the North East of England are 60% more likely to be frail than their counterparts in South East England. Likewise, older people living in the North West or East Midlands are a third (33%) more likely to be frail, whilst those living in Yorkshire and the Humber are just over a quarter (27%) more likely to be living with frailty. For all these regions, the results show a real difference from the South East, rather than being within the range of random chance. These results account for the different age, gender, and rurality profiles of each region. In essence, we can see a North-South gradient in frailty, with those in the North being more likely to be frail than those living in the South. The West Midlands, East of England, South West and London do not statistically differ from the South East, even though people in the West Midlands and East regions have slightly higher odds, and South West and London fractionally lower odds of being frail than the South East (Table 6.1).

Falls and Fractures: Compared to the South East of England, people aged 65 years and over living in the most northerly regions have higher rates of falls, (North East ratio =1.16; North West ratio =1.06; Figure 6.2 and Table 6.2). As the confidence intervals do not cross 1.00, we can be confident that this difference is unlikely to be due to chance, and thus represents a real difference between the North and South. These results adjust for the different age profiles of each region. What is notable is that all other regions in England, except London, differ from the South East in that they have lower falls ratios, and the confidence intervals show this is not due to statistical chance. In other words, the North East and North West have higher rates than the South East, London has equivalent rates to the South East, and all other regions of England have lower rates than the South East. Inspection of the age standardised fall admission rates per 100,000 population make the situation clearer (Table 6.2). The North East and North West respectively have admission rates for falls of 2,531 per 100,000 population and 2,320 per 100,000 population, which are considerably higher than all other regions of England and the confidence intervals show this is not due to statistical chance.

Hip Fractures: As with the other data, fracture data (Figure 6.3 and Table 6.3) show a markedly worse position for the two most northerly regions of England, and with indications of a North-South gradient. People living in the most northerly regions have higher rates of hip fracture (North East ratio =1.14; North West ratio =1.12), and again as the confidence intervals do not include 1.00, we can be confident that this probably represents a real difference. On the other hand, the East Midlands and West Midlands both have ratios of 1.07 and the confidence intervals indicate this difference is not due to chance, and Yorkshire and the Humber has a ratio of 1.02, but the confidence intervals for this latter result means we cannot say that it differs from the South East (Table 6.3). However, for hip fractures the most southerly parts of England (East of England, London and South West) either do better than or do not differ from the South East referent region.

Conclusion

Based on these data we can conclude that there is greater risk of frailty in northern regions than in southern regions. People in the North East have the highest risk of frailty, at 61% greater risk than those in the South East. People in the North West have 33% greater risk and those in Yorkshire and the Humber a 27% greater risk. People living in the East Midlands also have a greater risk (33%), but those living in other parts of England do not appear to differ from the South East in terms of risk of frailty. This is not an effect of differences in the age, gender, or rurality between regional populations as we have adjusted for these factors.

Whilst other regions of England (except London) have lower admission rates for falls per head of population than the South East referent, the North East and North West have higher admission rates for falls per head of population. Thus, based on the robust OHID Fingertips data, the North East and North West have the worst overall falls admission age standardised rates per head of population in England. The two most northerly regions of England have higher rates of injurious falls requiring hospitalisation than the other parts of the country.

The conclusion drawn for falls and frailty are reflected in our conclusions about fractures: fracture data show a markedly worse position for the two most northerly regions of England compared to the South East region. Older people are 1.14 (North East) and 1.12 (North West) times more likely to have a hip fracture than their counterparts in the South East. The more southerly parts of England do not differ from the South East in terms of hip fractures, but as we move northwards there is some indication of a North-South gradient.

Figure 6.2 Ratio of falls in each region of England for the period 2021 - 2022, relative to the South East (indicated by red border) for people aged 65 and above.

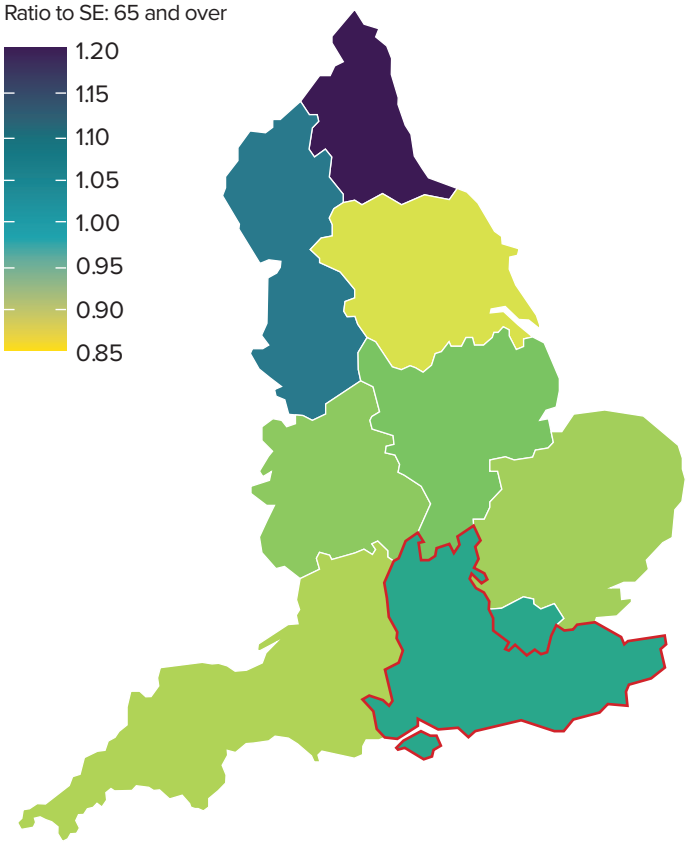


Table 6.2 Falls for the period 2021-22: Rate per 100,000 population of falls admissions and ratio compared to South East in regions of England for people aged 65 and above. Results are adjusted for the different age profiles of each region.

Region	Rate per 100,000 population [95% confidence intervals]		Ratio compared to South East [95% confidence intervals]	
North East	2531	[2488-2574]	1.16	[1.13-1.18]
North West	2320	[2295-2346]	1.06	[1.04-1.08]
Yorks & the Humber	1901	[1875-1928]	0.87	[0.85-0.88]
East Midlands	2009	[1980-2038]	0.92	[0.90-0.93]
West Midlands	1986	[1960-2012]	0.91	[0.89-0.92]
East of England	1959	[1935-1984]	0.89	[0.88-0.91]
London	2187	[2159-2216]	1.00	[0.98-1.02]
South West	1943	[1919-1967]	0.89	[0.87-0.90]
South East	2192	[2171-2213]	Reference region	

Figure 6.3 Ratio of hip fractures in each region of England for the period 2021 - 2022, relative to the South East (indicated by red border) for people aged 65 and above.

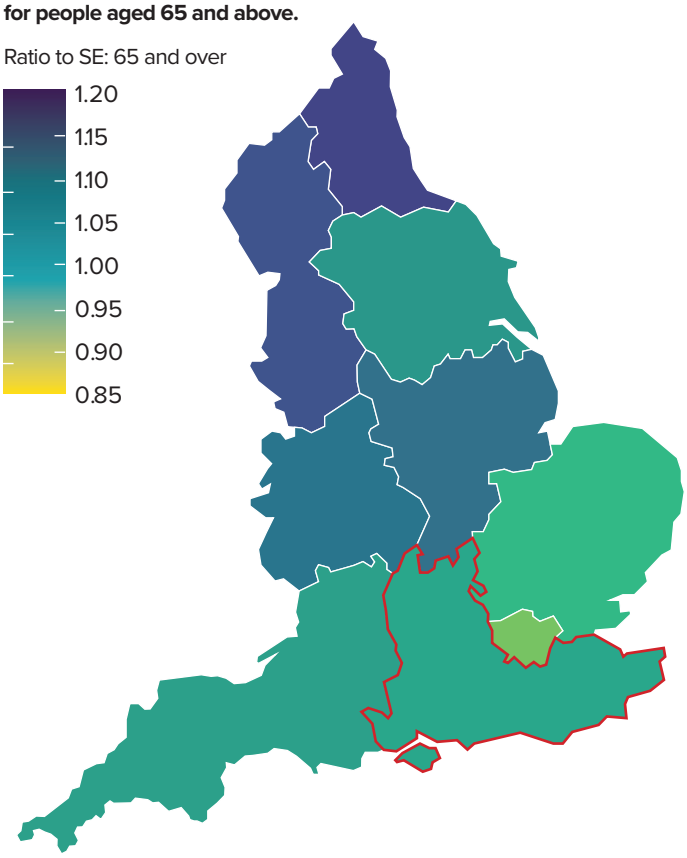


Table 6.3 Hip fractures for the period 2021-22: Rate per 100,000 population of hip fracture admissions and ratio compared to South East in regions of England for people aged 65 and above. Results are adjusted for the different age profiles of each region.

Region	Rate per 100,000 population [95% confidence intervals]		Ratio compared to South East [95% confidence intervals]	
North East	612	[591-634]	1.14	[1.10-1.18]
North West	600	[587-613]	1.12	[1.09-1.15]
Yorks & the Humber	546	[532-561]	1.02	[0.99-1.05]
East Midlands	575	[560-591]	1.07	[1.04-1.10]
West Midlands	571	[557-585]	1.07	[1.04-1.09]
East of England	523	[511-536]	0.98	[0.95-1.00]
London	493	[479-506]	0.92	[0.89-0.95]
South West	540	[528-553]	1.01	[0.98-1.03]
South East	536	[526-547]	Reference region	

Overall, it is clear that older people in the most northerly parts of England fare badly in comparison to those living in the South East of England in terms of three major outcomes of the ageing process; frailty, falls, and fractures. We already know from a number of studies that there is a relationship between deprivation and frailty, falls, and fractures, with greater deprivation being associated with greater risk of all three.[114, 115, 116, 117]

Recommendations

Compared to southern England our findings demonstrate that older people in the North are more likely to be frail, to fall and to be hospitalised for serious hip fractures. We already know that these three conditions have a strong association with social determinants of health and that deprivation is related to greater risk for all three. Nonetheless, there is evidence that frailty can be reversed[118] and this, in turn, reduces fall risk. There is also emerging evidence that resistance strength exercises, and nutrition and strength interventions can prevent and reverse frailty.[119] There is strong evidence that strength and balance exercises prevent falls,[120] and that preventing falls prevents fractures.[121]

In 2010 Marmot and colleagues[122] reported on the key role social determinants play in health inequality, and a decade later reported:[79] "Large funding cuts have affected the social determinants across the whole of England, but deprived areas and areas outside London and the South East experienced larger cuts; their capacity to improve social determinants of health has been undermined" (p.3). Such cuts have undermined efforts to prevent development of frailty, prevent falls and prevent fractures. As well as addressing the deep-seated social inequities that represent the distal determinants of health, the proximal determinants need to be addressed. We recommend ensuring appropriate funding of evidence-based prevention interventions such as Falls Management Exercise (FaME) strength and balance exercises [123, 124] so as to address these north-south inequalities rapidly, as well as addressing "the determinants of determinants" of primordial prevention.[125] Overall, we recommend:

- Increase funding for proven falls prevention programmes, such as interventions recommended in NICE Guideline NG249, especially in the North.
- Integrate resistance and strength exercise alongside nutrition plans to prevent frailty as well as in frailty care pathways to reverse frailty.
- Address both the social determinants of health and urgent health issues simultaneously, to close the gap between the North and South.

*For more information see Appendix 2

Chapter 7: **Physical Activity**

Authors: Abodunrin Aminu, Alex Hall, Jane McDermott, Lisa McGarrigle, David Sinclair, Chris Todd.

Summary

- In this chapter, we look at activity levels amongst older people living in the various regions of England. We identify differences between North and South in terms of the degree to which older people achieve levels of activity recommended by the UK Chief Medical Officers for healthy ageing.
- Physical inactivity amongst people 55 and over is higher in the North East (31%), North West (28%), and Yorkshire and the Humber (29%) than the South East (22%), contributing an estimated £256.3 million annual cost to the economy (see Appendix 1).
- Compared to their southern counterparts, older residents in the North of England are also more likely to be inactive and less likely to achieve healthy levels of either aerobic or muscle-strengthening exercise than older people in the South.
- There could be several drivers for these differences, but deprivation is known to be associated with greater levels of inactivity. Steps must be taken to understand and address these regional disparities, since regular physical activity is a key determinant of healthy ageing.
- Interventions should address inactivity among older adults by offering a range of appropriately labelled, appealing and accessible activities, including community based structured exercise classes, free or subsidised access to leisure facilities, and investment in parks, neighbourhood recreational facilities, active transport etc. Such investment must be targeted to ensure a reduction in inequalities between North and South.

Context: Background to physical activity

Regular physical activity contributes to the key determinants of healthy ageing. There is strong evidence for the benefits of physical activity throughout the lifespan.[126] In older adults, physical activity is protective across a range of chronic conditions (e.g. coronary heart disease, obesity, type 2 diabetes, falls and fractures, and mental health problems). The UK Chief Medical Officers make very clear recommendations about the benefits of physical activity and the amount of activity that adults and older adults (aged 65 and over) should undertake each week (Figure 7.1 and Box 7.1).

Despite these recommendations, older adults are the most inactive age group in the UK. Inactivity levels increase with age; only 19% of adults aged 65-74 and 10% of those aged 75+ meet recommended guidelines for aerobic and muscle-strengthening activities.[127] Physical inactivity is associated with 1 in 6 deaths and is estimated to cost the UK £7.4 billion each year.[128] The COVID-19 pandemic made things worse to the detriment of health and there was a marked decline in older adults' physical activity levels during the pandemic lockdown period.[129]

In this chapter we focus on activity levels of older people in the different regions of England, comparing the numbers of people aged 55+ who are inactive (doing less than 30 minutes equivalent of activity per week), and those who meet Chief Medical Officers' guidelines of at least 150 minutes equivalent of activity per week across regions. To do this, we used data on older people from Sport England's Active Lives Survey 2022-2023.[130]

Results

Inactivity: Figures 7.2 and 7.3 and Table 7.1 present levels of inactivity (<30 minutes of activity per week) in the regions of England for those aged 55+. It is quite clear that people living in the northerly regions are more likely to be inactive than those living in southern regions, with some 5-10% more people being inactive in the most northern regions compared to the most southerly. Some 31% of those aged 55-74 and 53% of those aged 75 or older living in the North East are inactive compared to 22% and 41% respectively in the South East. The figures for the North West are 28% and 48% and for Yorkshire and the Humber 29% and 48%. Confidence intervals for all these estimates are tight (±0.1%) with no overlap between the northern and southern regions, suggesting actual differences (Table 7.1). The map presented in Figure 7.3 suggests there is a North-South

Figure 7.1 Infographic of UK Chief Medical Officers' Physical Activity Guidelines for Adults (including older adults)[126]

Box 7.1 UK Chief Medical Officers' Physical Activity Guidelines for Older Adults (65 years and over)[126]

- Older adults should participate in daily physical activity to gain health benefits, including maintenance of good physical and mental health, wellbeing, and social functioning. Some physical activity is better than none: even light activity brings some health benefits compared to being sedentary, while more daily physical activity provides greater health and social benefits.
- Older adults should maintain or improve their physical function by undertaking activities aimed at improving or maintaining muscle strength, balance and flexibility on at least two days a week. These could be combined with sessions involving moderate aerobic activity or could be additional sessions aimed specifically at these components of fitness.
- Each week older adults should aim to accumulate at least 150 minutes of moderate intensity aerobic activity, building up gradually from current levels. Those who are already regularly active can achieve these benefits through 75 minutes of vigorous intensity activity, or a combination of moderate and vigorous activity, to achieve greater benefits. Weight-bearing activities which create an impact through the body help to maintain bone health.
- Older adults should break up prolonged periods of being sedentary with light activity when physically possible, or at least with standing, as this has distinct health benefits for older people.

Figure 7.2 Percentage of population aged 55+ that are inactive (<30 minutes/week) by age and region (Nov 2022-2023)

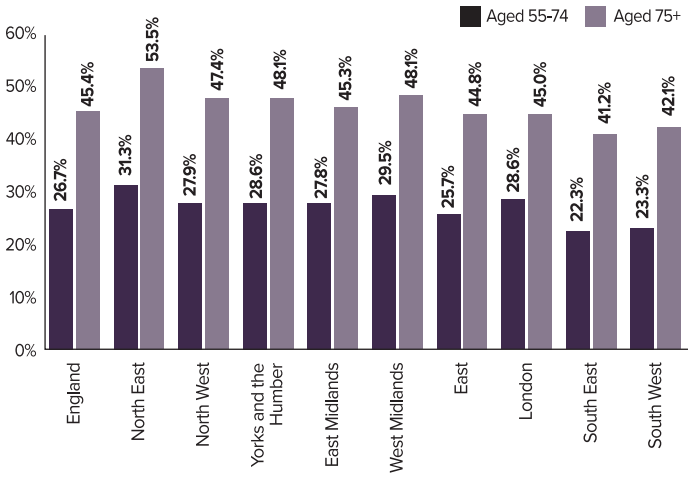


Figure 7.3 Percentage of population aged 55+ that are inactive (<30 minutes/week) by region (Nov 2022-2023) Note: Mean percentage for England=31.9%

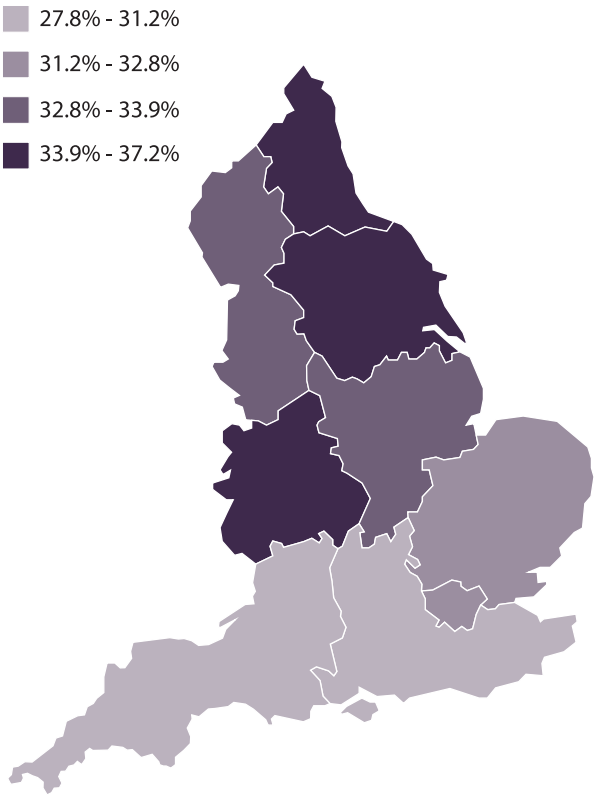


Table 7.1 Percentage of population aged 55+ that are inactive (<30 minutes/week) by region

Region	Percentage for Age 55-74 [95% CI]	Percentage for Age 75+ [95% CI]	Percentage for Age 55+ [95% CI]
England	26.7 [26.7-26.7]	45.4 [45.4-45.4]	31.9 [31.9-31.9]
North East	31.3 [31.2-31.4]	53.5 [53.3-53.7]	37.2 [37.1-37.3]
North West	27.9 [27.8-28.0]	47.6 [47.5-47.7]	33.2 [33.1-33.3]
Yorks and the Humber	28.6 [28.5-28.7]	48.1 [48.0-48.2]	33.9 [33.8-34.0]
East Midlands	27.8 [27.7-27.9]	46.3 [46.2-46.4]	32.8 [32.7-32.9]
West Midlands	29.5 [29.4-29.6]	48.1 [48.0-48.2]	34.8 [34.7-34.9]
East of England	25.7 [25.6-25.8]	44.8 [44.7-44.9]	31.2 [31.1-31.3]
London	28.6 [28.5-28.7]	45.0 [44.9-45.1]	32.6 [32.5-32.7]
South East	22.3 [22.2-22.4]	41.2 [41.1-41.3]	27.8 [27.8-27.8]
South West	23.3 [23.2-23.4]	42.1 [42.0-42.2]	28.9 [28.8-29.0]

gradient. It is noteworthy that about 20% more of 75+ year olds are inactive than those aged 55-74 years, and this is reasonably consistent across the country (Table 7.1).

Achieving Chief Medical Officers' Guidelines: Across England, some 57% of those aged 55+ achieve ≥150 minutes of activity per week (Table 7.2). The pattern for being active is perhaps best characterised by noting that a greater proportion of older people in the South East and South West regions are active than the rest of the country, with about 60% of those aged 55+ achieving ≥150 minutes of activity per week (Figure 7.4). In the other regions, about 56% of those aged 55+ are active, except for the North East and West Midlands, where about 53% are active. Confidence intervals for these estimates are tight (±0.1%) with no overlap between the two southern regions and the rest of the country, and no overlap between the North East and West Midlands and the rest of the country.

Figure 7.4 Percentage of population aged 55+ achieving Chief Medical Officers' Guidelines (≥150 minutes/week) by age and region (Nov 2022-2023)

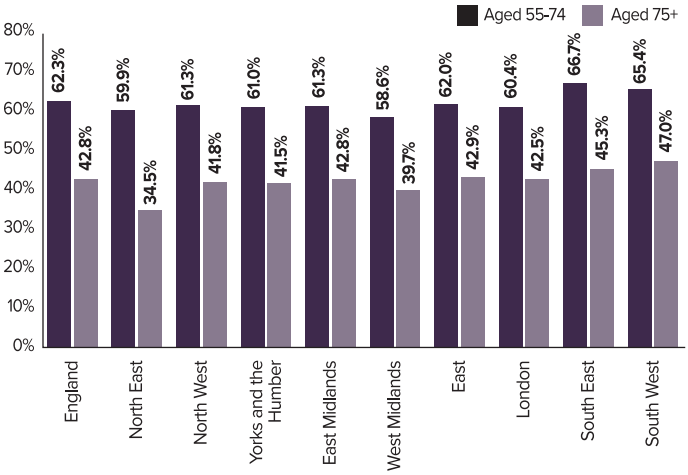
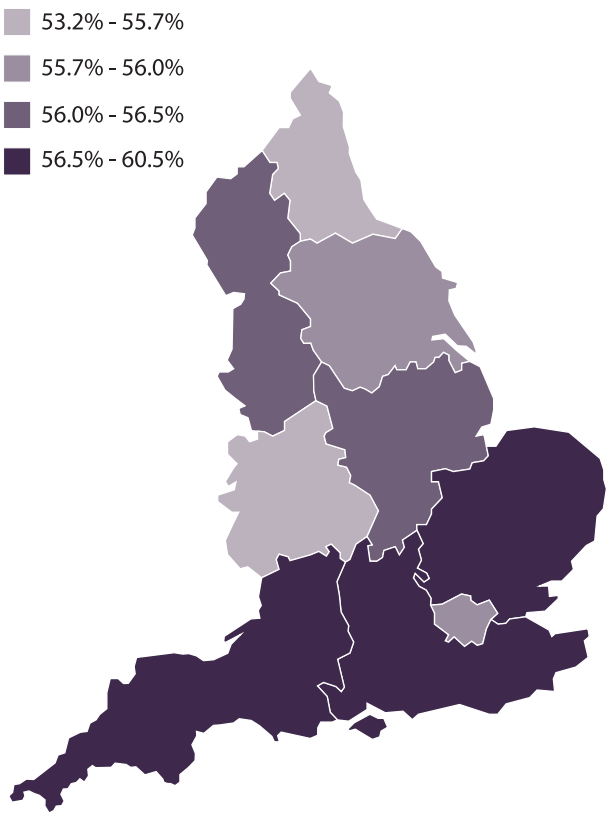


Figure 7.5 Percentage of population aged 55+ achieving Chief Medical Officers' Guidelines (≥150 minutes/week) by region (Nov 2022-2023) Note: Mean percentage for England=56.9%



In essence, this shows that people aged 55+ in the South East and South West are more likely to be active than the average for England, and those in the North East and West Midlands are more likely to be less active than average (Figure 7.5).

