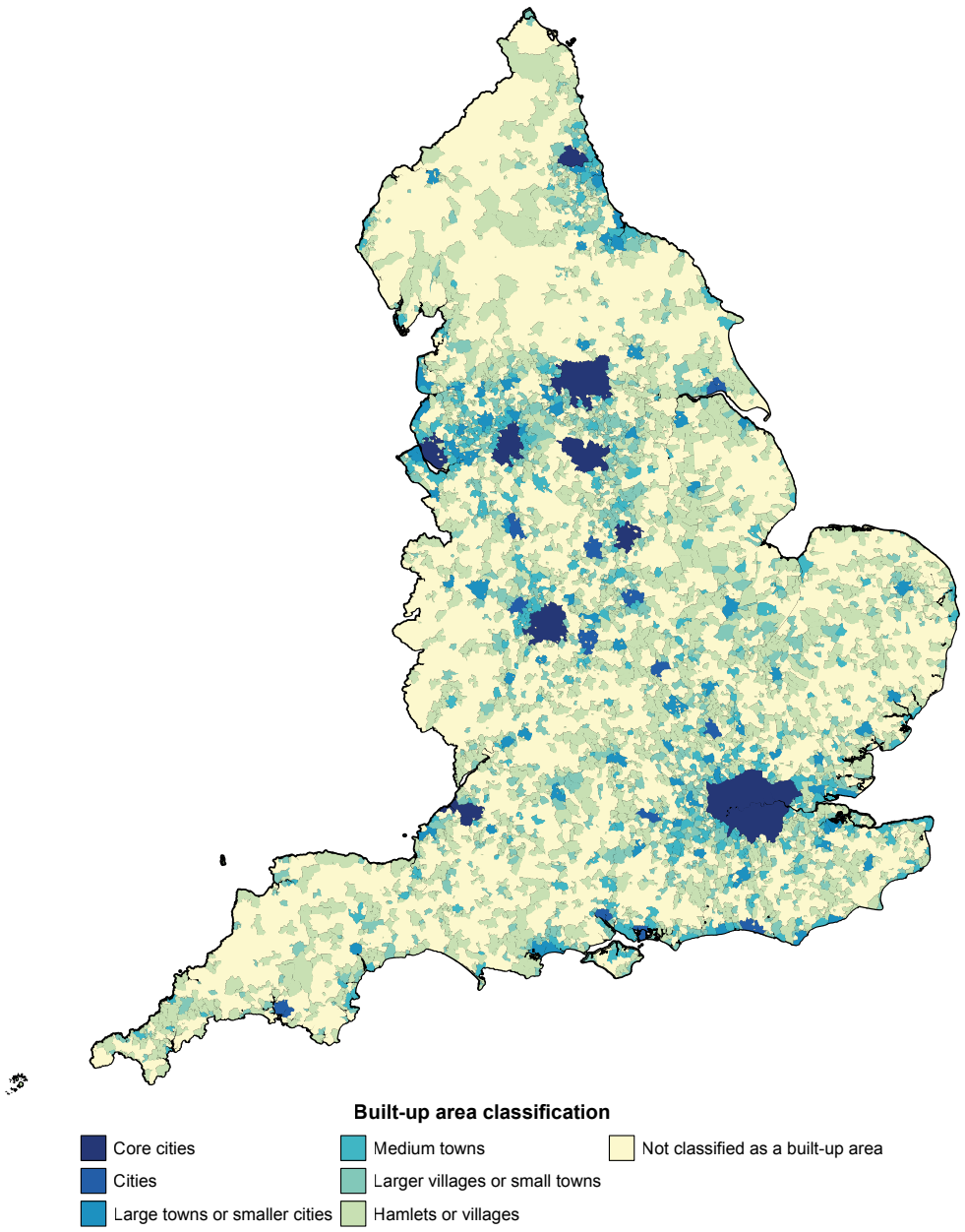
Chief Medical Officer's Annual Report 2024

Health in Cities



Front cover image: Map of England by built-up area classification, based on the mid-2022 lower super output area (LSOA) population. Core cities consist of London, Birmingham, Bristol, Leeds-Bradford, Liverpool, Manchester, Newcastle upon Tyne, Nottingham and Sheffield.

Image source: Department of Health and Social Care (based on data from the Office for National Statistics)

Foreword

Cities provide remarkable places for people to live, work, enjoy cultural and leisure activities and study. A high proportion of the English population live in cities throughout their lives whilst others come to cities early in their adult lives for work or study before moving out, often after they start a family. The health of our cities is therefore very important for the health of the nation.

Cities have a number of unique qualities from a health perspective. They are home to an extensive variety of often distinct communities living very close together. This includes wide ranges of poverty and affluence, ethnic mix, and cultural experience all living within short distances. Populations are generally younger than rural areas with favourable old-age support ratios stretching into the predictable future. They tend to be home to the large teaching hospitals and other areas of health and scientific specialisation. Distances between families and healthcare are often short, at least geographically, making provision of health and social care services practically easier. It is possible to find almost every interest catered for in a large city within easy access at least for those with limited disabilities; it is also possible to be very alone with no one noticing. It was striking in getting evidence for this report that many cities feel like a conglomeration of multiple villages next door to one another and with each community often not engaged in the health challenges of the neighbouring communities.

Although affluence and poverty are more likely to be side by side in cities than in other environments, deprivation is often concentrated in specific areas within our great cities with the inevitable concentration of diseases of poverty. Ethnic minority populations, and in particular new arrivals, are much more likely to be in cities than in the country as a whole and their needs must be anticipated. Some risks to health, such as outdoor air pollution, are especially problematic in cities, and space for physical exercise and mental relaxation can be difficult to find relative to less crowded areas where the cost of land is lower, and must be protected, especially in areas of deprivation.

This Chief Medical Officer (CMO) annual report examines the health of our major cities. It looks at the issues affecting the largest cities in the UK and addresses some specific challenges for health seen in cities. Cities provide some of the biggest challenges to health; they also provide some of the widest variety of potential opportunities.

For **individual citizens** living in cities there is a challenge both to optimise our own and our families' health, and the health of our neighbours. While cities provide multiple opportunities they also make it easy, and often the default, to live a life that is almost entirely sedentary with a diet that is guaranteed to reduce the period living in good health. It is arguably easier to forget the negative effects of our actions on our neighbours, for example in increasing air pollution, in the relative anonymity of a city.

For **policymakers** in local and central government it is important to support your first instinct to be brave in support of the health of children and vulnerable people now and in the future. It is possible to design cities in such a way that they enhance health through decisions on

transport, housing, schooling, food policy, licencing and pollution. The evidence base is there to achieve this. None of these come without some cost in money or political capital but given the density of the population and the degree of need, the impact of pro-health decisions can be substantial and usually long lasting. Those who oppose specific evidence-based solutions should feel a responsibility to say what they would do instead to preserve the health of their fellow citizens.

For the **NHS and delivery of public health interventions** we may fail because the variety of communities and the very marked concentration of deprivation and consequent ill heath in specific parts of cities is not sufficiently reflected in planning. Spreading the jam evenly (often the easiest way to deliver services) will not get the most effective or efficient outcomes when the potentially avoidable ill health in cities is so heavily concentrated in particular localities and communities.

Cities provide more varied problems, and a wider range of potential solutions because of their scale, size and degree of specialisation. This report explores both, with examples from many of England's cities. I am very grateful to the many authors from around the country and those who contributed to this report, and in particular, Dr. Hannes Hagson and Dr. Nileema Patel.