Muscle strengthening

On average in England, only 40% of people aged 55+ years (43.1% of those aged 55-74; 30% of those aged 75+) achieve the Chief Medical Officers' recommendation of two or more sessions of muscle strengthening activity (activities where muscles feel some tension, shake, or feel warm) each week (Figures 7.6 & 7.7). In the North East, only 35% achieve this level of muscle strengthening exercise, which compares unfavourably with the South East where 44% achieve this level (Table 7.3). Again, confidence intervals for these estimates are tight (±0.1%) and it is noteworthy that no regions overlap. Within each region, there is about 18-20% difference between the 55-74 year old age group and the 75+ age group, but it is notable that in the North East some 25% fewer 75+ year olds do strength training than their younger counterparts.

Conclusion

Based on these data, we can conclude that older people in the South of England are more likely to be physically active, achieving Chief Medical Officers' Guidelines of ≥150 minutes of exercise each week, than their counterparts living in the North. Older people living in the South are also less likely to be inactive (doing <30 minutes of activity), than older people living in the North. People in the South are also more likely to undertake recommended levels of muscle strengthening exercise each week than older people living further North.

These data for older people's activity levels reflect data for the population more generally. Our data demonstrate that nationally, 57% of people aged 55+ and 43% of those aged 75+ achieve the Chief Medical Officers' guidelines for activity. Age-standardised data for all adults reveal that nationally 64% achieve the Chief Medical Officers' guidelines for activity, although in the North West (58%) and North East (61%) achieve this. The other regions (except for West Midlands - 60%) either exceed the national average, or equal that average.[131] The Health Survey for England data (for all ages) demonstrate a clear relationship between deprivation and activity level.[131] Those people living in the most deprived areas of England are least likely to meet activity guidelines and most likely to be inactive. There is a wide literature linking socioeconomic determinants to physical inactivity, with greater inactivity related both to deprivation, as well as with age.[132] These relationships are also true for strength. After mid-30s strength declines with age and is lower amongst those with lower socio-economic position.[133] It is also the case that across the UK older people from minoritised ethnic groups are less likely to be physically active.[134] It is quite clear from Chapter 3 that a poverty gap exists between the North and the South of England, and that there is a long history of poverty, inequality, and deprivation in the North of England which persists into older age.

Recommendations

Addressing these inequalities in physical activity and muscle strengthening exercise levels between North and South should be a policy imperative, as physical activity is a key determinant of healthy ageing; physical inactivity leads to poorer health. There is strong evidence for the benefits of physical activity throughout the lifespan. Thus:

- Guidelines do not suffice to ensure older people undertake sufficient levels of physical activity and muscle strengthening exercise for healthy ageing. Many older people are not aware of the guidelines [135] and instructors do not fully implement them.[136] Thus, guidelines must include action plans to implement recommended levels of activity, and investment to enable delivery so that improvements in activity can be achieved.
- Interventions need to address not only the sub-optimal levels of physical activity observed overall, but also the inequalities in those

Table 7.2 Percentage of population aged 55+ achieving Chief Medical Officers' Guidelines (≥150 minutes/week) by region

Region	Percentage for Age 55-74 [95% CI]	Percentage for Age 75+ [95% CI]	Percentage for Age 55+ [95% CI]
England	62.3 [62.3-62.3]	42.8 [42.8-42.8]	56.9 [56.9-56.9]
North East	59.9 [59.8-60.0]	34.5 [34.3-34.7]	53.2 [53.1-53.3]
North West	61.3 [61.2-61.4]	41.8 [41.7-41.9]	56.0 [55.9-56.1]
Yorks & the Humber	61.0 [60.9-61.1]	41.5 [41.4-41.6]	55.7 [55.6-55.8]
East Midlands	61.3 [61.2-61.4]	42.8 [42.7-42.9]	56.2 [56.1-56.3]
West Midlands	58.6 [58.5-58.7]	39.7 [39.6-39.8]	53.2 [53.1-53.3]
East of England	62.0 [61.9-62.1]	42.9 [42.8-43.0]	56.5 [56.4-56.6]
London	60.4 [60.3-60.5]	42.5 [42.4-42.6]	56.0 [55.9-56.1]
South East	66.7 [66.6-66.8]	45.3 [45.2-45.4]	60.5 [60.4-60.6]
South West	65.4 [65.3-65.5]	47.0 [46.9-47.1]	59.9 [59.8-60.0]

Figure 7.6 Percentage of population aged 55+ achieving Chief Medical Officers' Guidelines of 2+ strength training sessions per week by age and region.

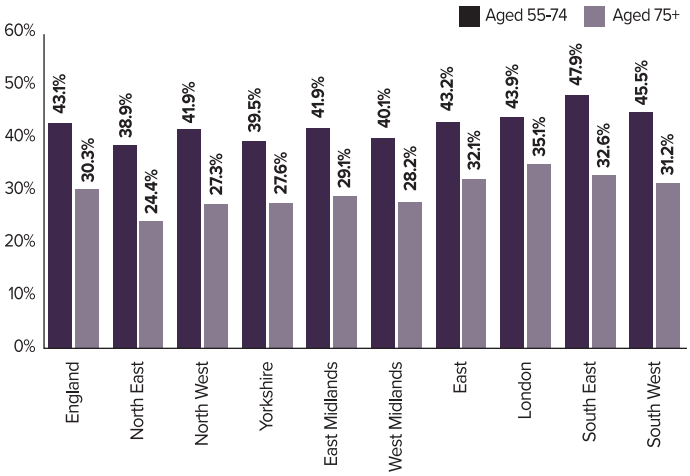
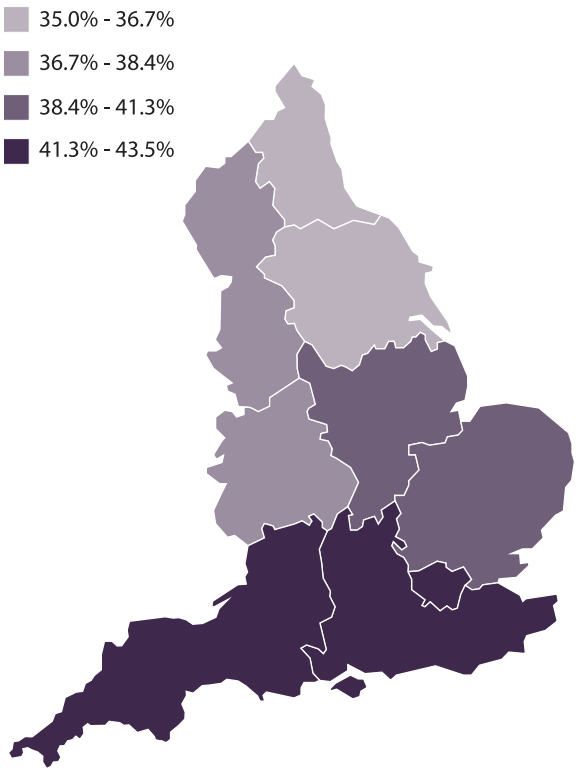


Figure 7.7 Percentage of older people (aged 55+) achieving Chief Medical Officers' Guidelines of 2+ strength training sessions per week by region (Nov 2022-2023) Note: Mean Percentage for England=39.6%



levels between North and South with particular reference to the socioeconomic determinants of physical inactivity which differentially affect deprived and marginalised communities.

- Policymakers and practitioners need to ensure that older adults have a range of appropriately labelled, appealing, and accessible activities available which are easy to access and easy to remain involved in.[137]
- Opportunity to take part in activity needs to be made available to address the inequalities observed. Such opportunity will include community provision aimed at engaging older adults in formal programmes of structured exercise including strength and balance as well as aerobic components; access to leisure facilities with reduced cost,[138] as well as investment in infrastructure including leisure facilities, parks, neighbourhood recreational facilities, active transport opportunities etc. However, such investment must aim to reduce inequalities, because evidence exists that such infrastructure improvements may be inequitably distributed and inadvertently exacerbate inequalities.[139]

*For more information see Appendix 3

Table 7.3 Percentage of population aged 55+ achieving Chief Medical Officers' Guidelines of 2+ strength training sessions per week by age and region

Region	Percentage for Age 55-74 [95% CI]	Percentage for Age 75+ [95% CI]	Percentage for Age 55+ [95% CI]
England	43.1 [43.1-43.1]	30.3 [30.3-30.3]	39.6 [39.6-39.6]
North East	38.9 [38.8-39.0]	24.4 [24.2-24.6]	35.0 [34.9-35.1]
North West	41.9 [41.8-42.0]	27.3 [27.2-27.4]	38.0 [37.9-38.1]
Yorks & the Humber	39.5 [39.4-39.6]	27.6 [27.5-27.7]	36.2 [36.1-36.3]
East Midlands	41.9 [41.8-42.0]	29.1 [29.0-29.2]	38.4 [38.3-38.5]
West Midlands	40.1 [40.0-40.2]	28.2 [28.1-28.3]	36.7 [36.6-36.8]
East of England	43.2 [43.1-43.3]	32.1 [32.0-32.2]	40.0 [39.9-40.1]
London	43.9 [43.8-44.0]	35.1 [35.0-35.2]	41.7 [41.6-41.8]
South East	47.9 [47.8-48.0]	32.6 [32.5-32.7]	43.5 [43.4-43.6]
South West	45.5 [45.4-45.6]	31.2 [31.1-31.3]	41.3 [41.2-41.4]

Chapter 8: **Nutrition**

Authors: Sorrel Burden, Oliver Shannon, Tom Hill, Chloe French, and Debra Jones

Summary

- A nutritionally adequate and well-balanced diet is crucial in late adulthood for maintaining health, well-being, and functional independence.[140]
- A lack of sufficient intake or access to an adequate diet often stems from food insecurity, defined as 'inconsistent access to enough safe and nutritious food obtained in socially acceptable ways'.[141]
- Moderate food insecurity implies that acquiring food is unpredictable, and meeting other basic needs may have to be sacrificed to ensure enough to eat. Individuals who are socially isolated or living in deprived conditions face a higher risk of food insecurity.[142, 143] Consequently, those experiencing food insecurity are more likely to be obese and consume a poor diet.
- Poor nutritional status and inadequate dietary intake are linked to higher rates of chronic diseases, adversely affecting years lived without disability, overall mortality, and the prevalence of conditions such as diabetes, cardiovascular disease, cognitive decline, and certain cancers.[144]
- Data from the Office for National Statistics, National Diet and Nutrition Survey, The Newcastle 85+ cohort, and the UK Biobank highlight significant disparities in food insecurity, nutritional status, and dietary intake between the North and South.
- Food insecurity is more prevalent among older adults in the North of England, worsening inequalities in chronic disease rates.
- Northern adults aged 65 and over have 27% higher odds of experiencing food insecurity compared to older adults in the South of England.

Context

This chapter explores nutrition disparities in the UK, drawing on data from the Office for National Statistics, National Diet and Nutrition Survey, the English Longitudinal study of ageing (ELSA), The Newcastle 85+ cohort, and the UK Biobank to examine varying levels of food insecurity among adults. It highlights differences in nutrient intake and nutritional status, specifically among adults aged 65 and older and the 85+ cohort. Using UK Biobank data and ELSA, the analysis also details regional variations between the North and South in dietary intake and nutritional status.

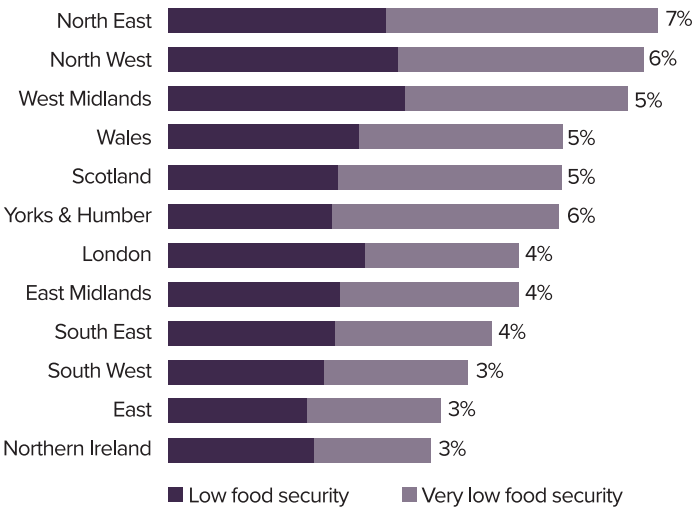
This research has been conducted using the UK Biobank Resource under Application Number 82353.

Food security

Food insecurity is defined 'as a limited or unreliable access to nutritionally adequate food'[145] and is a key determinant of poor nutritional status including both undernutrition and obesity as well as a contributing factor to a poor overall diet. Poor diets may have excessive or inadequate nutrients including high fat, low fruit and vegetables, and increased consumption of processed foods, which are associated with poorer health outcomes.[146, 147] Health outcomes linked to a poor diet include diabetes, cardiovascular disease, and some cancers.[144]

Recent figures from the Trussell Trust show that pension-age households in the UK are increasingly likely to access a food bank, with an increase of 345% between 2018/19 and 2023/24.[148] Reasons for pensioners accessing a food bank were mainly due to issues with their health or issues with their income or debt levels.[148] Food insecurity rates tend to be higher in groups with lower incomes and a 2024 report of food poverty in the UK stated that 4% of pensioners who were in relative poverty were living in food insecure households.[149] This equates to approximately 108,000 pensionable aged adults in the UK living with food insecurity

Figure 8.1 People in low and very low food security households by country and region over a three-year period (2020/2021-2022/2023)

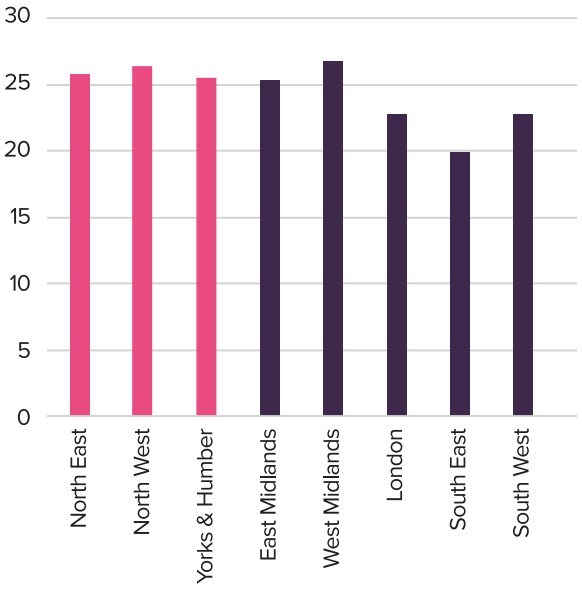


Source: https://commonslibrary.parliament.uk/who-is-experiencing-food-insecurity-in-the-uk/

Table 8.1 BMI for participants ≥65 years in the North versus the South of England

	North n(%)	South n(%)
Underweight/ healthy	10099 (26.7)	12372 (31.3)
Overweight	17897 (47.4)	17924 (45.3)
Obese	9771 (25.9)	9268 (23.4)
Total	37767	39564

Figure 8.2 Obesity prevalence in those ≥65 years by region



(Obesity has been defined as BMI ≥ 30kg/m2)[152] Source: UK Biobank

using Office for National Statistics data on ageing for the UK population.[150]

Additionally, 11% of working-age adults are living in food insecure households.[145] In the North, adults are twice as likely to experience some form of food insecurity with the North East, and North West reported to have the highest levels where 12% of adults are living in households with low food security or very low food security (Figure 8.1).[151] Adults living in the North of England moving into retirement over the next decade are therefore more likely to incur the consequences of food insecurity including higher rates of obesity and poor dietary intake over the life course. Consequently, resulting in higher levels of diabetes, high blood pressure, cardiovascular disease, and some cancers.

Data from ELSA on 4,050 participants aged 65 years and older revealed 27% higher odds of food insecurity among older adults living in the North of England compared to those in the South of England (OR 1.27, 95% CI 1.00, 1.60).

Nutritional status: obesity

Obesity has been consistently associated with increased levels of non-communicable disease and is characterised by an excess of fat deposits due primarily to excessive energy intake.[152] Adults 65 years and older in the North of England are more likely to be overweight (OR = 5.56 95% CI: 1.18, 1.27, p<0.0001) or obese (OR= 1.22 95% CI: 1.18 to 1.27, p<0.0001) than those in the South (Table 8.1).

Diet quality between the North and South of England in adults aged 65 years and over

The Eatwell guide provides recommendations for a healthy balanced diet aimed at the UK population.[153] To determine if dietary intake differed between older adults within the UK, seven different dietary components were considered that are mapped to the Eatwell guide and included:

- consuming five or more portions of fruit and vegetables a day,
- eating wholegrain bread and cereals,
- opting for low-fat milk,
- having two portions of fish a week, one of which is oily,
- consuming processed meat less than once a week,
- opting for low-fat spreads and limiting added salt to diet,
- having adequate fluid intake (at least six cups of tea, coffee, water a day).

Data showed that older adults were opting for wholegrain options and low-fat milk, but fewer were consuming sufficient fruit and vegetables or fish (Table 8.2). Overall adherence to the above Eatwell guidelines was also calculated, and a score of less or equal to three indicates low adherence, a score of 4-5 represents moderate adherence, and a score of 6-7 indicates high adherence.[154] Most older adults had moderate adherence as demonstrated by Figure 8.4. Older adults in the North of England were less likely to have moderate (OR: 0.85, 95% CI: 0.80, 0.90, p<0.0001) or high adherence (0.81, 95% CI: 0.76, 0.87, p<0.0001) to the Eatwell guide compared to older adults in the South of England.

Nutrient differences between those in the North-East of England and National Diet data for adults 85 years and older

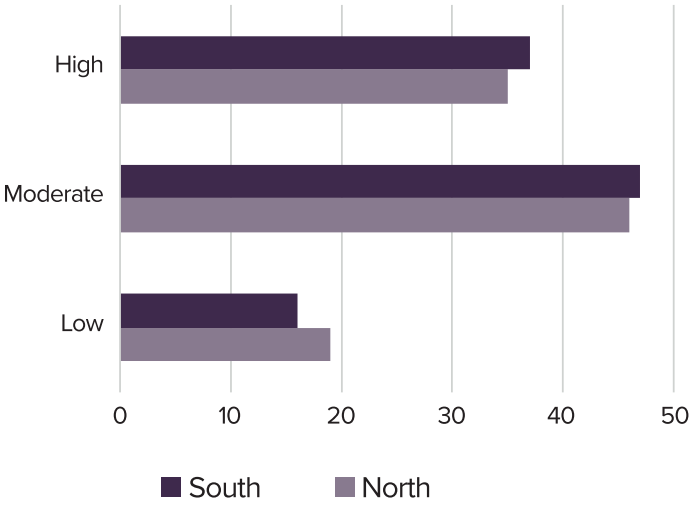
Data from the National Diet and Nutrition Survey (NDNS)155 and the Newcastle 85+ cohort have been compared to show differences between older adults in the North East of England [156, 157] and a sample of participants recruited across the rest of England. The comparisons showed the following:

- Energy and protein intake: Median dietary energy and protein intakes were similar between the two groups. Energy intake was 1,534 kcal/day in the Newcastle 85+ Study[156] and 1,588 kcal/day in the NDNS.[155] Protein intake was 61.3 g/day in the Newcastle 85+ Study[156] and 60.5 g/day in the NDNS.[155] Both groups had suboptimal dietary energy and protein intakes, increasing the risk of malnutrition and sarcopenia.

Table 8.2 Overall adherence to the Eatwell guide for older adults divided by the North and South

Adherence to guideline:	North, n (column %)	South, n (column %)
≥5 portions of fruit and veg	14,979 (39.5)	16,881 (42.5)
Wholegrain bread/ cereal	19,002 (60.5)	20,458 (63.5)
Low fat milk	34,235 (90.3)	35,295 (88.9)
2 portions fish/ week (1 oily)	21,969 (58.4)	22,335 (56.8)
Processed meat ≤1 / week	25,531 (67.4)	27,677 (69.9)
Low fat spread and low salt	14,771 (71.0)	16,030 (74.4)
≥6 drinks (tea, coffee, water) / day	26,373 (80.5)	28,047 (81.5)

Figure 8.4 Figure demonstrating adherence to the Eatwell guidelines in the North versus the South of England.



(Low adherence to 0-3 components, moderate adherence 4-5 components and high adherence 6-7 components of the Eatwell guide.)

- Carbohydrate and fat intake: Median carbohydrate intakes were 194 g/day in the Newcastle 85+ Study[156] and 177 g/day in the NDNS.155 Median dietary fat intakes were 65 g/day in the Newcastle 85+ Study and 59 g/day in the NDNS.
- Micronutrient intake: Dietary intakes of micronutrients such as iron, calcium, and folate were very similar between the cohorts.[155, 157] However, there is potential evidence of lower intakes of vitamin B12 (difference of −2.0 µg/day) and vitamin D (difference of −0.6 µg/day) in the Newcastle 85+ participants.[157]
- Micronutrient deficiencies: Published findings from the Newcastle 85+ cohort[158, 159] show a high prevalence of biochemical deficiencies in vitamin D (33%) and selenium (up to 80%). These deficiencies were associated with poorer cognitive outcomes.[160, 161,

Sources National Diet and Nutrition Survey and The Newcastle 85+ cohort

Differences between North and South in nutrients related to cognitive function

Dementia affects around 1 million individuals in the UK and is the leading cause of death, accounting for 11.6% of all deaths registered in England and Wales in 2023.[162] Age-standardised dementia incidence is higher in the North of England compared with the South,[163] consistent with broader North-South health inequalities. There are a range of diet-related factors which could contribute towards the higher rates of dementia in the North and could be targeted to help lower dementia incidence and dementia related mortality in this region. Firstly, food insecurity is a key risk factor for dementia[164, 165] and is higher in the North versus South. For example, the North East and North West have the highest rates of food insecurity with approximately 12% of all households living with food insecurity, compared with approximately 6% in the East, approximately 7% in the South West and approximately 8% in the South East.[151]

Diet quality is also an important determinant of dementia risk, influencing key modifiable risk factors including obesity, type 2 diabetes, hypertension, and LDL cholesterol concentrations.[165] The leading dietary approach linked to dementia prevention is the Mediterranean diet, higher adherence to which is associated with greater cognitive function[167] and approximately 20% lower dementia incidence in large UK cohorts.[168] Meanwhile, adherence to the Eatwell Guide has been associated with lower mid-life dementia risk factors, including BMI and blood pressure.[169] Adherence to the Eatwell Guide is typically low across the UK, with one study showing <0.1% of the UK population meeting all Eatwell Guide recommendations and most individuals meeting less than half of the recommendations.[154] However, there are specific aspects of diet in the North, which could require particular attention to lower dementia risk, including the typically lower intake of fruits and vegetables and higher intake of sugar sweetened beverages[170] alongside greater prevalence of high-risk drinking.[171]

Conclusion

Older adults 65 years and over are increasingly facing food insecurity with higher rates being found in the North of England compared to the South. Additionally, a higher prevalence of obesity is observed among older adults in the North of England compared to the South. A greater proportion of older individuals in the North fail to adhere to the Eatwell Guide compared to their counterparts in the South. Food insecurity, poor nutritional status, and inadequate dietary intake contribute to elevated risks of diabetes, cardiovascular disease, cognitive decline, and certain cancers. These differences in dietary habits and nutritional status are exacerbating the existing health disparities between the North and South of England. The finding from the Newcastle 85+ Study, highlight that poor nutrient intakes are common in adults 85 years and over. Even when considering the small sample of adults 85 and over in the NDNS and the potential issues with representativeness of the NDNS.

Recommendations

- Older people living with food insecurity need to be better tracked so communities, local councils, government, and policies can better support those living with food insecurity in later life.
- Strategies to engage older adults in affordable food choices and healthy eating in later life are required.
- Establishing specific recommendations for older adults within the UK would allow a renewed focus on important nutrients required for later life.
- Data in those 85 years and over show that low nutrient intakes and deficiencies warrants attention from a public health perspective, given the associated risks of macronutrient malnutrition and micronutrient deficiencies.
- Low diet quality and food insecurity are major risk factor for dementia, the leading cause of mortality in the UK. Identifying the optimal dietary approaches to lower dementia risk, and ensuring feasibility and scalability across different population groups, is a major priority.