Prof. Chris Whitty,
Chief Medical Officer for England

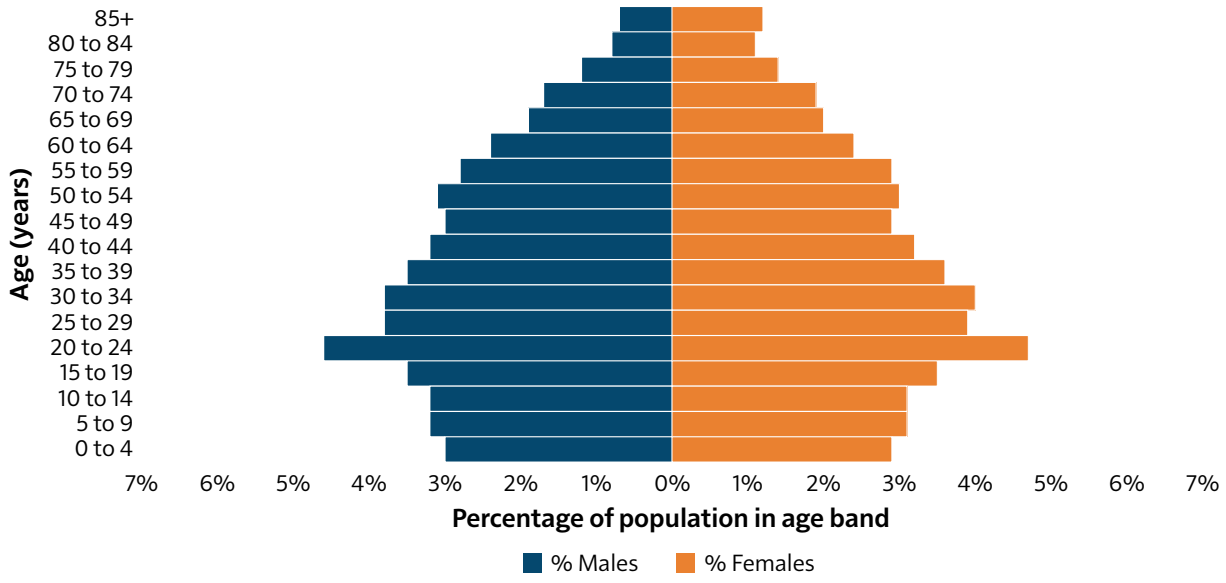
Executive summary

Health in cities in England

This report is on the health of cities in England. Cities have no exact definition for health purposes, but there are distinct patterns of populations and health in our large built-up areas which differ from those of smaller towns and more rural areas. Cities are younger, more diverse and offer a wealth of resources, from culture to commerce to specialist healthcare, which can promote good health and wellbeing. They can also have high concentrations of deprivation and poverty, often very close to areas of affluence, with the health effects of deprivation being very apparent.

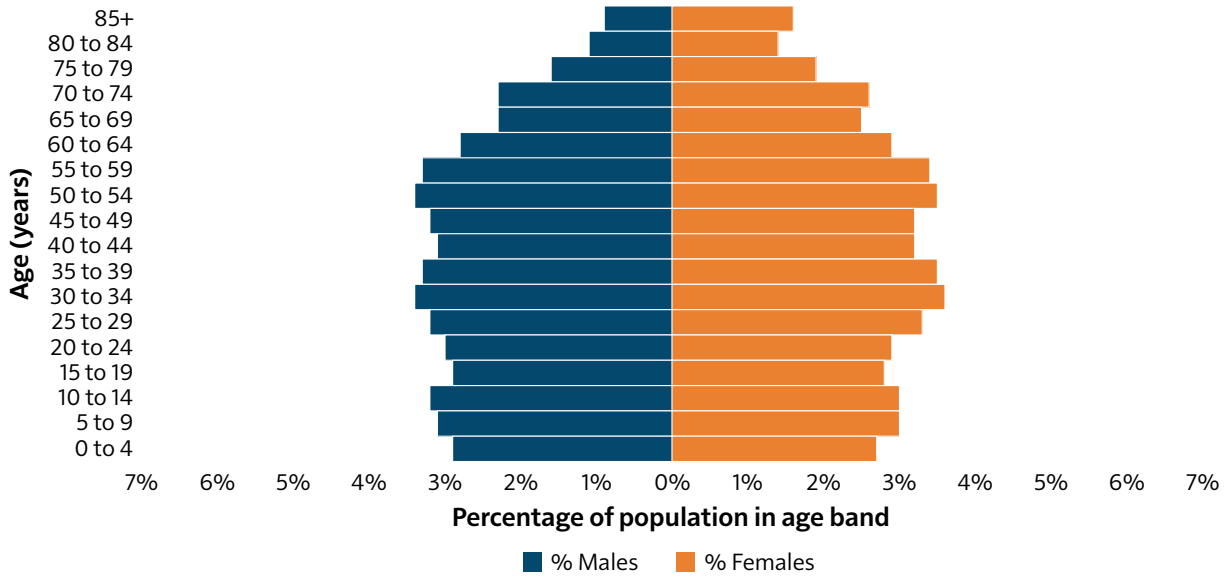
1. **Cities are younger than rural areas and smaller towns**. This was explored in part in last year's CMO annual report on Health in an Ageing Society. This means that cities have an advantage in terms of having a large working-age population, and should be better placed to support the ageing population as old age-support ratios are favourable and likely to remain so for the foreseeable future. However, the population of cities is ageing too, although at a slower rate than rural areas, and maintaining and improving health as we age presents different challenges and opportunities for older people in cities compared to more peripheral areas. A high proportion of the ageing population lives in cities given the large number living there so this needs policy focus.

Figure 1: Population pyramid of all major built-up areas (BUAs) in England (population 200,000+, excluding London)



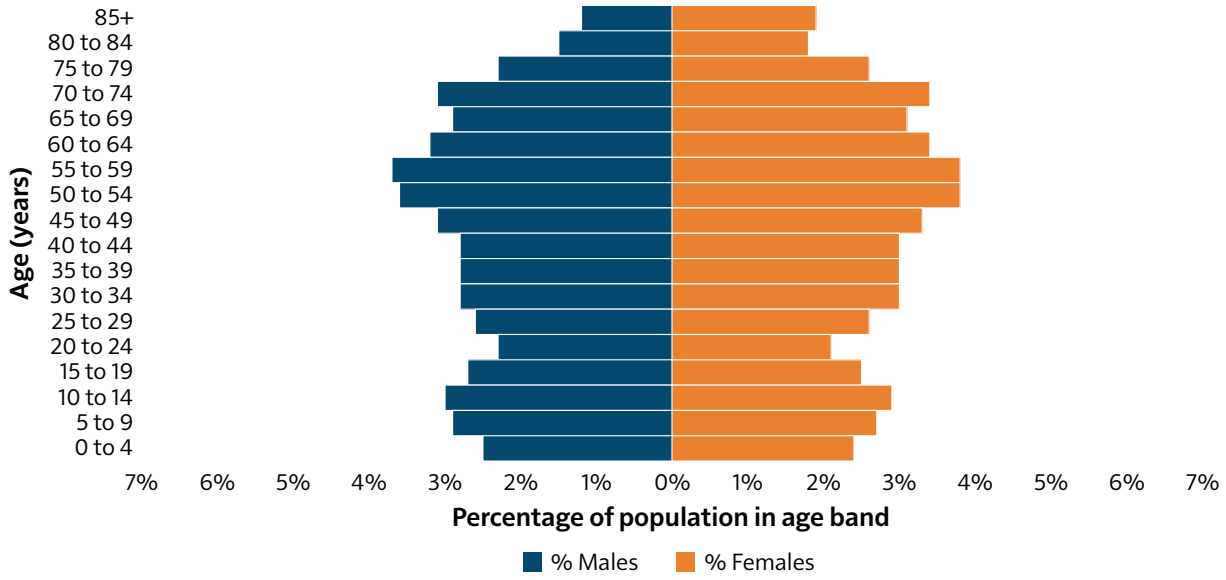
Data source: ONS, 'Towns and cities, characteristics of built-up areas, England and Wales: Census 2021'[1] and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021'[2]

Figure 2: Population pyramid of all large and medium BUAs in England (population 20,000 to 199,999)



Data source: ONS, 'Towns and cities, characteristics of built-up areas, England and Wales: Census 2021'[1] and 'Coastal communities, characteristics of built-up areas, England and Wales: Census 2021'[2]

Figure 3: Population pyramid of all small and minor BUAs in England (population 0 to 19,999)



Data source: ONS, 'Towns and cities, characteristics of built-up areas, England and Wales: Census 2021'[1] and 'Coastal communities, characteristics of built-up areas, England and Wales: Census 2021'[2]

2. **Cities are often places of high degrees of mixing and churn.** They are often areas where people migrate to as young adults, for work or study or other reasons, and subsequently may move out of in later life. People living in cities may move several times within cities, especially in their early adult lives. Many interventions such as screening or immunisation are harder to maintain in such mobile populations and rates of take-up of immunisation,

screening and other public health interventions are often lower than in the rest of the country.