Chapter 9: **Dementia and Cognitive Frailty**

Authors: Mohaddeseh Ziyachi, Daniel Clarkson, Caroline Swarbrick, Brian Castellani, Charlotte Clarke, Carol Holland

Summary:

This chapter explores dementia and cognitive frailty – a syndrome of combined cognitive and physical impairments distinct from dementia – and their relationship to social inequalities in the North compared with the rest of England.

- Dementia prevalence in older adults (60+ or 65 and over, depending on data) shows no clear regional differences across England.
- For those under 65, regional disparities emerge, with the North experiencing higher rates of early-onset dementia.
- We hypothesise that accelerated physiological ageing, linked to shorter healthy life expectancy and higher deprivation, contributes to earlier dementia diagnoses in these areas.
- This hypothesis aligns with evidence showing higher rates of cognitive frailty, a precursor to dementia, in the North.
- Key risk factors (e.g., low education, pollution) are either more prevalent in the North or interact with poverty in ways that heighten vulnerability to dementia and cognitive frailty.
- A case study from Salford illustrates neighbourhood-level dementia support, leading to policy recommendations.

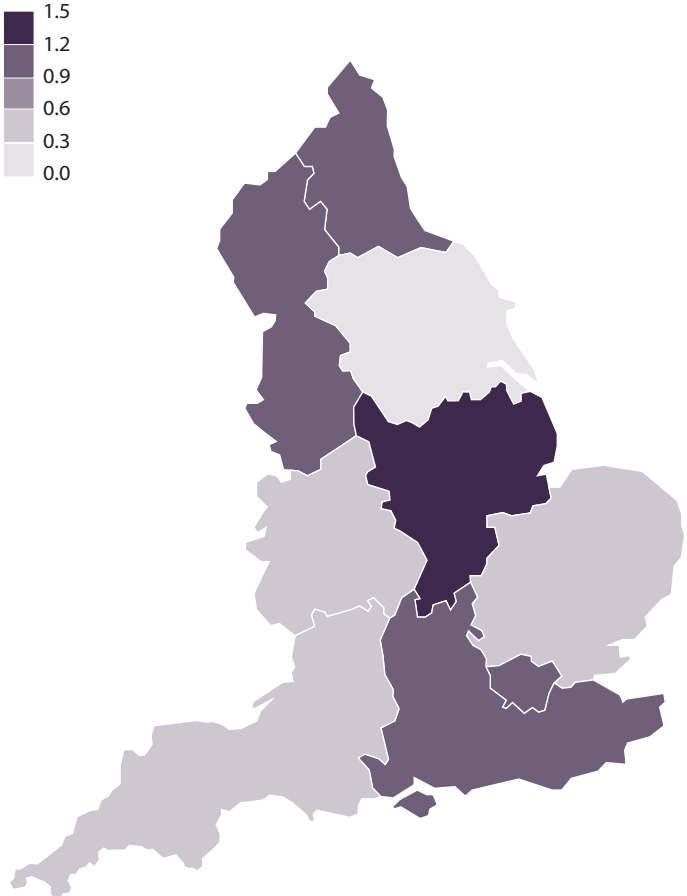
Context and definitions

Dementias are a group of neurodegenerative disorders associated with illnesses with demonstrable brain and nervous system degeneration, resulting in cognitive function decline and other symptoms, occurring in people who have had normal brain development. There are different underlying disease patterns, the most common (around 60%) being due to Alzheimer's Disease. Other dementia types include vascular dementia, dementia with Lewy bodies, frontal-temporal dementia, and other less common types. Early symptoms differ between the different types but dementia as a group of syndromes can be defined as a progressive decline in all or most intellectual functions, resulting from a gradual degeneration of brain tissue.

Cognitive frailty (CF) is defined as the co-occurrence of physical frailty with cognitive impairment without dementia.[172] Although it increases risk of eventual dementia (more than mild cognitive impairment alone), it is an important syndrome because it has been described as potentially reversible.[173, 174] We argue that addressing cognitive frailty emphasises the opportunity this largely pre-clinical syndrome presents for building healthier older age in our regions.

Although neither condition is an inevitable part of ageing[175, 176], they are common public health issues among aged populations. Almost one million people (928,000) live with dementia in the UK, predicted to reach 1.4 million in 2040.[276] There are no published data on prevalence of CF in the UK, but international studies indicate up to 9% of community-dwelling adults aged 60 years and above live with CF.[177] Our analysis based on the English Longitudinal Study of Ageing (ELSA) shows a similar level in that 7.1% of respondents aged over 60 in Wave 10 were cognitively frail (see below).

Figure 9.1 Weighted percentage of people aged over 60 who are living with dementia in England (based on ELSA data Wave 10)



Wider determinants

Wider determinants play a vital role in dementia and CF, with implications as a consequence of how they are distributed in the North of England. Social factors such as education, inequalities, pollution exposure, loneliness, and access to healthcare services impact onset and progression of these disorders.[178, 179, 180] The experience of living with dementia or cognitive frailty is also shaped by the social and neighbourhood environment that surrounds someone – which is why, for example, part of the plan for mitigating or managing these diseases requires ambitious public health policies that emphasise, amongst other things, peer support networks and other psycho-social and community-focussed interventions.[181]

Dementia in the North of England

The English Longitudinal Study of Ageing (ELSA),[182] provides a representative sample of people aged over 50 and includes a self-reported diagnosis of dementia made by a doctor or other health professional for each person.

For the over 60s, dementia diagnosis figures from ELSA Wave 10 suggest that there are no clear trends for differences in prevalence between North and South England (Figure 9.1). The East Midlands has the highest proportion of individuals with dementia after weighting with 1.35% (around 1 in 74 people), followed by London (1.27%, ~1 in 79 people) and the North West (1.15%, ~ 1 in 87 people). The region with the lowest proportion is Yorkshire and the Humber, with only around 1 in 226 over 60's (0.44%). These figures are lower than national prevalences reported elsewhere (see the "Fingertips" data below) as many people living with dementia may not choose to or be able to take part in a study such as ELSA but nevertheless would still be expected to reflect regional prevalences.

Data in Table 9.1 from the Department of Health and Social Care Fingertips public health profiles (Dementia Profile - Data | Fingertips | Department of Health and Social Care) is based on data from Integrated

Care Boards (ICBs). For those aged 65 and over, there is also no clear North-South divide.

Risk factors for dementia and cognitive frailty

Despite the lack of North-South trends in dementia prevalence in broad regions, we know that certain risk factors in specific local regions may predict higher levels of cognitive frailty and dementia in individual places. A range of socio-cultural, environmental, socio-economic, and psychological factors, in association with biological mediators and ageing mechanisms, act as the risk factors for cognitive frailty.[176] Therefore, unequal socioeconomic opportunities should be considered in designing interventions, prevention, and care.

For instance, cognitive reserve (ability to cope and compensate for mild impairment and neurodegeneration) is highly influenced by level of education. Poor cognitive reserve and low education have been implicated as risk factors for cognitive frailty [176] and low education as a risk factor for dementia.[166, 183] Education may also affect access to public health information and adopting a healthy lifestyle which reduces the risk. In the UK, there are regional educational inequalities. For example, the West Midlands has the greatest percentage of individuals without qualifications, at 21.1% (1.0 million). North East England has the lowest proportion of people with Level 4 or above qualifications.[184] Considering the intersection of education and gender, the North East has the highest proportion of women with no qualifications in England (22.3%), followed by Yorkshire and the Humber (22.0%), and the North West (20.6%). This proportion is 16% for each of London, South East, and South West.[185]

Cognitive reserve is also influenced by the cognitive stimulation of cognitively complex occupations, but people in parts of the North are less likely to still be in employment over the age of 50 than people in other regions. For example, the 2025 Centre for Ageing Better State of Ageing report showed that the difference between employment rates for those aged 30-49 and those aged 50-65 was greatest in the North East of the country (although much lower in the North West).[1] An average of 41% of those aged 50-65 who are not in work cite poor health as the reason, with this rising to 50% in the North West. The impacts of health disparities clearly include work exit, but the relationship of cognitive stimulating jobs to cognitive reserve, and consequent impacts on dementia and cognitive frailty illustrate that employment in later life has wide ranging positive impacts.

An important risk factor for dementia and cognitive decline in later life, which has yet received little attention, is exposure to high levels of air pollution and fine particulate matter (PM2.5) at critical stages of life.[186] In the UK, while PM2.5 emissions have been reduced by 41% between 2005 and 2022, some areas still have pollution levels higher than the World Health Organization (WHO) recommended limit.[187] Most of the UK cities with high concentrations of PM2.5 are in southern and eastern areas. Nevertheless, some northern cities such as Manchester, York, Newcastle upon Tyne, and Leeds had respectively 9.0, 7.1, 6.5, and 6.4 PM2.5 concentrations in 2023, higher than the WHO limit (IQAir).

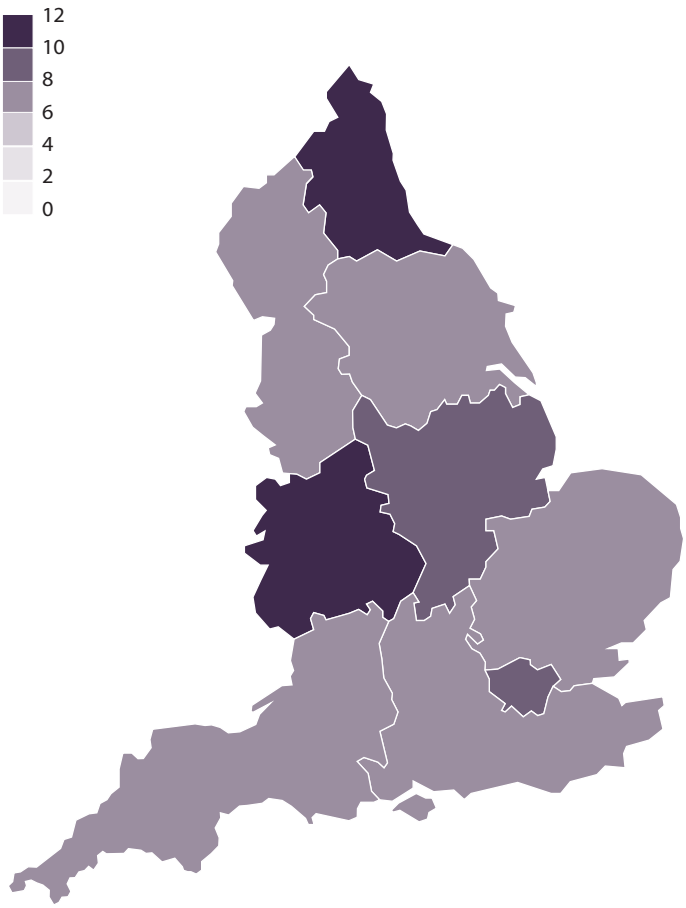
Air pollution plays a significant role in brain health in association with complex socio-ecological determinants including "city environments, housing density, green spaces, transportation systems, socio-economic deprivation, public health inequalities, location of industrial air pollution sources, school zones",[186], p.6 such that in a given polluted environment, impoverished communities are impacted more severely than wealthier populations. The higher poverty rate in the North West (25%), Yorkshire and the Humber (23%), and North East (21%), compared to the East of England (18%) and the South East (19%),[188] may worsen the impact of air pollution on health. Research also shows that the proportion of people living with frailty varies by level of deprivation, and that impact of poor air quality is greater in frailer, older populations.[189]

Inequalities in life expectancy and healthy life expectancy across England are well known (Chapter 4) and see the Centre for Ageing Better's State of Ageing Report. This essentially means that people are ageing

Table 9.1 Dementia: Recorded prevalence (2020) from Department of Health and Social Care Fingertips public health profiles

	65 years and over (%)		Under 65 years (per 100,000)	
ICB	**Count**	**Value**	**Count**	**Value**
Cheshire and Merseyside – QYG	20,095	3.91%	776	3.58
Greater Manchester – QOP	17,675	4.10%	741	3.03
Lancs and South Cumbria - QE1	15,024	4.20%	597	4.16
North West		4.06%		3.53
Humber and North Yorkshire - QOQ	14119	3.71%	502	3.64
North East Cumbria - QHM	25,058	4.04%	998	4.01
West Yorkshire - QWO	16,725	4.02%	709	3.26
North East & Yorkshire		4.00%		3.61
Hampshire and Isle of Wight - QRL	15,573	4.03%	462	3.05
Kent and Medway - QKS	13,097	3.51%	495	3.18
Sussex – QNX	16,061	4.13%	442	3.14
South East		3.96%		2.69
Devon - QJK	11,133	3.73%	305	3.19
Dorset - QVV	7,906	3.97%	219	3.59
Somerset - QSL	5,132	3.60%	142	3.20
South West		3.83%		2.97
England		3.97%		3.05

Figure 9.2 Weighted percentage of people aged over 60 who are living with cognitive frailty in England (based on ELSA data Wave 10)



earlier in areas with lower life expectancy. This is illustrated by dementia prevalence at different ages in different regions of the UK. Table 9.1 gives recorded prevalence of dementia in people aged 65 and over, and those under 65. Using the example of data from Lancashire and South Cumbria NHS Integrated Care Board, while recorded prevalence percentage is higher than for the North West as a whole and for all England for those aged 65 and over, this difference looks greater when the under 65s are considered (although note that the scale is different, as early onset dementia (pre 65) is rarer). Other NHS regions are given for comparison.

Cognitive Frailty in the North of England

From Wave 10 of the ELSA dataset (Figure 9.2), areas in the South (excluding London) have lower weighted percentages of cognitive frailty than the North. The South West (6.08%), East of England (6.22%), and South East (7.04%) have the three lowest rates of cognitive frailty in the data. These are below both the North West (7.98%) and the North East (11.8%), the latter being the highest in England. The West Midlands also has a particularly high percentage (11.7%), similar only to the North East. There is a statistically significant difference in these proportions across nine the regions at the 0.05 level, and the overall proportion across England is 8.21%.

Experiences of people living with frailty and dementia

It is of great importance to investigate the expectations and lived experiences of people living with dementia as the research highlights the role of social and cultural factors in prevention and care. One significant aspect to consider is the way that the public understand and think of a condition and how they navigate the services they need.

In a project funded by the Alzheimer's Society and led by Durham and Edinburgh Universities, people living with dementia in North East England and South East Scotland took part in a seven-week online personal development programme that was designed, developed, and tested in collaboration with 39 people living with dementia and 27 care partners – the GO Programme (Getting On with Life). Participants found it challenging to navigate support pathways and access available services because the NHS and other national, local, and third-sector organisations are not integrated and coordinated. Participants also stated that stereotypes or preconceived attitudes towards people living with dementia prevented them from seeking and using group support and activities. They suggested that post-diagnosis support needs to be personalised and recognise each person's potential to be engaging and enabling. This programme highlights the significance of being engaged and connected to the community for people living with dementia as they expressed their interest in meeting other people living with dementia and sharing their thoughts and experiences.[190] Sandra, a research participant in the GO! programme highlights the threshold challenge.[190] "The reason I was reluctant to come to a group at the beginning was because I, like other people, imagined lots of people just sat in a room at the end stages, so I didn't want to be part of that. It was very difficult to step through that door the first time when you don't know what is at the other side of the door." (Sandra – living with dementia)

Case study

Working with people living with Dementia in Salford: The neighbourhoods and Dementia project.

As part of the Economic and Social Research Council and National Institute for Health Research-funded Neighbourhoods and Dementia research programme, 'Stories from a Very Different Salford' was a co-research collaboration between the Open Doors Research Group (a group of people affected by dementia living in Salford, Greater Manchester) and academics from Lancaster University and the University of Manchester.[191, 192] Focusing on the meaning of neighbourhood, co-researchers produced an animation which narrated the impact of spatial and socioeconomic urban renewal on people affected by dementia.

Working alongside specialists, co-researchers designed the storyboard, narrated the storyline, and developed the soundtrack alongside Manchester Camerata. Since the 1950s, Salford's regeneration has witnessed slum clearances, architectural innovation, and economic re-investment. However, as narrated in the animation, the effect on the neighbourhood infrastructure was detrimental, "It wasn't just the houses that were broken up. Entire communities were broken up too…communities is what kept the people together".

Urban regeneration has come at a cost, particularly in terms of the traditional family structure, "When they broke the neighbourhoods up, they broke families up". Families were rehoused in apartment blocks which whilst aesthetically pioneering, caused irreparable fragmentation. Further, the closing of Salford Docks in 1982 resulted in nearly 3,000 job losses which further led to the decline in neighbourhood and community cohesion and "changed the character of Salford for good" with people forced to move away. For people affected by dementia, the impact of familial collapse and break up in neighbourhood infrastructure has resulted in increased isolation as well as unfamiliar and inaccessible landscapes.

"It wasn't just the houses that were broken up. Entire communities were broken up too…communities is what kept the people together".

Conclusion

There are no clear broad regional differences in prevalence of dementia in the over 65s, but there are differences at earlier ages in that prevalence of dementia is higher in northern regions in the under 65s, and prevalence of cognitive frailty, an earlier risk state, is also higher in the North East and North West than in the South West, South East, and East of England. In terms of risk factors for dementia and cognitive frailty (e.g., education and air quality), there is considerable regional variation between the North and the South in terms of proportions with no educational qualifications and this is more striking when differences for women are considered. Mediating factors such as poverty and deprivation may exacerbate the impact of risk factors, and this would be clearer if more specific regional level data were available. Understanding of one's own condition, navigation and accessibility of services, and a contextual view in terms of the relationship with possibly changing environments were highlighted as important factors to consider.

Recommendations:

- Policy and public health need to adequately distinguish cognitive frailty from frailty and dementia.
- Healthcare policies need to address cognitive frailty, recognising both its preventable, reversible aspects and its role as a risk factor for functional decline and dementia.
- Stronger recognition of how dementia and cognitive frailty risks interact with inequalities is urgently needed in local and national policy.
- Research should explore lived experiences of cognitive frailty and public awareness of its risks, reversibility, and perceived inevitability.

Chapter 10: **Social Support and Unpaid Care**

Authors: Gemma Spiers, David Sinclair, Vanessa Davey, Laurie Davies, Andrew Kingston, Charlotte Clarke, Barbara Hanratty

Summary

- The three northern regions have the highest proportion of people aged 65 and over living in care homes, costing an estimated £4.83 billion per year in care home fees (see Appendix 1).
- Care home provision for older adults is highest in the North East and East Midlands regions and bed occupancy in the North East and North West is higher than the national average.
- Care home charges are significantly lower in the North, and the proportion of residents who pay for all their care (self-funders) is lowest in the North East.
- In the North, average hourly costs for home care are below the national average and reliance on local authority funded clients is higher than elsewhere.
- The North East has the lowest number of home care services per 100,000 population aged 65 and over, and the highest levels of reported disability. Provision is particularly sparse in rural areas.
- The North East region has the highest proportion of people providing unpaid care, and the highest levels of intensive caregiving are in the North East and North West.
- Unpaid carers (50+) in the North East have worse health than carers from elsewhere.
- The proportion of unpaid carers receiving local authority support is low in all regions.

Context

Social care provides support for older adults and people with disabilities, to live as well as they can. The UK adult social care market has been shaped in recent decades by changes in funding, regulation, and the roles of local authorities. The vast majority of social care for older adults is provided by independent care providers. Provision varies across the country, influenced by local demand, demographic factors, socioeconomic conditions, and the availability of unpaid care and local NHS services.

Local authorities have a statutory duty to assess the needs of anyone who may need social support, irrespective of their financial circumstances. However, unlike healthcare, there is no universal coverage for social care. Services are funded by local authorities only if a person's needs meet certain criteria, and if their wealth falls below certain thresholds. Means testing is in place, and anyone with assets and savings valued at over £23,350 is responsible for the costs of their care.[193] Over time, the number of recipients and complexity of local authority funded care has increased.[194] This is placing a strain on local authorities, and four out of five are expected to overspend their adult social care budget in 2024/25.[195]

Despite a sustained increase in the size of the older population in England, the number of care home beds has declined in the last decade, from 11.3 per 100 people aged 75 and over to a current level of 9.3.[196, 197] Whilst this may reflect individual preferences, and substitution of other services such as home care or unpaid care, it may also indicate an increase in unmet needs. Care home admission is seldom a positive choice, and home care has a reputation (rightly or wrongly) of providing rushed and inadequate home visits, often with little continuity. Fears of catastrophic costs, poor quality care, and the stigma of institutionalisation are strong barriers to older people accessing the support they need. The North has some of the highest levels of socioeconomic disadvantage, ill health, disability, and premature mortality in the country. These are important drivers of need for social care and unpaid care. The following section describes some of the regional differences in care provision in England and goes on to consider the contribution of older unpaid carers.

Care homes

There are three main types of care homes for older people, those with and without 24-hour nursing care (nursing and residential homes) and specialist homes that care for people with specific needs such as dementia. Approximately half of all English care homes (49%) have nursing care on-site.[198] Homes are registered and inspected by the independent regulator, the Care Quality Commission (CQC). Most care homes are run as profit-making organisations, with only around one in seven homes in the charitable or not-for-profit sector.

In 2024, there were an estimated 441,335 care home beds in the UK.[199] The highest levels of provision were seen in the North East and East Midlands, with almost 2,700 (residential) beds per 100,000 population aged 65 and over. London had the lowest provision, with an equivalent figure of 1,300 beds.[198] Compared to the rest of England, the three regions in the North have the highest proportion of their older populations living in care homes. Data from the 2021 Census reported that in the North East 2.9% of residents aged 65 and over live in care homes, 2.8% in the North West, and 2.6% in Yorkshire and the Humber, compared to 2.2% and 2.1% in the South East and South West respectively.[197]

In the North East and North West, average care home bed occupancy rates October 2023 - September 2024 (at 80.3%) were higher than the English average (approximately 78%) and only exceeded by London (81%). On average, these two regions also had the lowest proportion of vacant beds ready for admission.[200]

In 2023, the UK care home market was estimated to be worth £23.7 billion. The average annual cost for a residential care home bed in England was almost £50,000 and just over £65,000 for a nursing home bed.[199, 201] Fees are highest for individuals paying for their own care. At the regional level, costs vary considerably, but are lowest in the North East and North West. The most expensive residential beds are in the South East, where the weekly charge is around 44% higher than a similar bed in the North West. The difference in cost for nursing home beds between the most and least costly regions is slightly lower at 36%. The proportion of care home residents who pay out of pocket for all their care (self-funders) varies markedly by region. The North East has the lowest proportion of self-funders, at around 26.4% of residents, compared to 47.5% in the South East.[199]

Home care

Home care services enable older people with physical, mental, and cognitive impairments to live at home. Models of care vary but support generally includes personal care (e.g. help with washing or using the toilet) or a range of everyday individual or household activities.[202] In April 2024, there were 13,250 home care providers in England registered with the CQC.[198] This was an increase of a third on the number of providers registered in April 2020, as care at home is increasingly acknowledged as less costly and potentially safer than residential alternatives.[203] There are believed to be around one million recipients of home care, but information is patchy and largely confined to care commissioned by local authorities. Data on individuals who fund their own care are not collated at national level.