Figure 4: Coverage of MMR1 vaccine measured at 24 months of age in England for quarter 1 2024 to 2025 by Upper Tier Local Authority

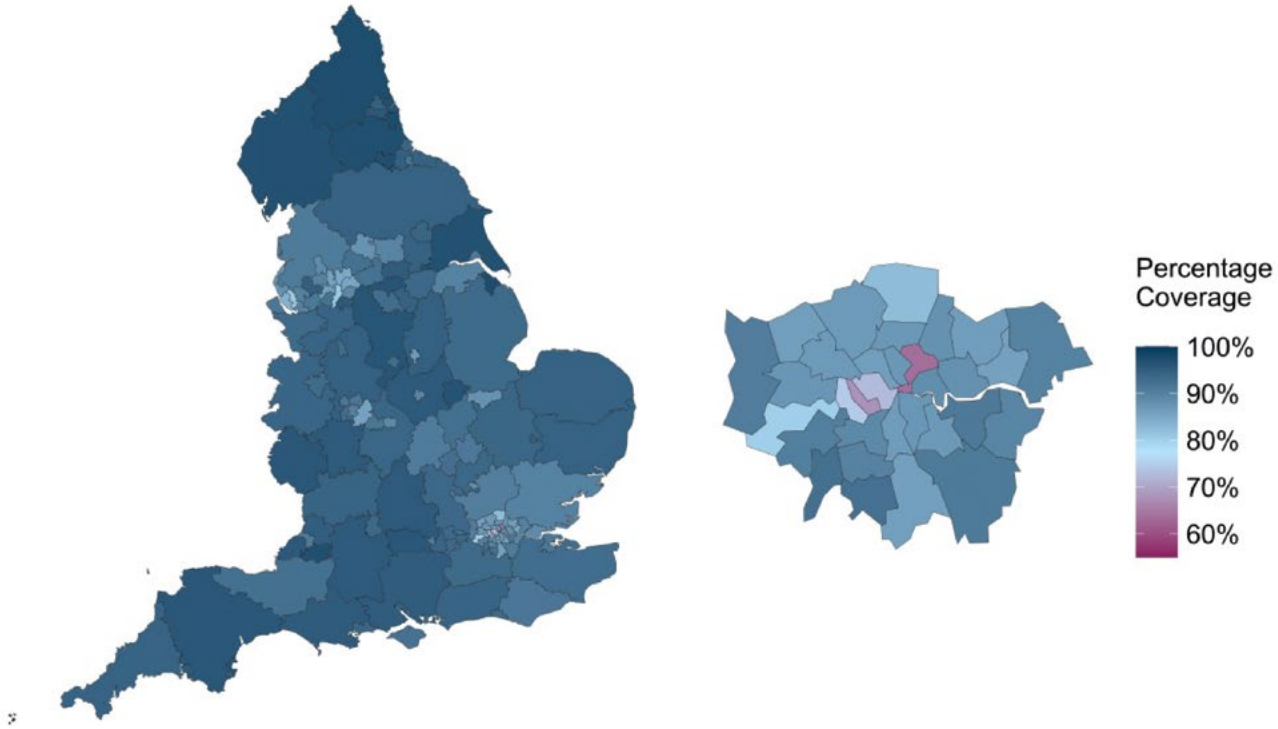


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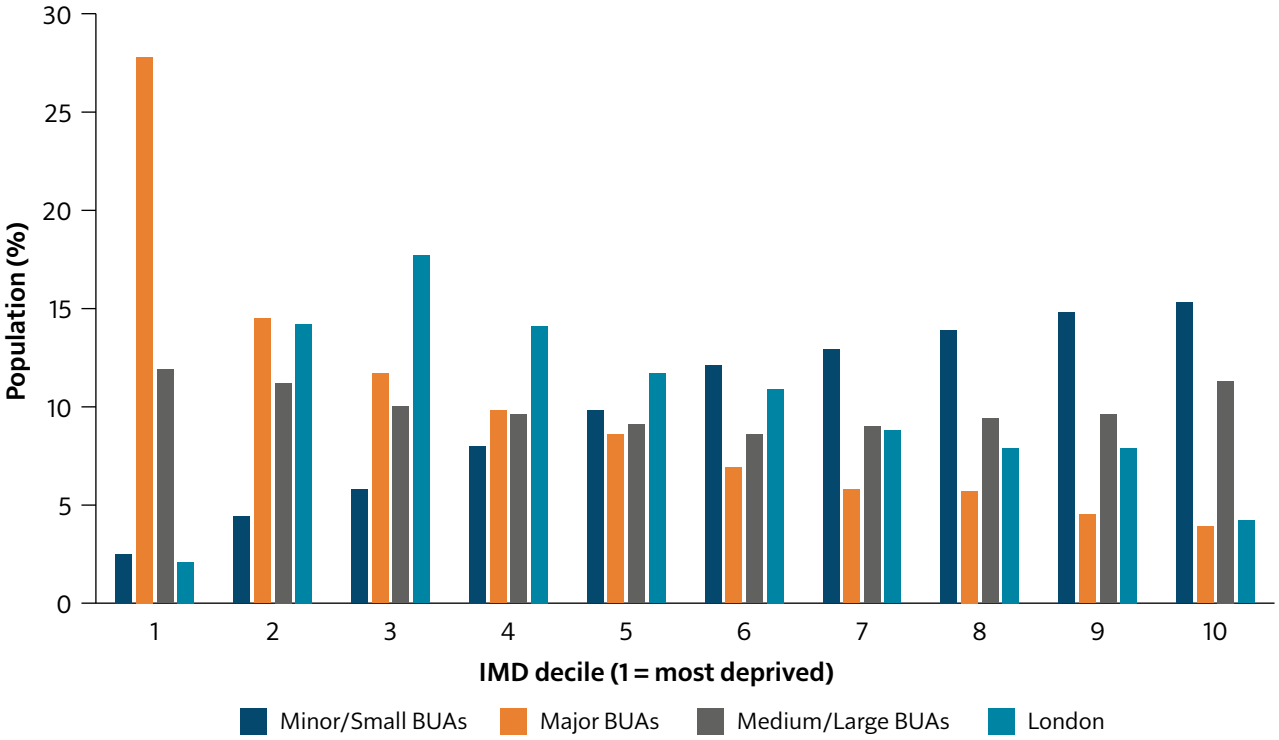
Image via UKHSA, "Quarterly vaccination coverage statistics for children aged up to 5 years in the UK (COVER programme): April to June 2024"[3]

3. **Deprivation and poverty, while existing across both rural and urban areas, is highly concentrated in cities.** This means that there are neighbourhoods and areas of cities with entrenched and longstanding deprivation where tens of thousands of residents live with limited access to those things which make us healthy, such as good housing, education and work. The risk factors for ill health, such as smoking and living with obesity, are also often concentrated in urban deprived areas. These combine to reduce life expectancy and years lived in good health in those neighbourhoods. While this is true in deprived rural areas, the concentration of people in our large cities means that the absolute numbers of people living in the most deprived areas of the country can be in the tens of thousands in just one small neighbourhood. Figure 5 demonstrates just how concentrated deprivation is in our large cities, with over a quarter of residents in major BUAs in England living in the 10% most deprived areas. This concentration brings challenges for health improvement and health protection, but also opportunities as the areas to concentrate most on because they have the worst health outcomes in high density.

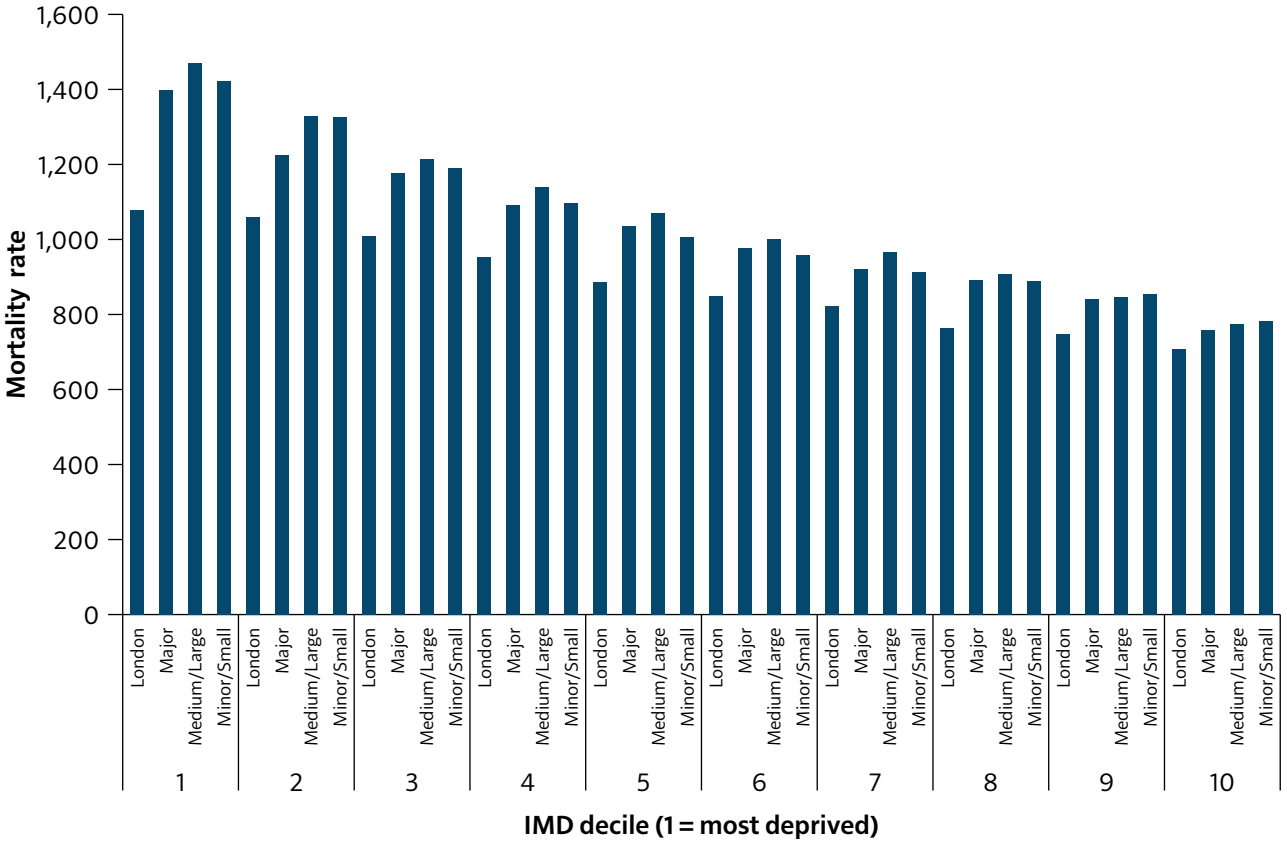
Figure 5: Percentage of population by BUA category and Indices of Multiple Deprivation (IMD) decile



Data source: ONS, "Health Inequalities by built-up area and ethnic group, England: March 2021 to May 2023"[4]

The association between deprivation and poorer health outcomes can be seen in Figure 6. This demonstrates the gains in health which could be made by reducing the health effects of city deprivation. It is noteworthy that London, the UK's wealthiest city, shows significantly lower mortality rates than the other built-up areas, particularly in the more deprived deciles.