The UK home care market was estimated to be worth £12.4 billion in 2023-2024 with around half of the funding via local authorities and just under a fifth from individuals paying privately.[203] There is considerable variation in the average hourly fees paid by local authorities. Home care in the North East and North West regions has a greater reliance on local authority-funded clients and along with East Midlands, fees that are below

Figure 10.1 Age-standardised percentage of people with disability (annotated with number of homecare agencies per 100,000 population aged 65 and over)[204]

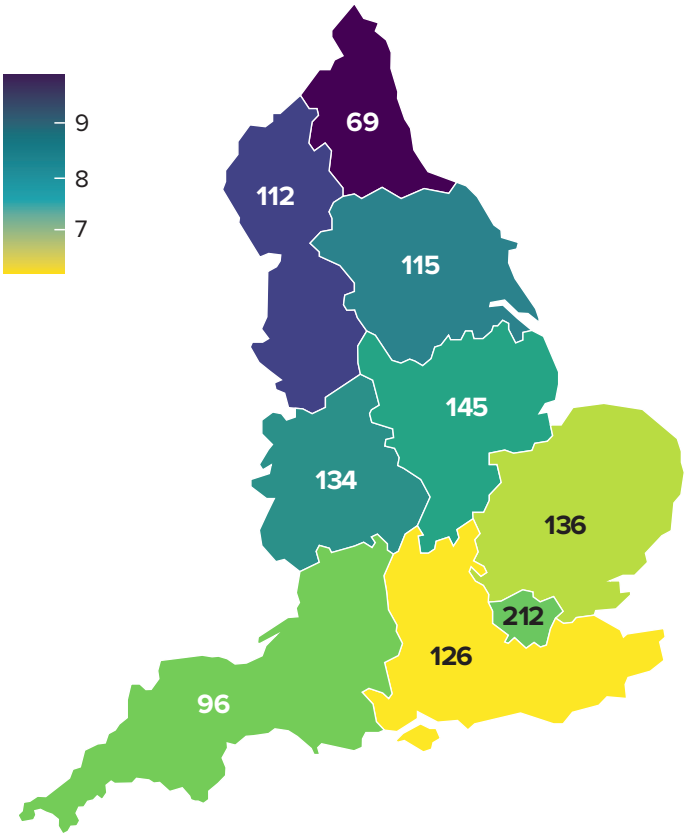
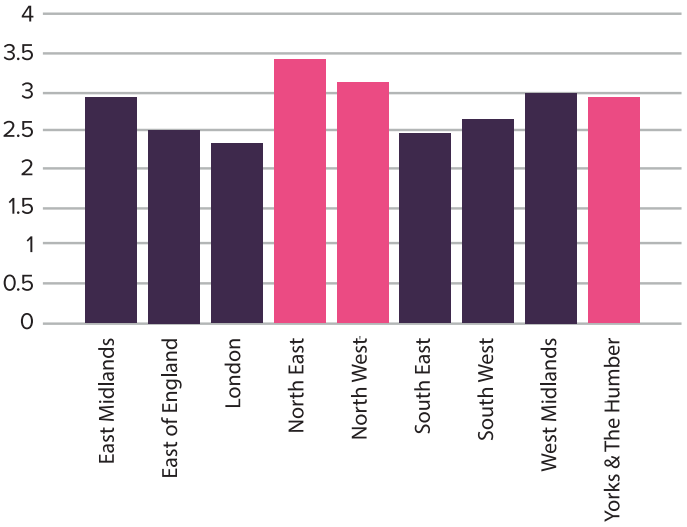


Figure 10.2 Age-standardised percentage of people providing 50 or more hours of unpaid care per week, by region



the national average. Provision is particularly sparse in rural areas of the North East.

The North East has the lowest number of home care services in the country, per 100,000 population aged 65 and over. Whilst there are over 200 home care agencies per 100,000 population in London, there are around 70 per 100,000 in the North East (Figure 10.1).[198] However, it is important to note that these data do not provide insights into the number of clients or hours of care provided.

Unpaid caring, employment, and health

Unpaid or informal care for family, friends, and neighbours, is an established part of our ageing society. Older people are often the recipients of support with day-to-day activities. But many people also provide care in later life, filling gaps in social service provision and childcare. Time spent caring in middle age and early older age has consequences for carers' health, wellbeing, and financial stability, and is an important potential cause of disadvantage. Older carers are also known to worry about the responsibility, their ability to sustain caregiving, and the impact on their own health.[205] The need for unpaid care reflects levels of ill health and disability, socioeconomic conditions, living circumstances, and access to formal care provision. All of these differ across the regions. This section of the report compares the state of unpaid care across England, highlighting differences between the North and South.

Employment and carers

Many people who provide unpaid care are also employed elsewhere, and with rises in the state pension age, an increasing number of carers are likely to be in paid work. Unpaid carers are at greater risk of moving into poverty, compared to adults overall; exiting paid work is one of the biggest factors driving this.[206] Carers who are in the workforce may have to work fewer hours to accommodate caring responsibilities and are at risk of losing their jobs.[207]

The North East region has the highest proportion of people (of any age) providing unpaid care, whilst the North East and North West are the English regions with the highest levels of intensive caregiving, with carers providing more than 50 hours of care per week (Figure 10.2).[208] Analysis of data from the English Longitudinal Study of Ageing (ELSA) shows the proportion of carers aged 50+ who are also in paid employment, by region (Figure 10.3).[209] Employment amongst carers age 50+ (providing any amount of care) in the North West and Yorkshire and the Humber is amongst the highest in England. This may reflect financial circumstances that oblige carers to work outside the home or employment that lacks flexibility. Time away from paid work may also undermine financial security in later life, through reduced pension contributions.[210] Combining the provision of unpaid care alongside employment, with the poor health and low quality of life experienced by many carers,[207] all point to a heavy burden for carers in northern regions.

The health of carers aged 50+

Carers aged 50+ in the North East and East of England have worse health than carers from elsewhere. Analysing data from ELSA, almost one third (32.5%) of 50+ year old carers in the North East report fair or poor self-rated health, compared to around a fifth in the South West (19.8%). North East carers also experience the highest levels of longstanding illness (61.5%) (Figure 10.4).[209] Carers in the North West and Yorkshire and the Humber are less likely to report longstanding illness (23.2% and 24.1%).

When individual health conditions are considered, a more complex picture emerges. For example, compared to carers in the South East, carers in the North East were more than twice as likely to have arthritis (OR = 2.28, 95% CI: 1.23-4.23). There were no clear North-South regional differences in carers reporting of depression (Figure 10.5).[209]

Support for carers

Local authorities are required to provide support for unpaid carers to enable them to live well and maintain their caring role. Such support may include, for example, local carer support groups or respite care. Data from NHS England and the 2021 Census show that the proportion of unpaid carers being supported by local authorities is similar across regions (Figure 10.6).[211] The best performing region, West Midlands, supports 5.1% of carers. This suggests that there may be widespread unmet needs amongst carers, greatest in the North, where the number of unpaid carers and intensive care provision are high.

Conclusion

Care needs in the North are likely to be amongst the highest in England, driven by underlying levels of ill health and disability in the regions.

The greater reliance on unpaid care in the North reflects the levels of socioeconomic disadvantage. Home care providers are more likely to provide local authority funded care and have a smaller proportion of self-funding clients. This combination leads to lower levels of home care provision, in areas where home care is less profitable. There are likely to be many reasons why a greater proportion of the older population in the North are living in care homes. The important question is whether older adults in the North are able to exercise the same level of choice as their peers elsewhere and remain in their own homes with support. The rurality of large areas of the North may pose particular challenges to care providers. Equitable support for unpaid carers at all stages of their caregiving journey and equitable provision of home care are both essential to promote autonomy, wellbeing, and independence amongst the older population in the North, and mitigate the adverse consequences of unpaid care.

Recommendations

- Government investment in social care is critical for northern regions of England. Needs are likely to be high and complex, and local authority budgets are already under great pressure.
- The supply of high-quality home care in the North must be sufficient to allow older people to choose to age in their communities if they wish, and reduce demands on unpaid carers. Market forces and current funding models may not be sufficient to achieve this.
- Care provision in rural areas of the North merits particular attention, to ensure equity of access to services.
- As populations continue to age, it will be important to understand how social care funding mechanisms influence care choices in poorer communities.
- Future developments in social care (digitisation, individual level data, greater use of technology) are likely to promote quality of care. It is important that any less profitable home care services in the North are not left behind.
- Provision of support for unpaid carers should be concentrated where it is needed the most – in northern regions where levels and intensity of unpaid care are the highest in England.

Figure 10.3 **Percentage of carers who are employed by region**

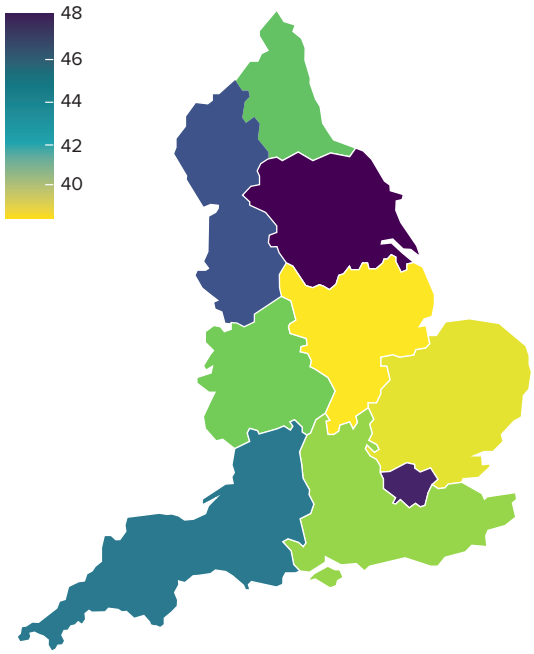


Figure 10.4 **Percentage of carers with a long-standing illness by region**

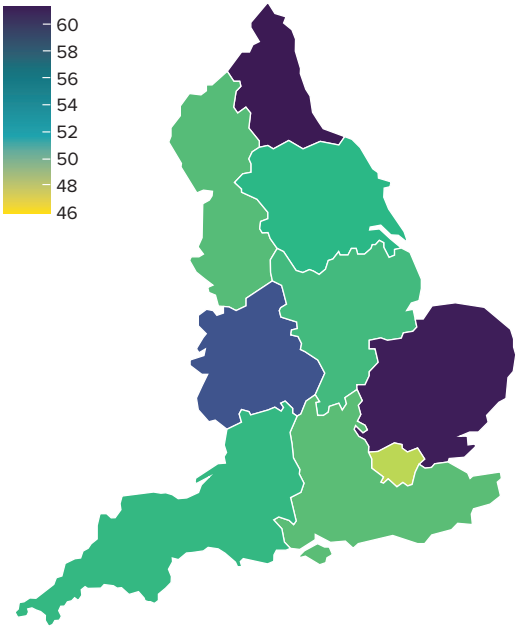


Figure 10.5 **Percentage of carers with depression by region**

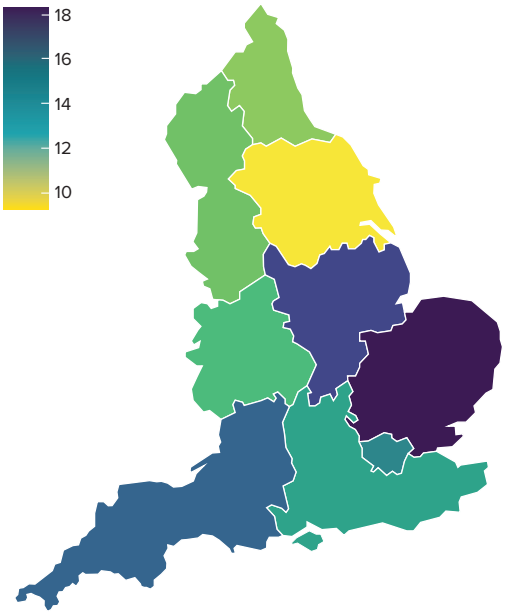
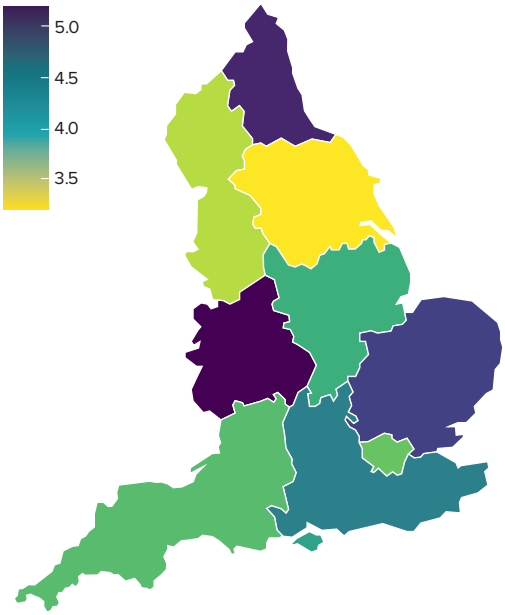


Figure 10.6 **Percentage of carers receiving local authority support by region**



Chapter 11: **Social Isolation and Loneliness**

Authors: Qian Xiong, Barbara Hanratty, Keming Yang, Charlotte Clarke, Carol Holland

Summary

- Social isolation may lead to loneliness, but this is not always the case, with many people who live alone not reporting being lonely. Likewise, loneliness can still occur even in the presence of a rich array of social connections.
- Social isolation and loneliness are linked to serious physical and mental health issues. They increase the risks of cognitive decline, dementia, frailty, and moving into a care home.
- Younger adults (aged 16 to 64) report feeling lonely more often than older adults (aged 65 and over) in most local areas in England.
- Poorer coastal communities in the North of England have the highest levels of loneliness in the country.
- While some London areas show the highest levels of loneliness for older adults, some northern areas show the highest levels for younger adults.
- When smaller areas are grouped into North, South, Midlands and East, older adults in the North are more likely to feel lonely than those in the South.
- Older adults in the North are 23.3% more likely to feel lonely compared to those in the South. The higher risk in the North is linked to various factors that need attention.
- Risk factors for loneliness, like being female, being part of an ethnic minority group, living alone, having poor health are particularly more noticeable among older adults in the North compared to other regions. However, having a disability does not have a stronger effect in the North than in other regions.
- Belonging to a lower social-economic group does not significantly affect loneliness in the North, but it does in the Midlands and East.
- Loneliness is not significantly linked to levels of education, area index of multiple deprivation, or physical activity in older adults.

Context and definitions of social isolation and loneliness

Social isolation happens when a person has few close friends, family, or any other related people to have meaningful interaction with. It is the objective state of having low levels of social contact.[212] It may relate to whether a person lives alone, has restricted abilities to get out and about, and maybe has limited ability to use technologies to connect. It may also relate to a lack of community support for people at risk of isolation. Loneliness, however, is when a person feels a gap between what they want for companionship and what they have.[213] It comes in various types (social, emotional and existential) and levels.

Many people who are socially isolated are not lonely, and likewise some people who feel lonely are not without social connections – as the saying goes, you can be lonely in a crowd. Moreover, living alone or being alone can increase the risk of feeling lonely, but it does not necessarily lead to long-term loneliness. This relationship between being alone and loneliness is illustrated by Elizabeth,[214] writing as part of a preface for the published book.

'Never before in my life have I had any unlimited time, as I have now in old age, to make a coffee break last an hour or lunch with a friend for half the afternoon. Time has offered me the great opportunity to pursue hobbies, revive old friendships and meet new people. Joining clubs, classes and charity organisations has given a framework to each day, each week, my life, and prevented the state of aloneness becoming loneliness, for I, like many old people, live alone now for the first time in my life.

Sometimes it has taken courage to seek new experiences, embrace change and look for opportunities to be useful but this is how I meet people that make my life interesting and bring me contentment.' (p.220)

The regional differences in the relationship between social isolation and loneliness

The data analysis of English Longitudinal Study of Ageing (ELSA) Wave 10[182] shows that older adults (aged 65 and over) who have monthly contacts with children, family, and friends and being a member of religious or social groups (indicators of social isolation) are less likely to feel lonely in England overall. However, the relationships between loneliness and social isolation indicators become less clear if looking into individual regions.

Not living alone is significantly linked to a reduction of loneliness by 76% for older adults living in the North and similar effects are found in other regions. It means that older adults who don't have frequent contact with other people may not necessarily feel lonely, but it is the fact of living alone that increases the risk of feeling lonely.

Impacts of loneliness and social isolation on health and wellbeing in later life

Social isolation and loneliness increase the risk of high blood pressure[221] and cardiovascular disease,[216, 217] the physiological vulnerability to the impacts of stress,[218] frailty,[228] and the risk of mortality. In one study, loneliness accounted for 19.1% of the likelihood of being admitted to a care home, controlling for a range of other factors such as age and health.[219]

Loneliness has been associated with development of depression[220] and cognitive decline.[221] It has been associated with increased risk and progression of dementia.[222] All these impacts may have circular effects – depression and other health impacts, and cognitive changes, may lead to low motivation and a reduction in ability to get out, making it difficult to maintain social interaction.

Loneliness interacts with other influences such as wealth and disability. Among those with a disability, the poorest women were more likely to live alone and report loneliness, compared to wealthier women with a disability.[223] Loneliness is also a partial mediator of the relationship between hearing loss and cognitive decline,[224] with hearing loss indicated as an important risk factor for dementia.[167]

Prevalence of loneliness nationally and locally, including interactions with ageing

Loneliness is most common at both ends of life. Incidence shows a J-shaped curve, with peaks in young adulthood and later life.[225] Across high-income countries, as many as one in four older adults experience loneliness.[226]

Based on data analysis of the Eighth Active Lives Adult Survey[227], the overall prevalence of loneliness in England is 6.86%, with 7.85% among younger adults (aged 16-64 years old) and 3.67% among older adults (aged 65 and over).

The prevalence of loneliness across England at the local authority (LA) level disaggregated for younger adults and older adults is presented in Figure 11.1. While some London areas show the highest levels of loneliness for older adults, some northern areas show the highest levels for younger adults. The coastal local authorities (Blackpool 14.45% and Hartlepool 12.35%) in the North face the highest levels of loneliness in the overall population. The points below explain the details by age groups:

- **Highest in Older Population (65 and over):**
  Tower Hamlets (London): 14.21%
  Newham (London): 13.02%
  Kingston upon Hull, City of (Yorkshire and The Humber): 10.62%

- **Lowest in Older Population (65 and over):**
  City of London (London): 0
  Maldon (East of England): 0.27%
  Tunbridge Wells (South East): 0.32%

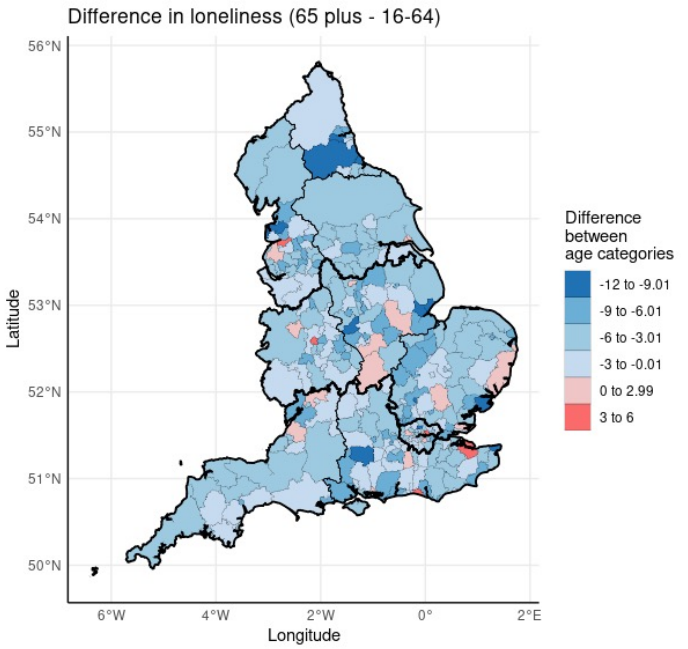
- **Highest in Younger Population (16-64 years old):**
  North West Leicestershire (East Midlands): 13.82%
  Hartlepool (North East): 14.64%
  Blackpool (North West): 16.95%

- **Lowest in Younger Population (16-64 years old):**
  City of London (London): 1.46%
  South Hams (South West): 1.77%
  Isles of Scilly (South West): 1.87%

- **Highest in all age groups**
  Blackpool 14.45%
  Hartlepool 12.35%
  Tower Hamlets 11.97%

- **Lowest in all age groups**
  South Hams 1.77%
  Isles of Scilly 1.74%
  City of London 1.11%

Figure 11.2 The age group difference in loneliness at local authority level



Data source: The Eighth Active Lives Adult Survey, 2022-2023

Figure 11.2 illustrates the difference in loneliness between younger adults and older adults:

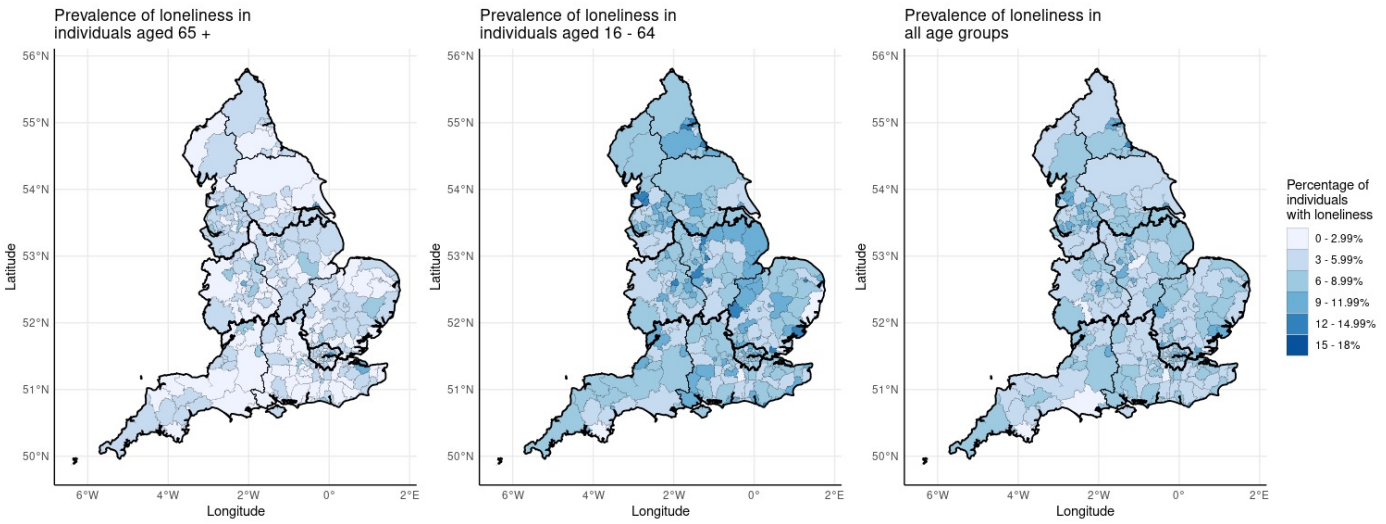
- Older adults generally experience lower levels of loneliness compared to younger adults in 274 local authorities (indicated in blue in the map), with Northwest Leicestershire showing the largest difference (3.16% in older adults vs. 13.82% in younger adults).
- Only 22 local authorities (indicated in orange) have higher loneliness in the older adults than in the younger population. For example, there is 3.55% difference in loneliness between older adults (9.59%) and younger adults (6.04%) in Swale, 4.40% difference in Wolverhampton (10.35% versus 5.95%), and 5.45% difference in South Ribble (9.66% versus 4.21%).
- The map in Figure 11.2 shows that areas where older adults are more lonely than younger adults are not mainly in the North or South, so the North-South difference is not obvious.

When the area of England is divided into The North, the Midlands and East, London, and the South we can compare the level of loneliness across broader regions (Figure 11.3). These regions share similar age patterns, with loneliness consistently more prevalent among younger adults than among older adults. Looking closer into the older adults, the North has a statistically significant higher prevalence of loneliness (3.98%) than the South (3.08%), but it is not statistically significantly different from other regions. Although London has higher prevalence of loneliness (4.35%) and the Midlands and East regions have lower prevalence of loneliness (3.74%) than the North, the differences are not statistically significant.

Loneliness of older people in the North and risk factors

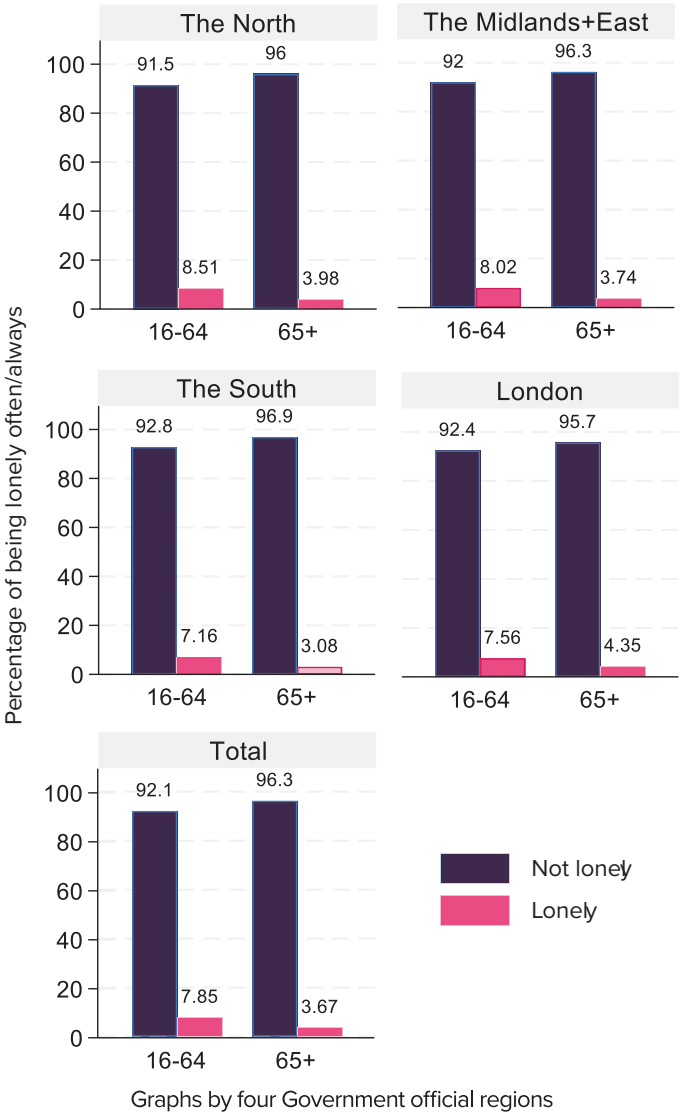
Multiple regression analysis shows that the odds of being lonely for older people (aged 65 and over) in the North are about 23.3% higher than that for people in the South, but this is not statistically significant when

Figure 11.1 Prevalence of loneliness by age groups at local authority level



Data source: The Eighth Active Lives Adult Survey, 2022-2023

Figure 11.3 Comparison of prevalences of loneliness between younger adults and older adults



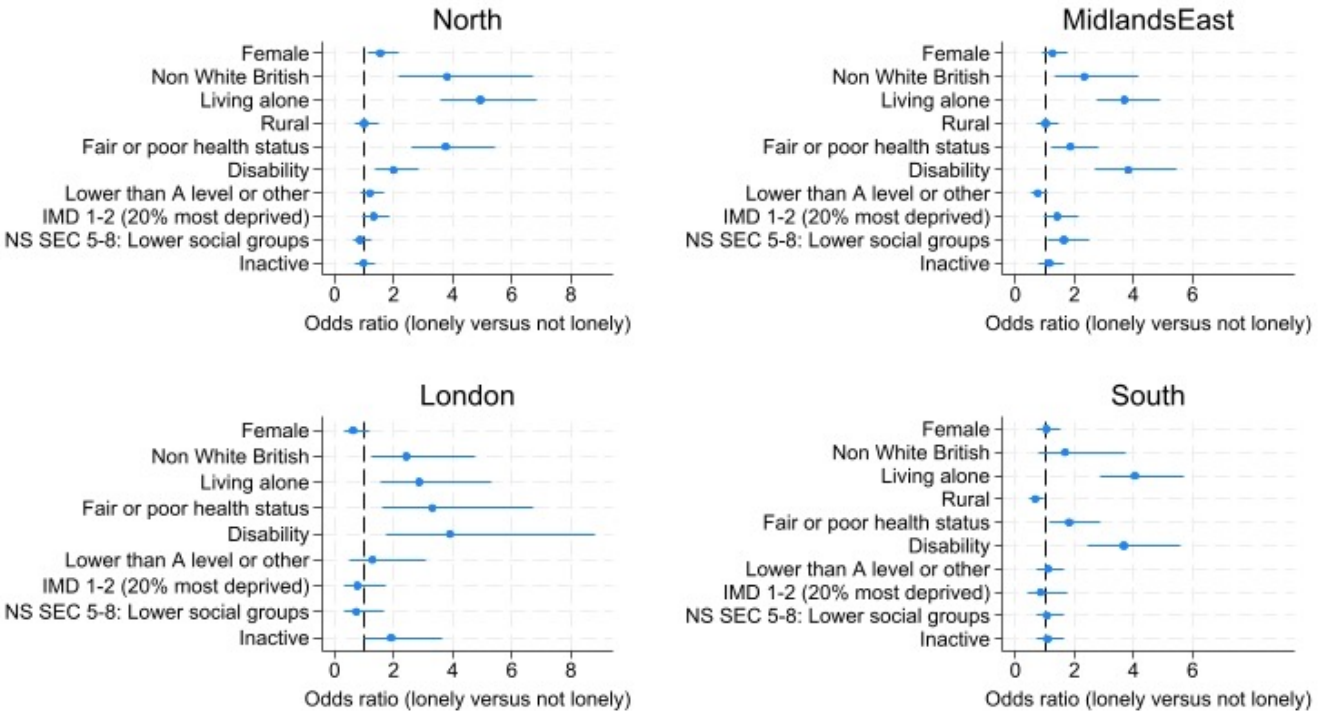
we consider factors like gender, ethnicity, living alone, general health status, disability, education, social class, physical activity intensity, whether they live in rural or urban areas, and level of deprivation in the area. This means that the higher risk of loneliness in the North for older people is due to these other factors that need attention rather than simply the North-South divide.

Figure 11.4 presents how different factors influence (measured by odds ratios) loneliness among older adults. In this figure, the dots represent the estimated average odds ratios and the horizontal lines show the confidence intervals. If an odds ratio is one (indicated by dashed lines), there is no difference in the risk of being lonely between the two groups compared in each analysis. An odds ratio greater than one means that the group is more likely to be lonely than their counterparts. An odds ratio of less than one means less likely to be lonely. If 1 is within the estimated confidence interval, there is no significant effect at the 0.05 level.

Findings can be summarised as follows:

- Female respondents in the North are 1.55 times more likely to be lonely than male respondents, but this gender difference is not significant in other regions.
- Minoritised ethnic groups are at much higher risk of loneliness than White British in all regions except in the South. The highest risk is in the North: minoritised ethnic groups are 3.81 times more likely to be lonely than White British, followed by 2.33 times in the Midlands and East and 2.43 times in London.
- Living alone is a statistically significant risk factor across all regions. People who are living alone are 4.9 times more likely to be lonely than people not living alone in the North, and the effect of living alone is 3.7 times in the Midlands and East, 2.87 times in London, and 4.05 times in the South.
- Living in a rural area seems to prevent people from being lonely in the South, reducing loneliness by 33%, but this effect is not observed in other regions.
- Poor health is another statistically significant risk factor across all regions. People who have poor or fair health are 3.76 times more likely to be lonely than people who have good health status in the North, and the effect of having poor or fair health is 1.86 times in the Midlands and East, 3.31 times in London, and 1.82 times in the South.
- Disability is another influential risk factor across regions. People who have a disability are twice as likely to be lonely than people who have

Figure 11.4 Predicted odds ratios of risk factors for loneliness by regions



Source: The Eighth Active Lives Adult Survey (2022-2023)

no disability in the North, but the effect is bigger than in other regions, which are 3.83 times in the Midlands, 3.91 times in London, and 3.68 times in the South.
- Lower social groups (defined by the National Statistics Socio-economic Classification based on current job or main lifetime occupation if not currently working) are 1.65 times significantly more likely to be lonely than the higher or middle social group in the Midlands and East, but this effect is not significant in other regions.
- Levels of education, area index of multiple deprivation, and physical activity are not significantly associated with loneliness across all regions when controlling for other factors.

Interventions and community actions

A range of group (social) activities and one-to-one support interventions have been used to address loneliness. Measurement of both loneliness and outcomes of any intervention is challenging, and experimental study designs are seldom feasible. This makes it difficult to draw definitive conclusions from an extensive body of research in this area.[229, 230]

Nevertheless, there is evidence that group interventions tend to be more effective than those targeted at individuals, by promoting social interaction and reducing feelings of loneliness.[229, 231] Future research may benefit from a greater focus on understanding the mechanism of action and strong theoretical approaches.[232] Importantly, there is little evidence for what works in more disadvantaged, disconnected or remote communities, to inform approaches in the North.

Conclusion

The first key message of this chapter is that loneliness is not related to ageing, with younger adults (aged 16-64) having higher levels of loneliness than older adults (aged 65 and over) across most local authorities. The second key message is that there is a certain level of North-South divide in loneliness, but it can be explained by other risk factors. There is a general finding that overall older adults in the North are 23% more likely to be lonely than those in the South, but this is explained by various risk factors. For older adults living in the North, loneliness may be exacerbated by being female, living alone, being in a minoritised ethnic community and having poor health compared to people living in other regions. Having a disability seems to be less influential for feeling lonely in the North than in other regions, but still doubles the risk of loneliness.

Evidence has shown that a range of social interventions can have a significant impact on reducing loneliness, and an understanding of the risk factors can be used to target interventions to those most likely to be lonely in the North.

Recommendations

- Focus on those older populations (female, living alone, minoritised ethnic groups, with poor health and/or disability) with higher risks of being lonely.
- Activities targeting loneliness which foster a sense of responsibility and purpose in life need to be an important focus for interventions.
- Group creativity is important for supporting engagement, including people with cognitive impairments.

*For more information see Appendix 4

Case Study

HenPower, launched in 2012 with a focus in the North East, is an innovative programme developed by the UK charity Equal Arts to enhance the well-being of older adults, particularly those living with dementia, by combining hen-keeping with creative activities.

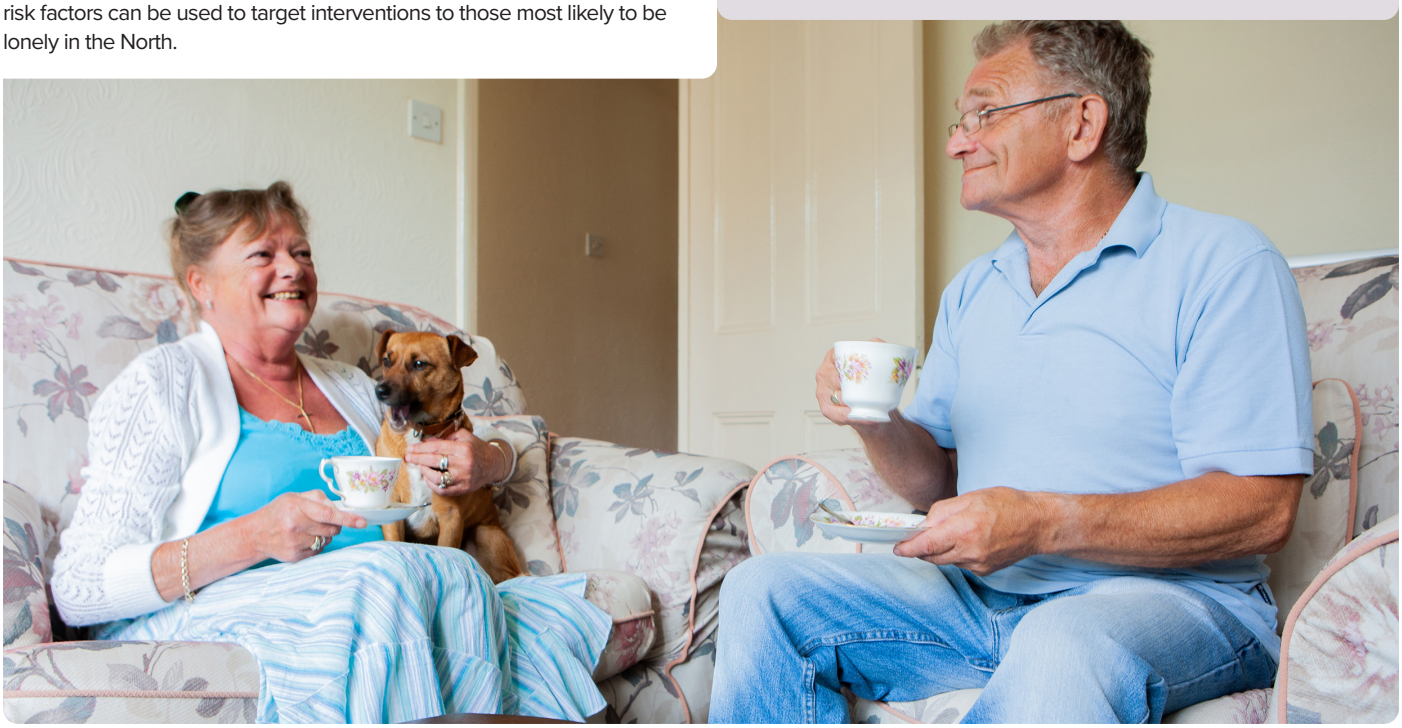
Key Components of HenPower are:

- Hen-Keeping: Participants, known as "Hensioners," are involved in the daily care of hens, fostering a sense of responsibility and purpose.
- Creative Activities: The programme incorporates arts-based sessions related to hen-keeping, such as storytelling, crafts, and music, to stimulate creativity and social interaction.

"Hensioners" as people involved in the programme are called, have conducted their own project to gather their "henstories" about keeping and caring for hens, with examples given via their website HenPower | Equal Arts. Hensioner Ollie Cresswell summed up the importance of such activities:

"Next to blindness loneliness is the worst thing you can have, it is a big affliction. It can destroy a lot of people. I know because I have been through it. At 87, hens are the biggest thing in our lives."

Research conducted by Northumbria University indicated that HenPower has led to reductions in depression and loneliness among participants, as well as improvements in overall well-being. HenPower has been recognised for its innovative approach to elder care, receiving support from figures such as the Mayor of London and being featured in national reports as a positive method for combatting loneliness.



Chapter 12: **Housing**

Authors: Tine Buffel and Mark Hammond

Summary

- Older people in the North face severe housing inequalities, with many living in unsafe homes, and the resulting illnesses and falls cost the NHS billions annually.
- In total, 1.47 million northern homes are considered non-decent, with over a third housing over-60s residents. The cost to the NHS of these non-decent housing conditions is estimated at £588 million per year, in addition to the societal cost of £7.77 billion per year (See Appendix 1).
- 1 in 8 preventable deaths in the UK involve an older person having a fall, with unsuitable home environments significantly increasing this risk.
- Fuel poverty disproportionately affects older people in the North, reinforced by fewer energy-efficient homes and colder temperatures contributing to excess winter deaths.
- Minoritised groups, single older people, and older people with disabilities face heightened housing precarity in the North due to exclusion and systemic barriers.
- Longstanding economic disparities, disinvestment, and gentrification in northern cities exacerbate housing challenges, isolating older people and limiting safe ageing environments.
- Many older homeowners in the North struggle to make vital home repairs or adaptations due to limited incomes and the removal of improvement grants.
- There is significant unmet demand for age-friendly housing in the North, with affordability issues and limited financial support hindering their development.
- A national older people's housing strategy should be developed by collaboration between local and national governments, older people, and housing developers.

Housing inequality and older people in the North

Housing is a major determinant of quality of life for all age groups. This is especially the case for older people, who are more likely to spend extended periods within the home environment and who may have long-term illnesses of various kinds. Yet, in England, 2 million homes headed by someone over 55 are classified as 'non-decent', defined as not in a reasonable state of repair, lacking modern facilities, or not effectively insulated or heated.[233]

Poor housing conditions are especially widespread in the North of England, where 41% of homes were built before 1944 and the housing stock is generally older and colder than in the South. Many of these older homes are terraced properties, which are often difficult to adapt due to features such as small bathrooms, stepped entrances, and steep stairs.[234] In total, 1.47 million northern homes are considered non-decent, with nearly 1 in 2 of these over a century old, presenting cold, damp, fire, and falls risks. Almost half are occupied by someone with a long-term illness or disability, and over a third house people 60 and over. The number of non-decent homes varies regionally, but the highest number of such homes of any region (212,000) is in the North West of England.[235]

Poor-quality housing has a direct and detrimental impact on health and wellbeing. Older people in unsafe, cold, damp homes face heightened risks for chronic illnesses, respiratory issues, and mental health challenges.[236] Non-decent homes can also cause asthma, strokes, heart attacks, and broken bones. 1 in 8 preventable deaths in the UK involve an older person experiencing a fall, with unsuitable home environments significantly increasing this risk.[237] Nationally, the NHS incurs an estimated £595 million annually in healthcare costs associated with older people living in unsafe homes, alongside an additional £1.1 billion in avoidable social care expenses (both formal and unpaid).[238]

Older people in the North are disproportionately affected by fuel poverty, with higher rates of poverty in the North compared with other regions, greater likelihood of living in a home with poor energy efficiency, and an average temperature 1.1°C lower than the rest of England and Wales.[239] Furthermore, poor insulation results in almost £1 in every £4 spent on household heating being lost,[240] and homes with EPC-D ratings or below cost an extra £580 for adequate heating compared to homes rated EPC-C or better.[241]

Cold conditions reduce dexterity and grip strength, increasing the likelihood of a fall[240], and can also contribute to poorer mental health outcomes.[242] Cold indoor temperatures are also linked to increased blood pressure, reduced physical functioning, and sleep issues.[236] They can also reduce social participation, with people limiting socialising by avoiding inviting friends over and spending longer in bed.[242]

It is estimated that cold homes contributed an estimated 5,000 excess winter deaths among older people in 2022–2023,[243] and 60% of excessively cold homes are currently occupied by at least one person over the age of 55.[244] This situation is expected to worsen over the next 15 years, driven by a trebling of the proportion of older people living in private rental accommodation, which has lower energy efficiency levels than other tenures.[245]

Housing precarity among marginalised groups

Using nationwide data, this section reveals trends that are especially pertinent to northern England, where structural disadvantage, historic disinvestment, and a concentration of poor-quality housing heighten housing precarity risks for marginalised older people. Housing precarity refers to instability and insecurity in accessing adequate, safe, and affordable housing. This is more likely to affect particular groups, notably those from minoritised ethnic populations, refugees, low-income renters, single older people, older women, LGBTQ+ older people, and people with disabilities or chronic health issues.[246] These issues stem from exclusion,

discrimination, racism, and stigmatisation by housing authorities, private landlords, and neighbours, along with gentrification and displacement.[247, 248]

"I think a lot of people's rental problems are totally financial. They're forced into properties that they can afford rather than what they would like." —Ron, 68, a renter in Liverpool [249]

Ethnically minoritised older people are more likely than White British counterparts to face housing precarity, often living in overcrowded, unheated shared properties. Among those aged 50–64, housing precarity affects 39% of Bangladeshi, 30% of Black African and Pakistani, and 28% of Arab and Roma people, compared to 4% of White British individuals.[250] Older refugees face intensified housing precarity from restrictive policies and limited access to stable housing, often trapped in substandard, temporary accommodation in deprived areas. They are often subjected to forced relocations, denied mental health support, and left in unsafe conditions, intensifying insecurity and isolation.[251]

"They put us in a very... bad area. It was... very dirty. ...Shared bathrooms... Women and even men, they are not all [part] of families. ... they gave us like a big room with all bunk beds... the bed... [had] fleas on it." —Khaled, 52, Syrian refugee, Greater Manchester [251]

Impacts of disinvestment and gentrification on older residents

The housing conditions of older people in the North are shaped by longstanding social and economic disparities.[252] Many deprived northern areas, including those in Middlesbrough, Liverpool, Knowsley, Kingston upon Hull, and Manchester, have suffered decades of economic decline, underemployment, and systemic disinvestment, exacerbated by austerity-driven cuts to public services and social infrastructure.[253, 254] These areas often have the poorest housing stock and deteriorating community facilities, isolating older residents and undermining the conditions needed for older people to age well in their homes and neighbourhoods.

Since the 1980s, 60% of local authority land in England has been sold,[255] often resulting in the loss of community and leisure centres, care homes, and libraries.[253] Housing has increasingly been treated as an investment vehicle for finance companies and developers, prioritising profit over social value. Public funding for regeneration and social housing has drastically declined, with recent housing growth driven by market-led private developments failing to address the needs of low-income older residents.[246]

Urban gentrification in cities including Manchester, Leeds, Newcastle, and Liverpool has further marginalised longstanding older residents, as rising property values and living costs push essential services and affordable housing out of reach.[256] Older people often have deep-rooted attachment to their local area and have valuable insights that could be a potential asset in regeneration efforts. Despite this, they are frequently left out of the planning process, which tends to focus on younger, more economically active groups. This cycle of disinvestment, gentrification, and exclusion leaves older people in transforming areas with little hope for meaningful housing and living improvements, intensifying inequalities and limiting opportunities for safe, supportive ageing environments.[257]

"Urban planning remains dominated by productivity-focused priorities, favouring professional workers, young families, and students in the construction of accommodation and amenities." —Tine Buffel, Director of the Manchester Urban Ageing Research Group (MUARG) [252]

Addressing the housing needs of older people in the North

Addressing the housing needs of older people in northern England requires action in two key areas: enabling individuals to age well in place within their existing homes and communities, and promoting the development of new housing designed to meet the diverse needs of an ageing population. By focusing on these goals, policymakers and stakeholders can tackle structural issues contributing to housing inequities and improve quality of life for older northern England residents.

Table 12.1 Tenure Among Those Age 50 and over by Region [262]

Region	Owner Occupier	Social rented	Private rented
South West	84.1%	9.2%	6.7%
South East	84.0%	10.1%	5.9%
East	82.8%	11.5%	5.7%
East Midlands	82.4%	11.5%	6.1%
Wales	82.1%	11.7%	6.2%
West Midlands	81.5%	12.9%	5.6%
North West	80.3%	13.6%	6.2%
Yorkshire and The Humber	79.0%	14.6%	6.4%
North East	74.8%	19.2%	6.0%
London	69.9%	22.1%	8.0%

Ageing well in place relies on access to safe homes and supportive communities. Non-decent homes undermine these conditions and pose a significant risk factor for poor later-life health. Non-decent housing in the North of England is concentrated among lower-income households, especially older homeowners: 82% of non-decent homes occupied by someone aged 60 or over are owner-occupied, comprising around 403,000 properties.[235]

However, while non-decent homes increase the risk of falls and fuel poverty, many homeowners cannot make vital repairs or adaptations due to limited incomes, minimal savings, and rising living costs.[258] In addition, some older people delay or avoid making changes to their homes due to perceived stigma around ageing or fears that adaptations signal a loss of independence.[255] As one older person from northern England remarked in a study about home adaptation:

"I wouldn't have dreamed of having anything like that [home adaptation], you know. What? That's for old people." —Older person, northern England [259]

Low levels of home adaptation are particularly evident in northern England, where only 4% of homes headed by someone aged 55–64 are classed as accessible, compared to 23% in London. Accessible homes are defined as those designed or adapted to support safe, independent living, with features such as wider doorways, accessible bathrooms, and flexible layouts that accommodate changing needs.[1]

Support for home adaptation has also declined. Two-thirds of local authorities fail to complete essential modifications—including Disabled Facilities Grant-funded ramps and stairlifts—within the recommended six-month target.[260] The 2022 closure of Care and Repair England highlights the shrinking support landscape. Overall, £2.3bn in private sector home improvement grants have been removed over the past decade.[261] The reliance on individual wealth to maintain basic housing standards reveals a critical gap, disproportionately impacting older people in the North, underscoring the need for accessible funding and essential improvements alongside affordable housing for older people across the region.

This is particularly relevant considering the current plans to enact Awaab's Law, which places a greater responsibility on social housing providers to ensure that properties do not put tenants at risk of harm, including risks related to falls. Outside London, northern England has the lowest levels of home ownership and highest levels of social rental in England and Wales. While social rental housing quality has improved over the past 30 years, and private renters are due to gain new rights to safe housing through the forthcoming Renters Reform Bill, older owner-occupiers remain under-supported by current policies.

Case study: Naturally occurring retirement community: Hopton Court, Manchester

Hopton Court is a nine-storey social housing tower in Hulme, Manchester, built in the 1960s and managed by One Manchester Housing Association. Although not designed specifically for older people, 75% of tenants are over 50 and face marginalisation on health, cultural, or financial grounds. In 2021, older tenants collaborated with the social housing provider, local universities, and community organisations to develop a programme based on the 'Naturally Occurring Retirement Community' (NORC) model.

The NORC model was created in the US in the 1980s, recognising the need to retrofit support into existing residential communities where high concentrations of older people are living unsupported. This is achieved by promoting tenant-led action and collaborative partnerships with health, housing, and community stakeholders to improve not only the physical conditions in the home and immediate surroundings, but also the social environment in the community.

To understand and address tenants' health and housing needs, the group secured external funding for an Independent Living Outreach Worker (2021–2022) who conducted needs assessments, finding 32 older people with unmet needs, including 7 requiring aids and adaptations, such as grab rails in bathrooms, and 12 with maintenance issues, such as issues with plumbing and heating systems.

Critically, the outreach worker uncovered several reasons why these housing issues had not been raised or resolved previously. Many tenants reported being unsure who to approach to raise these issues, feeling embarrassed about asking for help, or fearing being forced out of their homes if they made any vulnerabilities known to their housing provider. The outreach worker addressed these concerns by building trust with tenants over time and working closely with the tenants association, who were able to provide peer-to-peer endorsements to neighbours who were cautious of engaging with their landlord.

The tenant-led partnership later obtained funding for a development worker to improve engagement and social activity among tenants, particularly for those previously unengaged. This included several social groups being established, an ongoing collaboration with the local GP surgery to bring services and advice directly to tenants, and a commitment from One Manchester to converting a ground-floor flat into a community-owned space, fostering a vibrant social community. This initiative has gone on to inspire neighbouring blocks to start similar programmes.[265]

Case study: Leeds Neighbourhood Networks

Leeds Neighbourhood Networks are a city-wide model of community-based support commissioned and part-funded by Leeds City Council. Operating across 34 local areas, these networks provide older people with tailored services and activities aimed at reducing loneliness, strengthening community involvement, and improving health and wellbeing. Services include information and advice, advocacy, social opportunities, and physical activities. All networks actively involve older people in their planning and delivery, and each reflects the needs of its local community. For example, the Leeds Black Elders Association offers culturally tailored support for older African-Caribbean residents, including a community garden and men's group.

Established in 1985, the model has become a central part of the city's approach to ageing. Its impact lies in its long-term presence, stable funding, flexible design, and strong community engagement. A Centre for Ageing Better report highlights it as an effective model of both primary and secondary prevention, with strong potential for national replication.[266] By placing older people at the centre of decision-making, the networks promote more inclusive, resilient communities.

There is strong evidence that reducing home hazards significantly decreases fall rates in high-risk older people,[236] and the benefits of home assessments and adaptations are well established. A 10-year programme retrofitting homes to remove significant hazards could generate £22 billion in benefits and create 31,500 jobs,[263] with poor-quality housing currently costing the NHS £1.4 billion annually. Significant benefits reported from these include enhanced independence, improved safety, and better mental wellbeing. Adaptations to prevent falls can also reduce the demand on the NHS, saving £1.10 for every £1 spent, and home adaptations reduce the need for formal caregiving and enable faster hospital discharge, saving £2,690 per discharge.[264]

Supporting ageing in place requires not just safe housing, but also wider social and cultural initiatives around the home environment that enable older people to live independently and interdependently. Successful examples of this in the North of England include the Greater Manchester Ageing in Place Pathfinder programme and Leeds Neighbourhood Networks, with both seeking to bring older people and local service providers together to co-produce and deliver social and environmental improvements that support ageing well in place. These place-based programmes are not widespread, though, and often depend on limited and precarious funding that is unable to keep up with the demand for such services.[264]

Building age-friendly housing

While older people are the least likely group to move home, there is still a significant unmet demand for moving in later life.[267] One reason for this is the limited amount of 'age-friendly' housing in the UK, defined as accessible homes that offer older people the opportunity to live independently as they grow older. As high-quality age-friendly housing could mitigate many housing-related challenges, this presents an opportunity for the North, which has seen the biggest increase in housing targets under the new Labour government's plans.[268] However, both specialist housing (extra-care retirement communities) and mainstream housing sectors are currently inhibited by affordability issues, disproportionately affecting older people in the North and limiting northern age-friendly home building.

People over 55 in northern England have less home equity than any other region; those in the South East and London have double and triple, respectively.[269] The retirement housing business model relies on equity release to fund service charges, limiting where these communities are built, with high concentrations in the South.[270] Similar issues exist in the socially rented sector, driven by government policies impacting viability; the lack of financial support for communal spaces makes specialist housing less viable for housing associations, and uncertainty about commissioning affects sheltered housing redevelopment.[271, 272]

Most northern building will likely be mainstream, general-needs housing. Recent policies such as Help to Buy have prioritised homes for first-time buyers and young families. To tackle unequal ageing, housing must consider all age groups, creating sustainable communities. The UK's market segregation means mainstream developers often overlook older people, and since the discontinuation of the UK Government's 'Lifetime Homes, Lifetime Neighbourhoods' initiative in 2012, local authorities have had to develop their own initiatives, leading to fragmented provision.

There remains a substantial unmet need for a diverse range of housing options for older people, including mainstream, community-led, supported living, assisted living, and care homes.[273] Meeting this need also requires measures to make housing more affordable, including reviewing rent and service charge settlements and providing capital and

revenue funding for service-led housing providers.[273]

To create age-friendly housing at scale, it is important that ageing is not viewed in isolation from other factors in the development process. For example, there is significant opportunity for age-friendly agenda to align with calls for net-zero housing, as both require the widespread 'retrofitting' of existing homes, and the creation of new homes to better design standards. Designing homes that are energy-efficient, accessible, and adaptable not only enables older people to live safely and comfortably at home, but also contributes to achieving net zero targets.[273] Improving the energy efficiency of all homes to at least EPC-C standard or higher could reduce emissions by an estimated 97 million tonnes of CO2, as well as addressing issues of fuel poverty that impact a disproportionate number of older people in the North of England.[274]

Conclusion

Addressing housing challenges for older people in northern England requires coordinated action from governments, housing developers, and older people. A national housing strategy is essential to support ageing in place and create age-friendly homes, focusing on regional inequalities and involving older people in policy decisions. Age-friendly programmes like those in Greater Manchester and Leeds can drive local change with the right resources and support. We suggest that addressing housing inequity in the North is integral to the UK's commitment to sustainable development. Not only does it provide the opportunity to address fuel poverty in the North through improving building efficiency, but it also future proofs our homes and neighbourhoods, both existing and newly built, by ensuring they are inclusive of all residents, regardless of age.

Recommendations

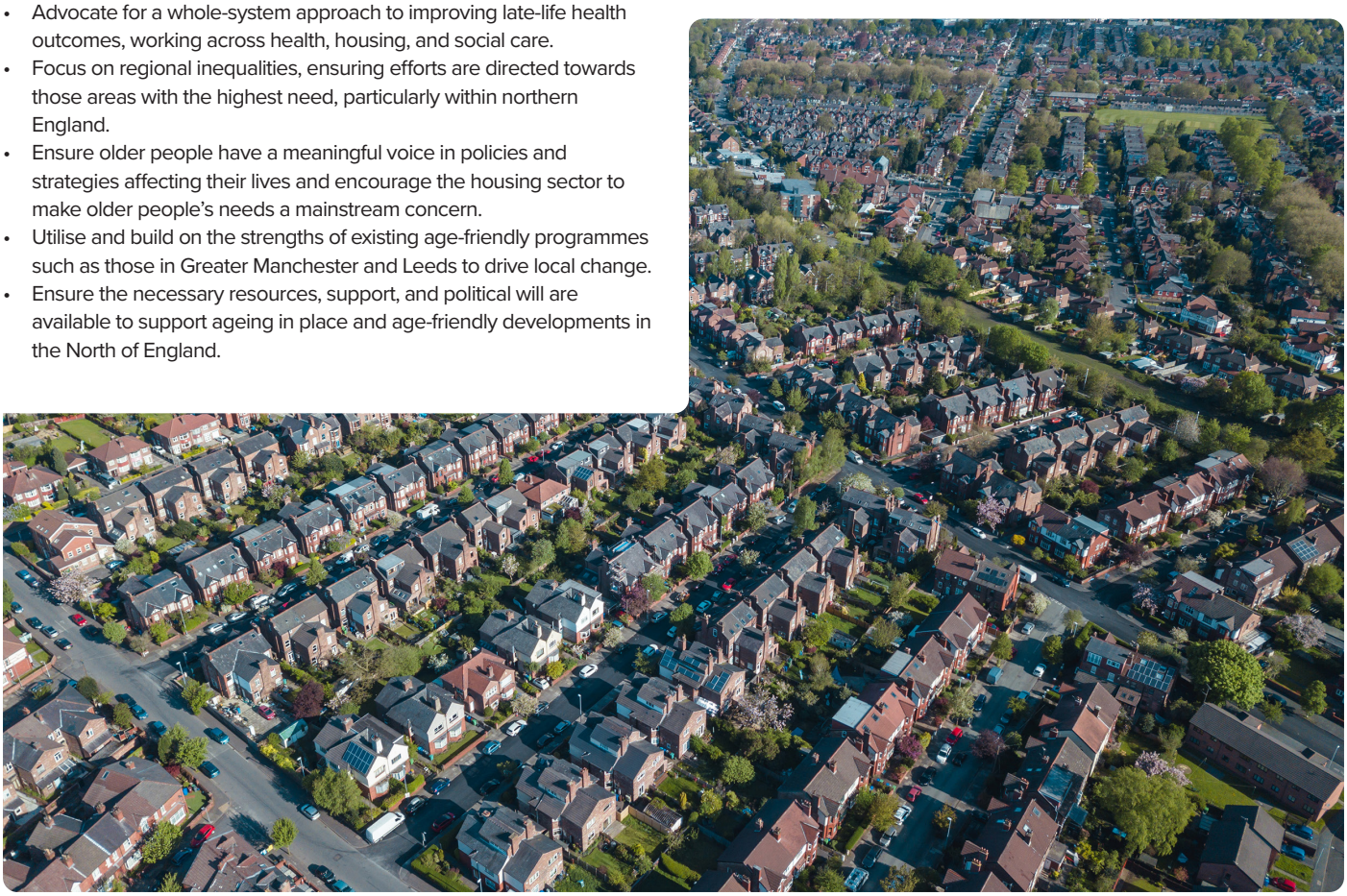
- Foster collaboration between local and national governments, housing developers, and older people, as well as sustainability and net zero agendas.
- Develop a national older people's housing strategy to support ageing in place and create age-friendly homes that considers northern England's needs.
- Advocate for a whole-system approach to improving late-life health outcomes, working across health, housing, and social care.
- Focus on regional inequalities, ensuring efforts are directed towards those areas with the highest need, particularly within northern England.
- Ensure older people have a meaningful voice in policies and strategies affecting their lives and encourage the housing sector to make older people's needs a mainstream concern.
- Utilise and build on the strengths of existing age-friendly programmes such as those in Greater Manchester and Leeds to drive local change.
- Ensure the necessary resources, support, and political will are available to support ageing in place and age-friendly developments in the North of England.

Case study: Greater Manchester Housing, Planning and Ageing Group (GMHPA)

The Greater Manchester Housing, Planning and Ageing Group (GMHPA) was established in 2018 to improve age-friendly housing in the city-region. Convened by the Greater Manchester Combined Authority (GMCA)'s Greater Manchester Ageing Hub, the group includes local government policymakers, the Greater Manchester Health and Social Care Partnership, registered social landlords, private developers, architects, national charities, NGOs, academics, and members of the Greater Manchester Older People's Network. The group benefits from the Ageing Hub's focus on long-term cultural change within policy and practice, supported by political leadership recognising the importance of ageing well in Greater Manchester.

Aiming to address the blind spot of ageing within the housing sector and overcome the lack of national policy on housing for older people, GMHPA emphasises the ethical and financial benefits of age-friendly housing to industry stakeholders, providing tools to recognise and challenge ageism and offering practical guidance for inclusive projects. In 2023, GMPH published "Creating Age-Friendly Developments", a guide for developers, designers, and policymakers outlining 62 key considerations for ensuring developments meet the needs of older people, focusing on involving older people in development processes, designing age-friendly environments, and creating homes that support healthy ageing.[275]

Shannon Conway, co-founder of residential development company Picture This, used the guide for a new 245-apartment age-inclusive Stockport housing project, noting: "It's been really useful for us to be able to hand the guide to our project team—so the consultation team, our planners, our architects, our landscape architects. When we have a design meeting, they refer back to the guide all the time!".[276]



Chapter 13: **Ethnicity**

Authors: Faraz Ahmed, Qian Xiong, and Heather Brown

Summary

- The **regional context is crucial in understanding ethnic inequalities in ageing**, but this relationship is multifaceted and must be interpreted with nuance:

  - The geographical distribution of ethnic groups in England reflects historical migration trends, employment patterns, and government settlement policies. These factors continue to influence current health outcomes. Many older adults from minoritised ethnic communities, particularly those in urban and post-industrial areas, migrated decades ago and are ageing in place. Their health challenges are shaped not only by current socioeconomic disadvantages but also by accumulated exposures to adversity throughout their lives.

- **Self-reported health status serves as a valuable indicator to examine the interplay between ethnicity, region, and ageing:**

  - While subjective, self-rated health is a widely accepted and reliable measure of overall wellbeing and chronic health conditions, especially among older populations. This chapter uses it as a lens to explore how ethnicity and regional factors jointly influence health outcomes in later life.

- **Ethnic health disparities persist across England:**

  - Among adults aged 65 and over, individuals from minoritised ethnic backgrounds consistently report poorer self-rated health than their White British counterparts.

  - These disparities remain even after adjusting for age and other relevant covariates.

- **Pronounced regional differences among adults aged 65 and over:**

  - Self-rated health tends to be better in London and the Rest of England (broadly the South) compared to the North.

  - However, these regional patterns vary across ethnic groups, suggesting that regional disparities are not uniformly experienced.

  - These differences likely reflect complex interactions between regional socioeconomic conditions, infrastructure, service provision, and public investment.

- **Ethnic health disparities vary by region:**

  - The magnitude and direction of health inequalities differ notably between regions and ethnic groups. For instance, when compared to their White British counterparts, Indian respondents consistently report lower odds of good health across all regions, whereas Mixed ethnicity individuals in the Rest of England show significantly lower odds of good health, but no significant differences in the North or London. Additionally, Pakistani individuals report experiencing markedly worse health specifically in the North.

  - These patterns underscore the importance of regional context and highlight the need to account for intersecting factors such as socioeconomic status, education, and local infrastructure.

Context

Ethnicity and intersectionality play a crucial role in shaping the experience of ageing in the North of England. Minoritised ethnic groups face unique challenges influenced by socioeconomic factors, health disparities, and regional inequalities. The concept of intersectionality, which considers how multiple factors such as ethnicity, social class, and gender intersect, is essential in understanding how minoritised ethnic older adults navigate ageing in a region already marked by socioeconomic disadvantage. The North of England has persistently experienced lower life expectancy, higher morbidity rates, and poorer health outcomes compared to the South, and these disparities are further amplified among minoritised ethnic groups.[1]

The North-South Divide and Its Role in Unequal Ageing

The North-South divide in England is a well-documented phenomenon that reflects disparities in economic development, health, and social outcomes. Northern regions, including the North East, North West, and Yorkshire and the Humber, have historically experienced economic decline following deindustrialisation, leading to higher levels of deprivation, unemployment, and poor health.[278] This divide disproportionately affects minoritised ethnic groups who are more likely to live in urban areas with high levels of socioeconomic disadvantage, exacerbating health inequalities in later life.[279, 63]

Ethnicity, Health, and Ageing: Key Evidence from the 2021 Census

While age may be a contributing factor to ethnic health disparities in self-reported health, these differences cannot be fully explained by age alone. The Office for National Statistics (ONS) 2021 Census provides crucial insights into ethnic health disparities:[280]

- **Health and ageing correlation:** Older individuals are more likely to report poorer health. The "White: Irish" group exemplifies this trend, with a median age of 54 compared to the national median of 40.
- **Young ethnic groups with poor health outcomes:** "White: Gypsy or Irish Traveller" and "Bangladeshi" groups report significantly poorer health despite being younger on average (28 and 27 years, respectively).
- **Ethnic disparities in self-reported health:** Minoritised ethnic groups, particularly in the North, report worse health outcomes than their White British counterparts (see figure 13.1). While age may be a contributing factor, these differences cannot be fully explained by age alone.

Understanding Regional Differences in Ethnic Health Inequalities

Although minoritised ethnic groups self-report poorer health status and experiences of care, regional variations must be considered. The distribution of ethnic groups across England is influenced by historical migration patterns, employment opportunities, and settlement policies.[281] London, with its high diversity, differs significantly from the North in terms of both ethnic composition and health outcomes. Key patterns from ONS Census data show that there are regional differences in the distribution of minoritised ethnic groups across England (see Appendix 5):

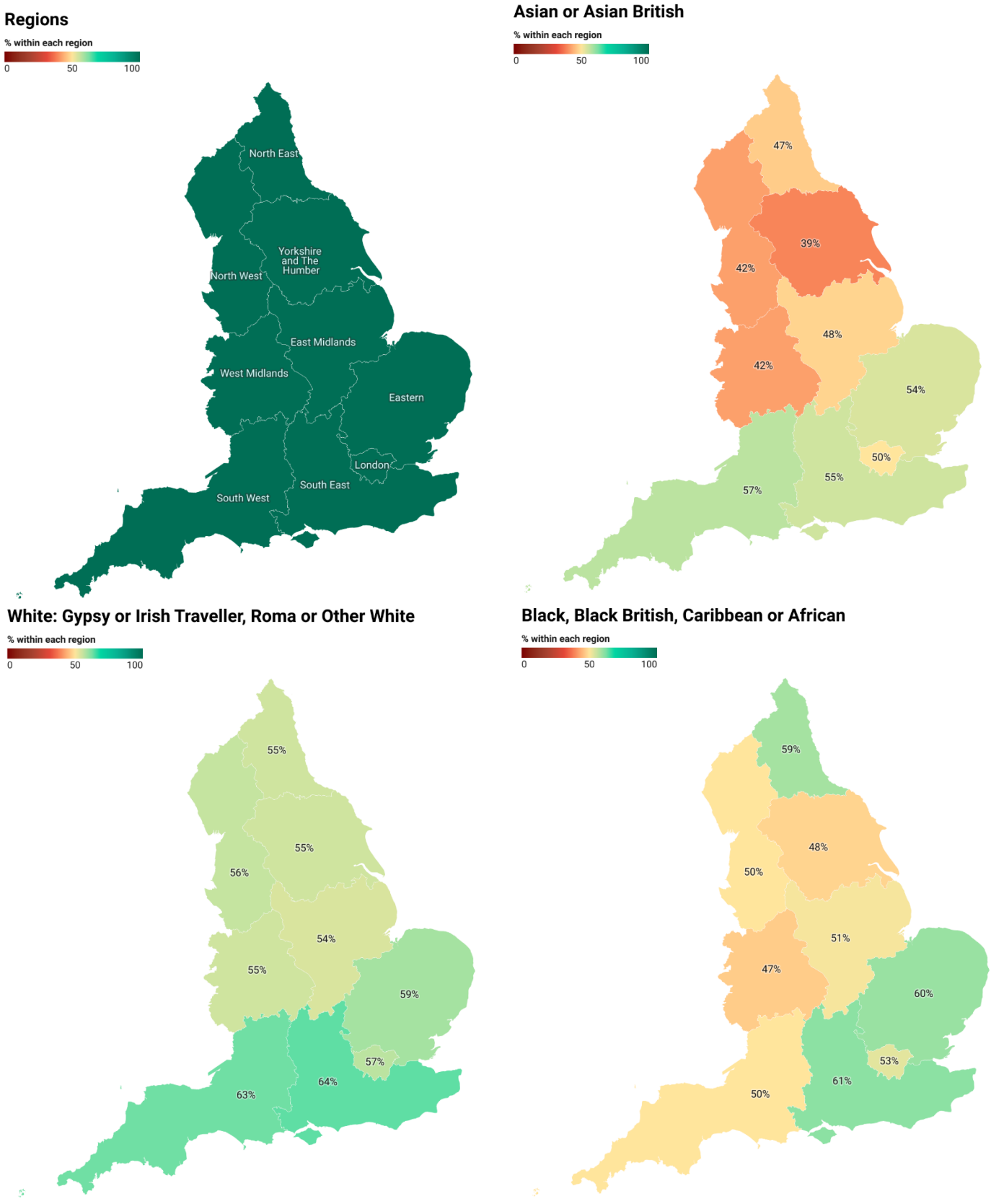
- London stands out as the most ethnically diverse region: 46.2% of people living in London identified with Asian, black, mixed or 'other' ethnic groups, and a further 17.0% with white ethnic minorities
- The North East is the least ethnically diverse region with 7.0% of people living in the North East identified with Asian, black, mixed or 'other' ethnic groups, and a further 2.4% with white ethnic minorities
- The North has the highest proportion of Pakistani individuals, indicating a strong regional concentration.
- The Midlands and East feature a particularly high proportion of Indian

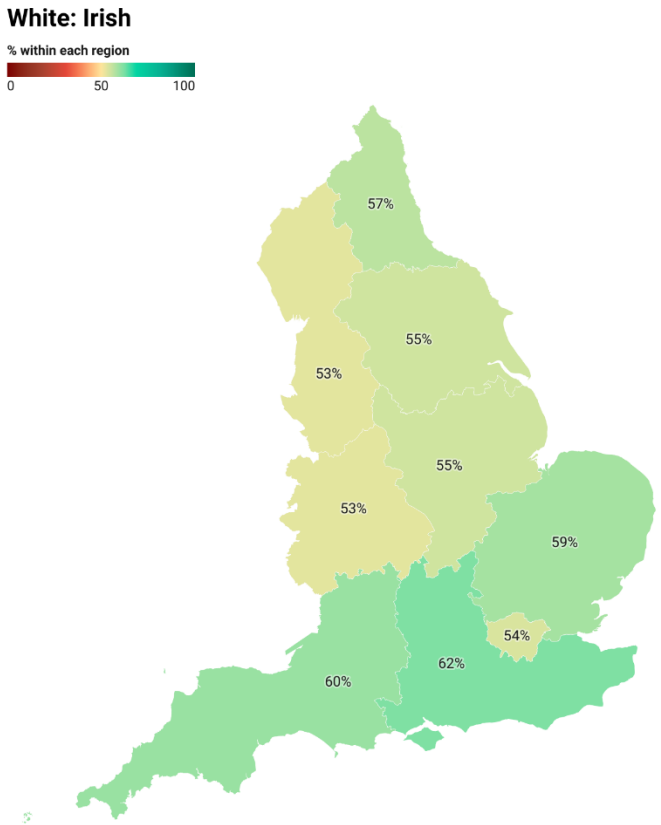
and Mixed White/Black Caribbean individuals.

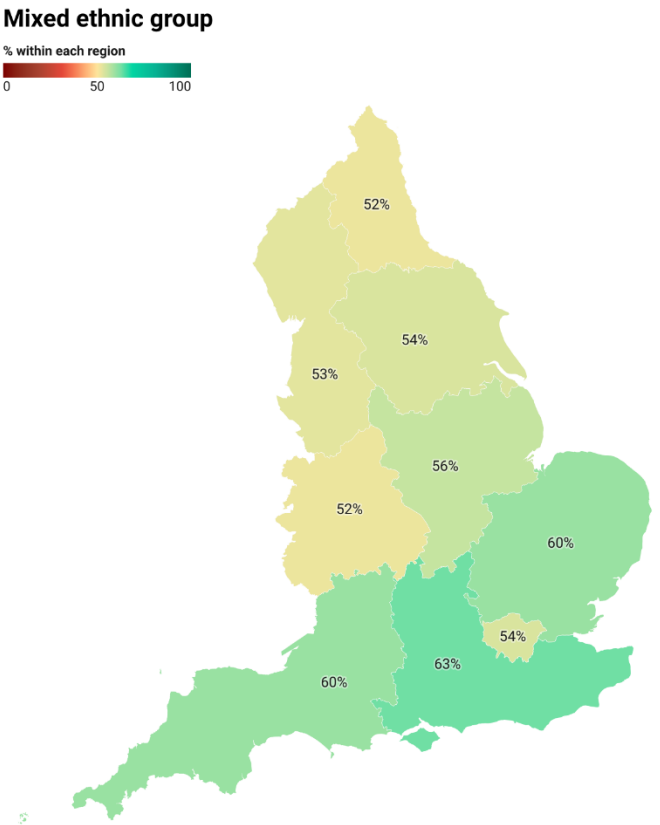
- The South tends to have a lower representation of many minoritised ethnic groups, though it has the highest proportion of Gypsy/Irish Traveller

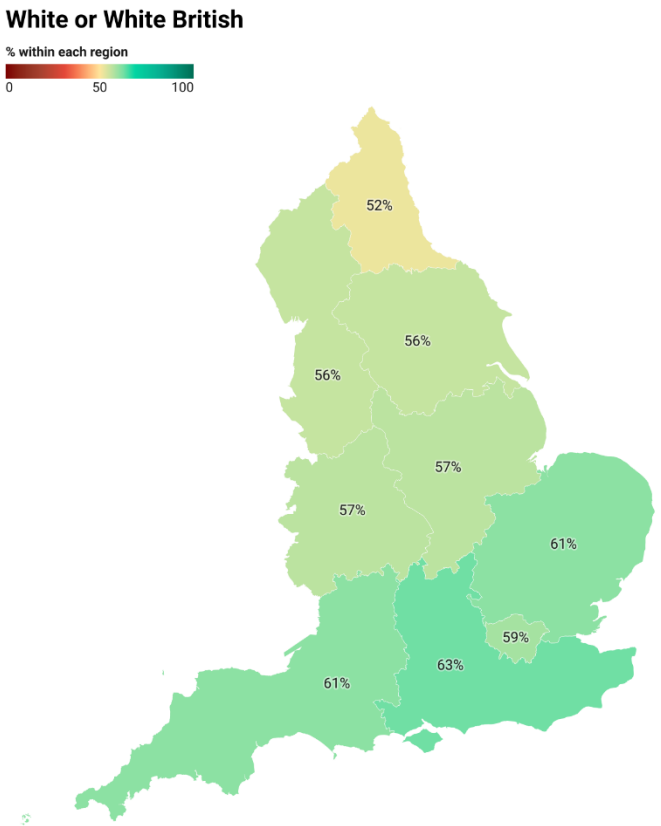
This distribution is unevenly impacted by health disparities, as northern regions have fewer healthcare resources tailored to diverse communities compared to London.[282] However, when viewed from the perspective of lay people on the North South divide, participants from both the North and South expressed a shared sense of limited control over their lived environments – including challenges in accessing clean air, outdoor spaces, and decent housing – all of which can be linked to their physical and mental health.[283] Regional variations further complicate the narrative. The distribution of ethnic groups across England is not uniform, with cities like London exhibiting high diversity due to historic migration patterns and urban settlement, whereas many northern towns remain less diverse.[284]

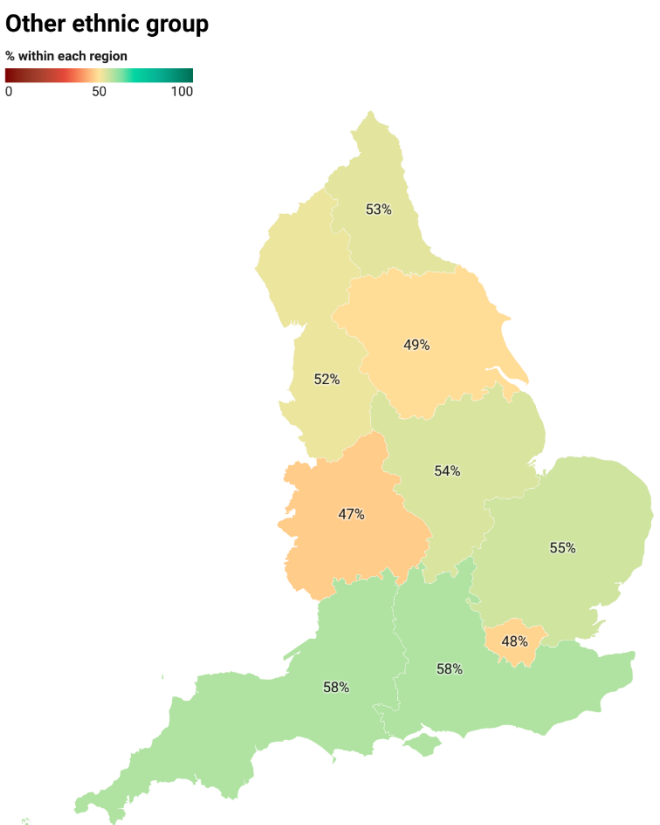
Figure 13.1 Regional distribution of self-reported good health (%) among adults aged 65 and over in England, by ethnic group (ONS 2021 Census Data)











In interpreting the North-South divide, it is important to recognise that minoritised ethnic groups often cluster in specific urban settings driven by employment opportunities, housing availability, and historic migration trends.[284, 285] This clustering means that aggregate regional data can mask significant within-region heterogeneity. For example, although overall self-reported health may be poorer in the North, minoritised ethnic individuals in urban centres of the South might report better health outcomes relative to their northern counterparts, even when both groups face socioeconomic challenges.[280] A nuanced understanding of these spatial patterns is essential for interpreting data correctly and designing targeted interventions.

Quantitative Analysis: Health Status Across Regions

Focusing on self-reported health status among older adults can help in uncovering ethnic health disparities in northern England. Self-rated

health serves as a comprehensive measure, encapsulating individuals' perceptions of their overall health, which are influenced by personal, cultural, and societal factors. This subjective assessment can reveal nuances in health experiences that objective clinical measures might overlook. However, it's important to recognise that self-rated health can be influenced by socioeconomic and cultural contexts. Studies have shown that socioeconomic status modifies how individuals perceive or describe their own health, suggesting that self-rated health may not be directly comparable across different social groups. Research indicates that self-rated health is a valid measure across various ethnic groups, correlating well with objective health indicators. We cannot fully ignore the cultural differences in interpreting health status, which may affect self-rated health reporting among diverse ethnic communities.[286, 287] Nonetheless, in northern England, where ethnic diversity intersects with regional socioeconomic challenges, analysing self-rated health can highlight specific health inequities. Figures below highlight the differences in health status (self-reported) among minoritised ethnic groups in England by region in older people by region using the ONS census data.

Using data from Understanding Society (UK Household Longitudinal Study) Waves 1–13 (2009–2022)[288], we conducted an analysis of self-reported general health among adults aged 65 and over across England. The dataset's extensive sample size and its minoritised ethnic groups boost sample enabled a nuanced examination of health disparities across ethnic groups and regions. While disaggregating data across different ethnic groups posed challenges, the findings suggest that the interaction between ethnicity and region is significant, reinforcing the need for targeted policy interventions in Northern England (Figure 13.1 and 13.2).

Descriptive statistics were used to summarise the distribution of key demographic and socioeconomic variables. We then estimated three separate logistic regression models to examine the association between ethnicity and the likelihood of reporting good or very good health, stratified by region: North of England, Rest of England, and London. Adjusted odds ratios (ORs) were calculated to account for gender, education, and ethnicity, providing region-specific insights into self-reported health status.

Descriptive statistics

Table 13.1 presents summary statistics for adults aged 65 and over (n = 113,235). Overall, 44.2% reported good or very good health, while 55.8% reported poor or fair health. The majority identified as White British (91.9%), with smaller proportions from minoritised ethnic groups. The sample was distributed across the North (28.5%), the Rest of England (60.9%), and London (10.6%). Educational attainment varied, with 19.3% holding a degree, 12.4% with a GCSE and 1% reporting no qualifications. Women made up a slight majority of the sample (54.2%).

Logistic regression results

Table 13.2 presents the adjusted odds ratios (ORs) separating by region: North of England, Rest of England, and London using Waves 1-13 of the Understanding Society Survey

Comparison of the three regions among adults aged 65 and over in England

Across all three regions, being female was associated with lower odds of reporting good health, though the effect size varied: OR = 0.89 (North), OR = 0.93 (Rest of England), and OR = 0.92 (London), all statistically significant. Higher educational attainment was consistently associated with better self-reported health. Holding a degree increased the odds of reporting good health substantially, particularly in the Rest of England (OR = 1.53), followed by the North (OR = 1.41) and London (OR = 1.28). GCSE or O-level qualifications also showed a positive association in the North and the rest of England, but were negatively associated in London (OR = 0.85), suggesting regional variation in how education relates to perceived health.

Marked ethnic disparities were evident and differed by region (see Figure 13.3). Compared to White British respondents:

- Indian respondents consistently had significantly lower odds of reporting good health in all regions (OR range: 0.65–0.79).
- Pakistani respondents in the North had reduced odds (OR = 0.74), but no statistically significant differences were observed in the Rest of England (OR = 1.02) or London (OR = 0.89).
- Bangladeshi individuals in London were more likely to report good health (OR = 1.83, $p < 0.01$), a finding not observed in other regions, where the association was not statistically significant.
- Black Caribbean individuals had higher odds of reporting good health in the Rest of England (OR = 1.24), though this pattern did not reach statistical significance in the North or London.
- Mixed ethnicity respondents in the Rest of England had significantly lower odds of reporting good health (OR = 0.58), with no statistically significant differences in the North or London.

Figure 13.2 Regional distribution of self-reported health status by age using the Understanding Society Survey

Table 13.1 Descriptive Statistics of Study Variables for adults aged 65 and over (n = 113,235) data from the Understanding Society Survey waves 1-13

Variable	Categories	%
Self-rated health	Poor/Fair	55.8%
	Good/Very Good	44.2%
Ethnicity	White British	91.9%
	Mixed Ethnicity	0.5%
	Indian	1.9%
	Pakistani	0.8%
	Bangladeshi	0.4%
	Black African	0.5%
	Black Caribbean	1.4%
Region* (n=85,705)	North	28.5%
	Rest of England	60.9%
	London	10.6%
Education	Degree	19.3%
	GCSE	12.4%
	No qualifications	1.2%
Gender	Female	54.2%
	Male	45.8%

* North = North East, North West, Yorkshire and the Humber; Rest of England = East Midlands, West Midlands, East, South East, South West; London = London

These results highlight significant regional and ethnic inequalities in self-reported health outcomes, shaped by intersecting factors of gender, education, and place.

While the models to an extent can suggest that regional context can modify the relationship between ethnicity and health, caution is warranted in interpretation. The distribution of ethnic groups across England is shaped by complex historical processes, including migration patterns, employment opportunities, and past settlement policies. Regions such as the Midlands and in the North, for example, have long-standing and diverse ethnic communities, some of whom migrated decades ago and are now part of a growing older population.[281] This demographic shift may bring distinct health challenges, including cumulative exposure to social and structural disadvantages over the life course. Therefore, while regional context appears to play a meaningful role—particularly in attenuating disparities in certain areas—it is essential to recognise the heterogeneity within and between ethnic groups, and how their lived experiences are shaped by both place and time. Any policy or analytical interpretation must account for these nuanced, historically informed dynamics.

Conclusion

Regional context plays a significant role in shaping ethnic inequalities in ageing, yet this relationship is complex and must be interpreted with care. The distribution of ethnic groups across England has been shaped by historical migration patterns, employment opportunities, and government settlement policies—factors that continue to influence current health outcomes. Many minoritised ethnic communities, particularly in urban centres and post-industrial regions, include older populations who migrated decades ago and are now ageing in place. These populations face a unique set of challenges, shaped not only by current socioeconomic deprivation but also by cumulative exposures to disadvantage over the life course.

In this chapter, we used self-reported health status as an illustrative example to explore how ethnicity and region interact to influence ageing-related health outcomes. While self-rated health is a subjective measure, it is a widely recognised and reliable proxy for overall wellbeing and long-term morbidity, particularly among older adults.
The evidence presented confirms three key points:

1. **Ethnic disparities persist:** Across England, older individuals from minoritised ethnic backgrounds consistently report poorer self-rated health compared to White British individuals, even after adjusting for age and other relevant covariates.
2. **Regional differences are salient:** Regional differences are pronounced and can vary notably across ethnic groups, underscoring the need to explore the North-South divide with greater nuance. While individuals in the Rest of England, London (or more broadly the South) generally report better health than those in the North, these disparities are not uniform across all ethnic communities. Differences in these patterns likely reflect complex interactions between regional socioeconomic conditions, infrastructure, service provision, and public investment, which differentially impact ethnic groups.
3. **Ethnic disparities vary by region:** The magnitude and nature of ethnic health inequalities differ notably across regions, emphasising the importance of regional context in understanding these disparities. For instance, while Indian respondents consistently exhibit lower odds of reporting good health across all regions when compared to their White British counterparts, other ethnic groups display more region-specific patterns. Pakistani respondents in the North experience significantly reduced odds of good health, whereas in the Rest of England and London, these differences are not statistically significant. Similarly, Bangladeshi individuals in London report substantially better health outcomes, a pattern not observed in other regions. These variations highlight that ethnic health disparities cannot be uniformly interpreted as improving or worsening across regions. In areas like the rest of England and London, where some ethnic disparities appear reduced or statistically non-significant, these patterns may reflect the distinct demographic and social compositions of local populations rather than inherently more equitable health conditions. Therefore, regional differences in ethnic health inequalities require nuanced exploration to account for intersecting factors such as socioeconomic status, education, and local infrastructure.

Table 13.2 Adjusted Odds Ratios from Logistic Regression Predicting Self-Reported Good/Very Good Health versus Poor/Fair Health, by Region (North of England, Rest of England, London)

Self-reported Good health	North of England Odds Ratio (SE)	Rest of England Odds Ratio (SE)	London Odds Ratio (SE)
Gender: Female	**0.89***** (0.03)	**0.93***** (0.02)	**0.92*** (0.04)
Education: Degree	**1.41***** (0.05)	**1.53***** (0.04)	**1.28***** (0.07)
GCSEs/O-Level	**1.23***** (0.05)	**1.13***** (0.03)	**0.85**** (0.06)
Ethnic Group: Mixed ethnicity	**0.98** (0.23)	**0.58***** (0.09)	**0.96** (0.14)
Indian	**0.65***** (0.10)	**0.70***** (0.05)	**0.79***** (0.06)
Pakistani	**0.74**** (0.10)	**1.02** (0.13)	**0.89** (0.14)
Bangladeshi	**1.03** (0.44)	**0.93** (0.19)	**1.83***** (0.26)
Black African	**0.97** (0.28)	**1.27** (0.26)	**0.84** (0.09)
Black Caribbean	**1.11** (0.20)	**1.24**** (0.11)	**1.13** (0.08)
Constant	**0.73***** (0.02)	**0.76***** (0.01)	**0.87***** (0.04)
Observations	**20,649**	**45,196**	**7,634**

Base category for gender: Male, base category for Education – Degree: No Degree, base category for Education – GCSEs/O-Level: No GCSEs/O-Level, base category for ethnicity: White British *** p<0.01, ** p<0.05, * p<0.1

These findings align with broader evidence on ethnic inequalities in health-related quality of life, multimorbidity, and access to services. Importantly, they reinforce the idea that ethnicity intersects with place-based inequalities in complex and context-specific ways. As highlighted in earlier sections of this report, factors such as poverty, housing precarity, and social support networks are also deeply intertwined with both regional and ethnic disparities. Addressing the dual challenges of regional deprivation and ethnic health inequality requires more than one-size-fits-all solutions. Public health policy must be geographically sensitive and culturally responsive, taking account of the historical, structural, and social determinants that shape the lived experiences of older adults from diverse ethnic backgrounds. Future strategies should prioritise investment in deprived regions, while also ensuring that services are inclusive and tailored to the specific needs of ethnically diverse ageing populations.

The North-South divide further exacerbates ethnic inequalities, with older adults from minoritised ethnic groups facing disproportionate health challenges compared to their White British counterparts. Future research and policy must address these regional inequalities by investing in culturally competent healthcare, improving social support systems, and tackling the underlying socioeconomic determinants of health for minoritised ethnic ageing populations. Furthermore, the chapter's insights are complementary to other sections of this report that discuss poverty, life expectancy, multiple long term chronic conditions, housing and loneliness.

- Multiple Long Term Conditions (MLTC) (Chapter 5): Structural barriers to preventive care increase MLTC rates among minoritised ethnic groups, particularly in deprived northern localities.
- Housing (Chapter 12): Minoritised ethnic communities in the North face systemic housing insecurity, exacerbating health risks. Older refugees in Greater Manchester report unsafe, temporary accommodation, compounding isolation and chronic conditions.
- Loneliness (Chapter 11): Minoritised ethnic older adults in the North are 3.81 times more likely to experience loneliness than White peers, reflecting cultural insensitivity in care services and fragmented community networks.

Looking back over previous chapters, ethnicity is a cross-cutting factor that exacerbates or moderates the other dimensions of inequality. The intertwined challenges of regional deprivation and ethnic inequalities require holistic and context-sensitive public health strategies. Future policies must recognise the layered experiences of ageing among diverse populations and deploy interventions that are both geographically and culturally attuned.

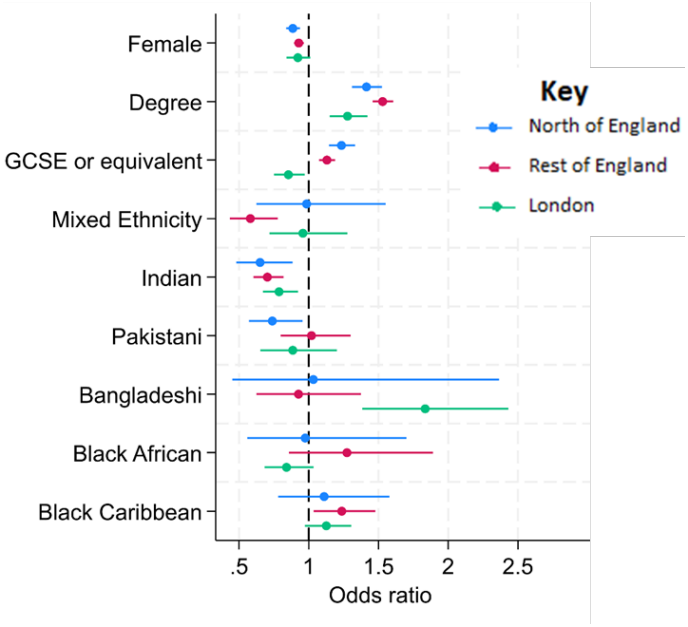
Recommendations

1. **Adopt regionally sensitive public health strategies**
   The variation in ethnic health disparities across the North, Rest of England, and London highlights the importance of regional context. Public health strategies should be tailored not only to population characteristics but also to local social and institutional conditions. The Rest of England, where some ethnic disparities are attenuated, could serve as a model for identifying effective practices to mitigate ethnic health inequalities.

2. **Strengthen place-based approaches to health equity**
   National policies should be implemented with sensitivity to local differences. Regions such as London and the North, where disparities are more pronounced, may require additional resources and community-based initiatives to address the structural drivers of inequality.

3. **Maintain intersectionality at the centre of health policy**

Figure 13.3 Odds ratio comparison of the three regions (models)



The interaction between ethnicity and region reinforces the need for an intersectional approach. Policymakers should ensure ethnic inequalities are examined alongside geography, socioeconomic status, and other overlapping disadvantages.

4. **Expand routine collection and disaggregation of ethnicity data**
   Future research and monitoring should prioritise detailed data collection that enables analysis by specific ethnic groups. This will facilitate more precise understanding and targeted policy responses.

5. **Explore and invest in mechanisms of community support and integration**
   The reduced ethnic disparities observed in some regions may be linked to stronger community networks, inclusive service provision, or differing experiences of discrimination. Further qualitative and mixed-method research is needed to explore these factors and inform interventions.

6. **Embed equity across broader determinants of health**
   Strong associations between poor health, low education, and area deprivation highlight the need for coordinated policies across housing, education, urban planning, and employment sectors.

*For more information see Appendix 5

Recommendations

1	Adopt a cross-government approach to prevent unequal ageing by embedding a life course perspective across all departments, including education, housing, employment, and health, with targeted action in the North of England, where lifelong inequalities have led to some of the poorest outcomes in later life.
2	Strengthen place-based collaboration between local government, combined authorities, housing developers, the NHS, and older adults, with an emphasis on devolved, co-produced policymaking in northern regions most affected by health and social care challenges.
3	Develop and deliver a national housing strategy for older people that prioritises ageing in place and invests in age-friendly, accessible homes, with a strong focus on addressing regional housing disparities and ensuring the voices of older adults in the North are heard and acted upon.
4	Significantly increase investment in adult social care in the North of England, where higher levels of need and long-standing underfunding are placing local authorities under severe strain and deepening inequalities between regions.
5	Develop an NHS-led, UK-wide strategy to address physical inactivity as a key driver of later-life health inequalities. Prioritise sustained investment in local, community-based programmes particularly in the North of England, where risk factors are higher. Ensure physical activity is a core component of healthy ageing policies, integrating it into health, social care, and planning systems to support prevention, independence, and quality of life for older adults.
6	Produce a national strategy to recognise and address cognitive frailty as a preventable condition distinct from dementia. Include early screening, tailored community support and targeted investment in high-risk areas such as the North of England.
7	Prioritise region-specific responses to high-impact disease clusters (such as arthritis, cardiovascular disease, and diabetes) by strengthening early intervention, expanding community-based services, and supporting older workers to manage long-term conditions, particularly in areas like the North of England where prevalence and impact are greatest.
8	Expand workplace health programmes and improve healthcare access disparities, to help people with multimorbidity stay healthy, continue working if they want, and so reduce the risk of financial insecurity and involuntary workforce exit.
9	Develop tailored place-based strategies to reduce loneliness among older people, focusing on groups at highest risk, such as women, minoritised ethnic groups, those living alone, or with poor health, in northern communities where isolation is often compounded by limited services and public transport.
10	Address food insecurity in later life through stronger national tracking and targeted local action, ensuring older adults in the North can access affordable, nutritious food to support healthy ageing and reduce risks of cognitive decline.
11	Improve the collection and use of ethnicity and regional data across health and care systems, to better understand how ethnicity intersects with geography in shaping health outcomes, and to inform culturally appropriate, regionally sensitive responses, especially in diverse communities across the North.
12	National government to strengthen support for unpaid carers of older people by increasing carer's allowance and carer-related benefits, and ensuring carers are recognised and supported as partners in the planning and delivery of health and social care.

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Appendix 1

Key Findings: Economic Impact
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Poverty, Inequality, Deprivation & Employment

Economic inactivity is a significant issue in the North, with lower historical and current access to jobs as described in this report. The costs per person of economic inactivity are estimated to be £12,000 per person each year[1]. There are an estimated 904,200 economically inactive 50 – 64 year olds in the North: 170,100 in the North East, 428,600 in the North West, and 305,500 in Yorkshire and The Humber[2]. This results in a potential reduction in GDP from economic inactivity in the North of £10.85 billion (rounded to £10.9 billion in this report) each year.

Additionally, regional differences in reasons for leaving the workforce create large differences in the total wealth of older people in the North and the South. The median wealth of 50 – 64 year olds leaving the workforce is estimated as £1.25 million for those retiring and £57,000 for those leaving due to long-term sickness or disability[3]. Of the 904,200 economically inactive 50 – 64 year olds in the North, 370,800 are inactive due to long-term sickness or disability: 68,500 from the North East, 188,200 from the North West, and 114,100 from Yorkshire and the Humber[2]. By estimating the total household wealth (using median estimates) of these individuals having left the workforce due to long-term sickness or disability compared to if they had retired, the difference in wealth had those individuals been able to retire is estimated at £440 billion (from multiplying the £1.193 million wealth gap per person by the total number of individuals inactive due to long-term sickness or disability).

Multiple Long-Term Chronic Conditions

Arthritis has a higher prevalence in the North (28%) than the South (23.3%) in 55 – 64 year olds from evidence earlier in this report. From the population totals for 55 – 64 year olds in the North (2,063,207)[7] and the estimated prevalence of arthritis, around 577,698 individuals in the North aged 55 – 64 are estimated to have arthritis. If the North had the same prevalence as the South, there would instead be around 480,727 individuals with arthritis. The difference between these figures gives an estimate of 96,971 additional people aged 55 – 64 in the North with arthritis. In conjunction with the evidence that people with arthritis are up to 20% less likely to be in work than those without arthritis, there are an estimated 19,394 people aged 55 – 64 in the North with arthritis out of work. Using the same £12,000 per year figure[1] also used earlier in this section for the cost of economic inactivity, the cost to the taxpayer per year for the additional cases of arthritis is estimated as £232.7 million.

Frailty, Falls and Fractures

As evidenced earlier in the report, people aged 65 and over living in the North West and North East are more likely to have a fall than those in the South East. Based on the rates per 100,000 population and regional population estimates for people aged 65 and over[7], there are an estimated 14,023 falls (554,068 people 65 and over) in the North East, 32,814 falls in the North West (1,414,395 people 65 and over), and 20,190 falls in Yorkshire and the Humber (1,062,069 people 65 and over), totalling 67,027 falls in the North. Combined with the average cost of a fall of £831.14[8], the total estimated yearly cost of falls in the North is £55.7 million. Similar estimates can be made for hip fractures in the North using the rates estimated in this report with the same population estimates. With this methodology, there are an estimated 3,391 hip fractures in the North East, 8,486 hip fractures in the North West, and 5,799 hip fractures in Yorkshire and the Humber annually, for a total of 17,676 in the North. The average cost of a hip fracture is higher than that for falls, estimated at £14,642[9]. Combining these totals, the estimated annual cost of all hip fractures in the North is £258.8 million.

Physical Activity

Evidence in this report shows higher rates of physical inactivity in the North compared to the South West. The average estimated cost per person per year of physical inactivity – calculated using average UK life expectancy and the average cost of physical inactivity over a lifetime[10] – is £146.23. Using analysis from this report with population estimates for people aged 55 – 74 and aged 75+, there are an estimated 1,752,689 physically inactive people aged 55 and over (1,053,181 aged 55 – 74 and 699,508 aged 75+) in the North, costing the UK £256.3 million per year.

Nutrition

Obesity rates in the North are higher in all 3 regions than the national average. The prevalence of obesity in England for people aged 16+ is 28.87%, compared to 38.79% in the North East, 33.06% in the North West, and 31.80% in Yorkshire and the Humber[11]. Combined with population estimates of the number of people in each region aged 55 – 64 (372,421, 975,169, and 715,617 respectively), there are an estimated 144,462, 322,391, and 227,566 obese people in each region respectively, and a total of 694,419 in the North.

Social Support and Unpaid Care

The proportions of people aged 65 and over in care homes, as evidenced earlier in this report, are highest in the three Northern regions. The proportions provide total estimates of 16,068 in the North East, 39,603 in the North West, and 48,022 people aged 65 and over in Yorkshire and the Humber in care homes. Care costs vary regionally, with an average weekly cost of residential care of £897, £882, and £907 for the three regions respectively[13]. Using these figures and aggregating to yearly costs, the total cost in the North of people aged 65 and over living in care homes is an estimated £4.83 billion per year.

Housing

In total in England, there are an estimated 3.5 million non-decent homes that fail to meet the Decent Homes Standard[14]. This report provides evidence of the 1.47 million Northern homes that are considered non-decent, making up 42% of the total non-decent homes in England. The cost of poor housing to the NHS per year in England is estimated at £1.4 billion[15], and the societal cost of people living in poor housing is estimated at £18.5 billion. This means that, proportionally, the cost to the NHS per year of poor housing in the North is £588 million, and the annual cost to society of people living in poor housing is £7.77 billion.

Why is Ageing so Unequal?

The final economic impact figure in the report combines estimates from previous topics examined to give an overview of some of the calculated costs associated with unequal ageing in the North.

Summary

The economic impact figures are based on publicly available data, academic publications, government sources and analysis presented in this report. While the figures rely on the assumptions and methods listed above, they illustrate the costs associated with regional health inequalities and unequal ageing in the North. All methods and data sources are described above to provide replicable estimates to help inform future policy decisions and discussions.

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Appendix: Table 1. Regional distribution in England (ONS Census 2021 data), by ethnic groups

	North (%)	Midland and East (%)	South (%)	London (%)
All	26	29	25	15
Asian	22	29	15	33
Bangladeshi	16	23	8	50
Chinese	22	21	20	33
Indian	13	34	16	35
Pakistani	40	31	10	18
Asian other	14	22	21	41
Black	13	24	12	49
Black African	15	23	13	47
Black Caribbean	8	26	10	55
Black other	13	25	12	49
Mixed	18	28	22	29
Mixed White/Asian	20	26	25	26
Mixed White/Black African	21	23	22	31
Mixed White/Black Caribbean	18	35	19	26
Mixed other	15	23	22	37
White	28	29	27	10
Gypsy/Irish Traveller	21	29	34	10
Roma	19	23	18	37
White British	29	30	28	7
White Irish	19	26	22	31
White other	14	26	23	35
Other	17	22	15	44
Arab	24	18	12	42
Any other	15	23	16	45

Source: ONS (2023) Regional ethnic diversity. Ethnicity facts and figures. GOV.UK. https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/national-and-regional-populations/regional-ethnic-diversity/latest/

Appendix 2 Appendix for Chapter 6

Details of methods: Frailty; ELSA[112] surveys approximately 8,000 people, who are collectively representative of people aged 50 and older in England. We used data from ELSA Wave 8 (2016-17) as this is the most complete for frailty data. We calculated the risk of frailty in each region of England, based on the population structure of each region, adjusted for age, gender, and urban-rural residency using the South East of England as the reference region. For details of this modelling approach see Sinclair et al.[105] Data are presented for each region of England in terms of the odds of being frail compared to the South East. Any numbers greater than 1.00 demonstrate greater risk. In this calculation by definition the South East has a risk score of 1.00 and a number greater than 1.00 indicates higher risk, while a number less than 1.00 indicates lower risk than South East England (i.e. odds ratio=1.50 means 50% more risk). Confidence intervals provide an estimate of the certainty of our calculated risk. If the reference value of 1.00 is included within the confidence interval range we cannot conclude the calculated risk differs from the South East. If 1.00 is not included within the range the risk probably does differ from the reference South East region. In doing these calculations we used generalised ordinal logistic regression, with weighting using data from ELSA wave 8. We accounted for missing data using multiple imputation by chained equations (100 iterations). The results presented are for "frail" vs "pre-frail or robust", but the proportionality assumption holds so the same odds ratios apply for "frail or pre-frail" vs "robust". Falls and fractures; In the UK, the most reliable national data on falls is derived from injurious falls that result in medical attention and hospital visit or admission. For fractures, we focused on hip fractures as the most serious and identifiable result of a fall. To identify injurious fall and hip fracture rates across England we analysed data from the Office for Health Improvement and Disparities public health profiles (formerly Public Health England Fingertips Dashboard).[113] The OHID profiles serve as a comprehensive public health data repository, and we downloaded these publicly available datasets for analysis for this report. For both falls and hip fractures, we use data from the year 2021-2022 because data from 2022-2023 are incomplete due to missing data. Falls data are based on hospital emergency attendance or admissions for falls injuries. Hip fracture data are based on finished emergency admission episodes. The OHID data are generated from Hospital Episode Statistics (HES) and Office for National Statistics (ONS) mid-year population estimates. HES data are generated from curated NHS Hospital Trust reports of admissions, discharges, procedures, outpatient appointments and accident and emergency attendances etc. Falls data are based on emergency admissions and attendances for falls injuries classified by primary diagnosis code (ICD10 code S00 to T98) and external cause (ICD10 code W00 to W19) and/or emergency admission codes. Hip fractures are based on finished emergency admission episodes for patients with fractured neck of femur classified by primary diagnosis code (ICD10 S72.0 Fracture of neck of femur; S72.1 Pertrochanteric fracture and S72.2 Subtrochanteric fracture). OHID rate calculations are directly age standardised using European Standard Population 2013 per 100,000.

Appendix 3 Appendix for Chapter 7

Sport England's Active Lives adult survey provides sport and physical activity level estimates by demographics, activity and locality in England. We used the most recent dataset for the period 2022-23. The survey is based on 172,968 responses and population estimates are created using Office for National Statistics (ONS) mid-2022 population estimates. Moderate activity is when breathing level is raised, and vigorous activity is when a person is out of breath or sweating (cannot talk without pausing for breath). Activity is counted in moderate intensity equivalent minutes, whereby a "moderate" minute counts as one minute and a "vigorous" minute counts as two minutes. Inactive is defined as doing less than 30 equivalent minutes/week, fairly active is 30-149 equivalent minutes/week, and active is doing at least 150 equivalent minutes/week. Muscle strengthening is where activity is enough to make muscles feel some tension, shake or feel warm. The measure reported is for those doing at least 2 sessions of muscle strengthening activity per week. We extracted data from the Active Lives Query Builder website. To calculate 95% Confidence Intervals we estimated the population size using the numbers reported in each table

Appendix 4 Appendix for Chapter 11

Details of dataset and data analysis of loneliness

The analysis of loneliness was based on data from the Eighth Active Lives Adult Survey, November 2022-2023 (Sport England, 2023), a cross-sectional survey focused on people aged 16 and over since 2015. The survey invitations were sent out to randomly selected households from the Royal Mail's Post Address File across England. Two members were invited to participant in online survey with the password and a paper version was intended for those non-respondents. The overall sample size is 175,000, with a minimum sample size of 400 for each local authority (excluding the City of London and Isles of Scilly) and boosted sample for the places with greatest need and the largest population size. Data is weighted to Office for National Statistics population measures for geography and key demographics.

There were 51,449 older adults (65 and over), making up 31% of the total sample. Loneliness is measured by a single question ("How often do you feel lonely?") with a five-point Likert scale ranging from never, hardly ever, occasionally, some of the time and often/always. In this analysis, lonely means "often/always" in the response. All the analysis has applied the final weights provided by the survey to make it more representative of the population.

Our analysis showed the overall prevalence of loneliness was 6.86% in England, which is at a similar level to the Lifestyle and Opinion survey (December 2024 to January 2025) conducted by Office of National Statistics (2024) in which 7% of adults reported that they felt lonely always or often. The prevalence of loneliness among older adults aged 65 and older is much lower in overall adults than our own analysis of the English Longitudinal Survey of Ageing (ELSA) Wave 10 (which was 8.71% among older adults aged 65 and older), which might be due to the measurement difference, or possibly age range differences. In ELSA, the answer to the direct question of loneliness was a three-point Likert scale (hardly ever/never, some of the time, often) while in Active Lives Adult Survey and Lifestyle and Opinion Survey, it was five-point scale (never, hardly ever, occasionally, some of the time and often/always).

Multiple regression analyses were conducted to understand how some individual characteristics or circumstances (including gender, ethnicity, living alone, general health status, disability, education, social class, physical activity intensity) and community factors (rural or urban region and the area index of multiple deprivation) are associated with the risk of feeling lonely and the variations by region in older populations. And below are the details of our regression results and measurements:

Table 1 Odds ratios of factors associated with loneliness

Loneliness	Region	North	Midlands and East	London	South	England
The North	1 [1.00,1.00]					1 [1.00,1.00]
The Midlands+East	0.939 [0.81,1.08]					1.099 [0.88,1.37]
London	1.096 [0.88,1.37]					0.842 [0.57,1.23]
The South	0.767*** [0.66,0.89]					1.000 [0.79,1.27]
Male		1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]
Female		1.545* [1.10,2.17]	1.261 [0.90,1.77]	0.625 [0.33,1.18]	1.059 [0.73,1.53]	1.202 [0.99,1.46]
White British		1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]
Ethnic minorities		3.808*** [2.16,6.72]	2.333** [1.31,4.15]	2.431* [1.24,4.78]	1.685 [0.75,3.76]	2.463*** [1.79,3.40]
Not living alone		1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]
Living alone		4.937*** [3.56,6.85]	3.695*** [2.77,4.93]	2.872*** [1.55,5.33]	4.053*** [2.89,5.69]	4.034*** [3.38,4.81]
Urban		1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 1[1.00,1.00]
Rural		1.004 [0.67,1.51]	1.028 [0.73,1.46]	1 [1.00,1.00]	0.674* [0.47,0.97]	0.881 [0.71,1.09]
Good health status		1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]
Fair or poor health status		3.757*** [2.61,5.40]	1.860** [1.24,2.79]	3.307*** [1.62,6.73]	1.821** [1.16,2.86]	2.455*** [1.97,3.06]
No disability		1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]
Disability		1.994*** [1.39,2.86]	3.828*** [2.69,5.45]	3.909** [1.74,8.80]	3.675*** [2.42,5.59]	3.070*** [2.47,3.81]
A level or higher		1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]
Lower than A level		1.196 [0.85,1.68]	0.757 [0.54,1.07]	1.279 [0.52,3.12]	1.114 [0.74,1.67]	1.013 [0.82,1.25]
IMD 3-10 (80% least deprived)		1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]
IMD 1-2 (20% most deprived)		1.328 [0.94,1.88]	1.422 [0.95,2.13]	0.778 [0.35,1.74]	0.855 [0.41,1.77]	1.232 [0.98,1.55]
NS SEC 1-4: Higher and middle social groups		1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]
NS SEC 5-8: Lower social groups		0.857 [0.60,1.23]	1.647* [1.09,2.48]	0.736 [0.32,1.69]	1.075 [0.71,1.62]	1.117 [0.89,1.40]
Active		1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]	1 [1.00,1.00]
Inactive		0.985 [0.72,1.36]	1.149 [0.80,1.64]	1.911 [1.00,3.66]	1.098 [0.74,1.64]	1.149 [0.95,1.40]
Observations	51449	8001	10160	1755	8415	28335

Exponentiated coefficients; 95% confidence intervals in brackets
Notes: Based on Active Lives Adult Survey Data
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2 Measurements of variables

Variables	Definition and categories
Region	The North: including the North East + North West+ Yorkshire and the Humer The Midlands and East: East Midlands+ West Midlands + East The South: South East + South West London: London
Loneliness	The measurement of loneliness is based on a single question ('How often do you feel lonely?), which was measured by five-point Likert scale ranging from never, hardly ever, occasionally, some of the time and often/always. Lonely means "often/always" in the response.
Ethnicity	1. White British 2. Ethnic minorities (including all ethnic groups except the White British group)
Education	Education is measured by the educational qualification. It is categorised into two categories: (1) Low (nvq2/gce o level or nvq1/cse other grade equivalent; foreign/other; no qualification) and (2) High (nvq4/nvq5/degree or higher and nvq2/gce A level equiv).
SES	The socioeconomic status (SES) is measured by the occupational classifications (NS-SEC3) of current or last occupation if not currently in employment: (1) Higher and middle social groups; (2) Lower social groups and students or other unclassified.
Disability	Disability means having some physical or mental health conditions or illnesses that have a substantial effect on the ability to do normal daily activities.
IMD	The index of multiple deprivation measures the relative deprivation of small areas in England based on a group of indicators. This variable is coded in two categories: (1) living in the 20% most deprived area; (2) living in the 80% least deprived area
Physical activity intensity	Physical activity intensity is divided into two categories 1. Active: 150 minutes a week 2. Not active: including inactive (less than 30 minutes a week) and fairly active (30-149 minutes a week)

Appendix 5 Appendix for Chapter 13

Table 1: Regional differences in England (ONS Census 2021 data), by ethnic groups

Ethnicity	North (%)	Midland and East (%)	South (%)	London (%)
All	26	29	25	15
Asian	22	29	15	33
Bangladeshi	16	23	8	50
Chinese	22	21	20	33
Indian	13	34	16	35
Pakistani	40	31	10	18
Asian other	14	22	21	41
Black	13	24	12	49
Black African	15	23	13	47
Black Caribbean	8	26	10	55
Black other	13	25	12	49
Mixed	18	28	22	29
Mixed White/Asian	20	26	25	26
Mixed White/Black African	21	23	22	31
Mixed White/Black Caribbean	18	35	19	26
Mixed other	15	23	22	37
White	28	29	27	10
Gypsy/Irish Traveller	21	29	34	10
Roma	19	23	18	37
White British	29	30	28	7
White Irish	19	26	22	31
White other	14	26	23	35
Other	17	22	15	44
Arab	24	18	12	42
Any other	15	23	16	45

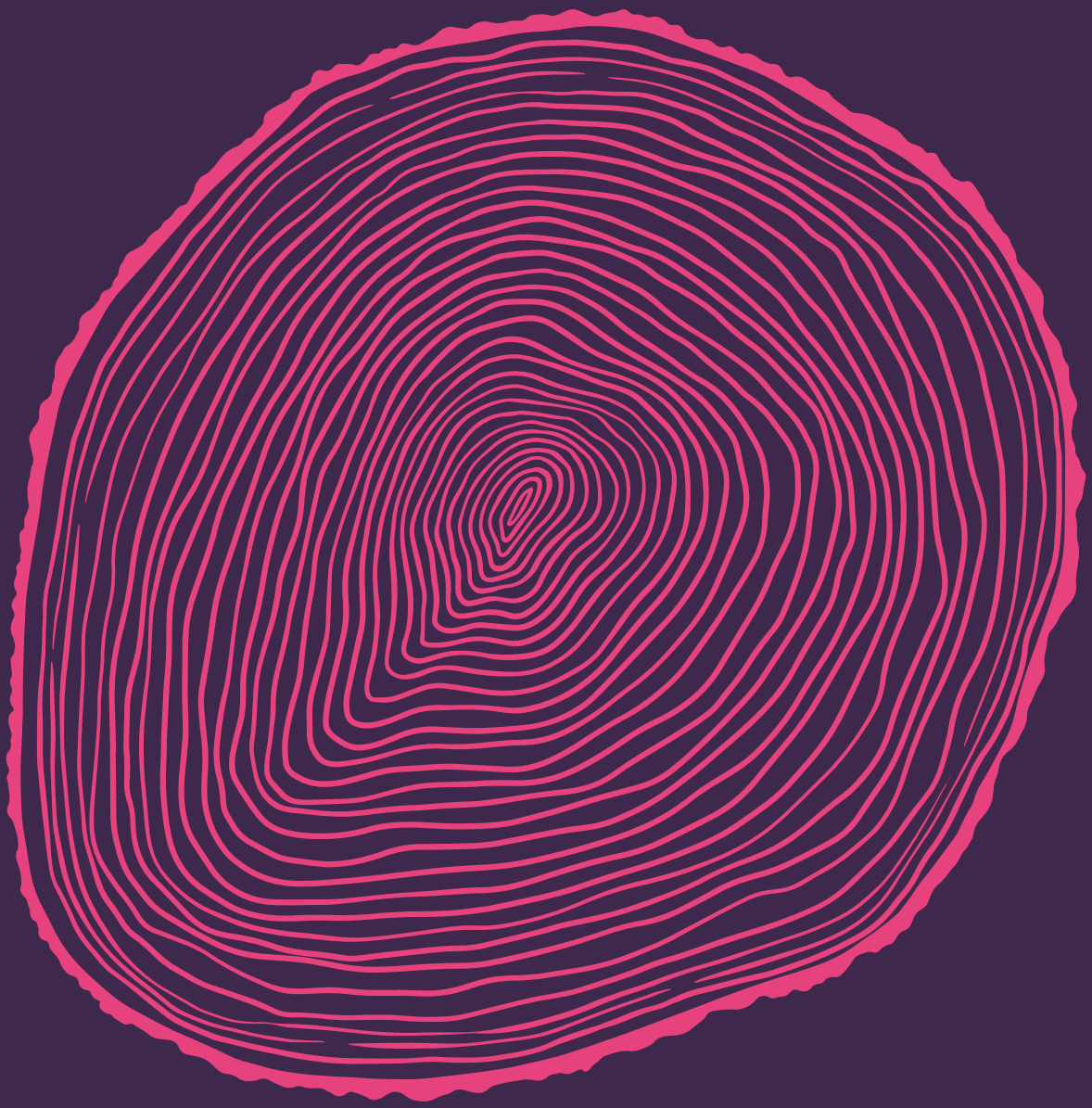
Source: ONS (2023) Regional ethnic diversity. Ethnicity facts and figures. GOV.UK. https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/national-and-regional-populations/regional-ethnic-diversity/latest/
* North = North East, North West, Yorkshire and the Humer; The Midlands and East = East Midlands, West Midlands, East; The South= South East, South West; London = London

i With more space we would distinguish within the 'north' the 'manufacturing heartland', comprising the West midlands, the North West and Yorkshire and Humber, from the 'industrial periphery' of Wales, Scotland and the North East. Coal mining was concentrated in the latter (six times the average industrial employment). From the mid-nineteenth to the early twentieth century employment grew less rapidly in the periphery than the heartland. See Martin (1988).

ii 2020/21 data was not collected due to the Coronavirus pandemic.

iii Details of methods: Frailty; ELSA112 surveys approximately 8,000 people, who are collectively representative of people aged 50 and older in England. We used data from ELSA Wave 8 (2016-17) as this is the most complete for frailty data. We calculated the risk of frailty in each region of England, based on the population structure of each region, adjusted for age, gender, and urban-rural residency using the South East of England as the reference region. For details of this modelling approach see Sinclair et al 105. Data are presented for each region of England in terms of the odds of being frail compared to the South East. Any numbers greater than 1.00 demonstrate greater risk. In this calculation by definition the South East has a risk score of 1.00 and a number greater than 1.00 indicates higher risk, while a number less than 1.00 indicates lower risk than South East England (i.e. odds ratio=1.50 means 50% more risk). Confidence intervals provide an estimate of the certainty of our calculated risk. If the reference value of 1.00 is included within the confidence interval range we cannot conclude the calculated risk differs from the South East. If 1.00 is not included within the range the risk probably does differ from the reference South East region. In doing these calculations we used generalised ordinal logistic regression, with weighting using data from ELSA wave 8. We accounted for missing data using multiple imputation by chained equations (100 iterations). The results presented are for "frail" vs "pre-frail or robust", but the proportionality assumption holds so the same odds ratios apply for "frail or pre-frail" vs "robust". Falls and fractures; In the UK, the most reliable national data on falls is derived from injurious falls that result in medical attention and hospital visit or admission. For fractures, we focused on hip fractures as the most serious and identifiable result of a fall. To identify injurious fall and hip fracture rates across England we analysed data from the Office for Health Improvement and Disparities public health profiles (formerly Public Health England Fingertips Dashboard) 113 The OHID profiles serve as a comprehensive public health data repository, and we downloaded these publicly available datasets for analysis for this report. For both falls and hip fractures, we use data from the year 2021-2022 because data from 2022-2023 are incomplete due to missing data. Falls data are based on hospital emergency attendance or admissions for falls injuries. Hip fracture data are based on finished emergency admission episodes. The OHID data are generated from Hospital Episode Statistics (HES) and Office for National Statistics (ONS) mid-year population estimates. HES data are generated from curated NHS Hospital Trust reports of admissions, discharges, procedures, outpatient appointments and accident and emergency attendances etc. Falls data are based on emergency admissions and attendances for falls injuries classified by primary diagnosis code (ICD10 code S00 to T98) and external cause (ICD10 code W00 to W19) and/or emergency admission codes. Hip fractures are based on finished emergency admission episodes for patients with fractured neck of femur classified by primary diagnosis code (ICD10 S72.0 Fracture of neck of femur; S72.1 Pertrochanteric fracture and S72.2 Subtrochanteric fracture). OHID rate calculations are directly age standardised using European Standard Population 2013 per 100,000.

iv Sport England's Active Lives adult survey provides sport and physical activity level estimates by demographics, activity and locality in England. We used the most recent dataset for the period 2022-23. The survey is based on 172,968 responses and population estimates are created using Office for National Statistics (ONS) mid-2022 population estimates. Moderate activity is when breathing level is raised, and vigorous activity is when a person is out of breath or sweating (cannot talk without pausing for breath). Activity is counted in moderate intensity equivalent minutes, whereby a "moderate" minute counts as one minute and a "vigorous" minute counts as two minutes. Inactive is defined as doing less than 30 equivalent minutes/week, fairly active is 30-149 equivalent minutes/week, and active is doing at least 150 equivalent minutes/week. Muscle strengthening is where activity is enough to make muscles feel some tension, shake or feel warm. The measure reported is for those doing at least 2 sessions of muscle strengthening activity per week. We extracted data from the Active Lives Query Builder website. To calculate 95% Confidence Intervals we estimated the population size using the numbers reported in each table



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