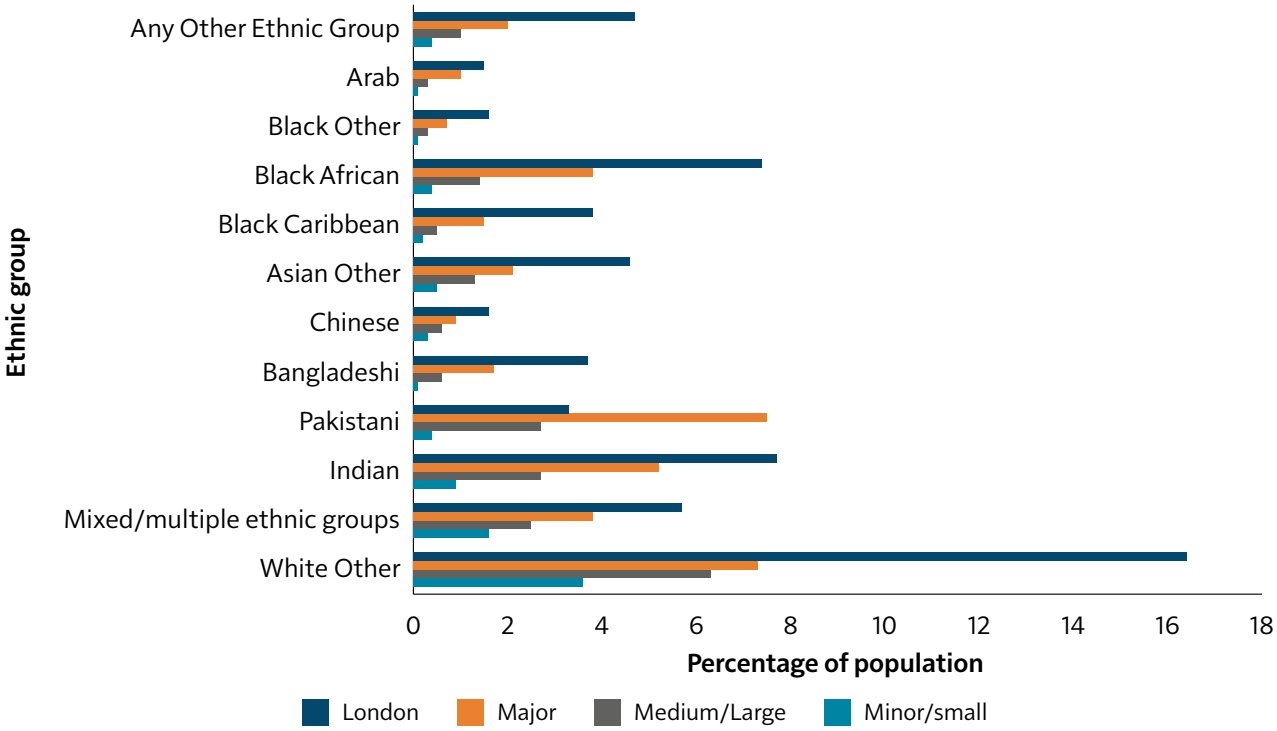
Figure 6: Age standardised all-cause mortality rates by IMD decile and BUA category (per 100,000 person years)



Data source: ONS, 'Health Inequalities by built-up area and ethnic group, England: March 2021 to May 2023'

4. **Cities benefit by having highly ethnically diverse populations.** Ethnic diversity in England is country-wide but is much more highly concentrated in cities. People from ethnic minority backgrounds often experience particular health inequalities. Most, but not all, ethnic minority groups suffer on average less good health than the white majority population. This can have many causes including genetic pre-disposition (for example, sickle cell disease) and societal factors, but it can often be largely caused by the relatively higher concentration of deprivation in which many ethnic minority citizens in cities live. Some major diseases more common in some ethnic minority groups have genetic, social and deprivation components – an example might be Type 2 diabetes. Teasing these apart can be difficult but is important for planning public health interventions and NHS services in cities, which need to serve the many communities cities contain.

Figure 7: Percentage of total population in different BUA categories by ethnic group (excluding White British)



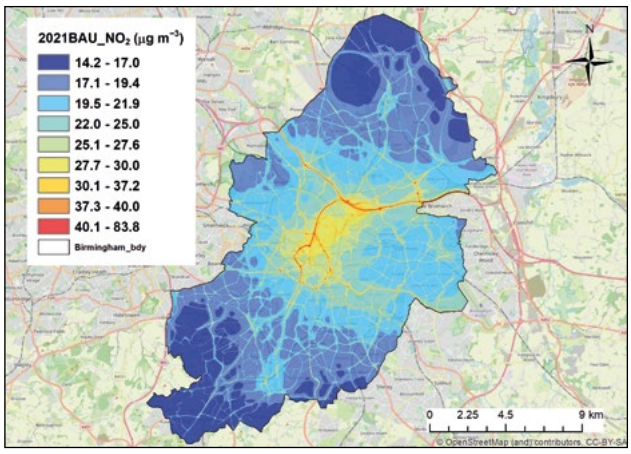
Data source: Office for National Statistics, 'Health Inequalities by built-up area and ethnic group, England: March 2021 to May 2023'

5. **Cities are unique in their high concentration of buildings, including for accommodation.** This presents challenges in terms of access to good housing, green spaces, and a pollution-free environment. Improving the built environment in cities presents an opportunity to significantly improve health for millions of people.

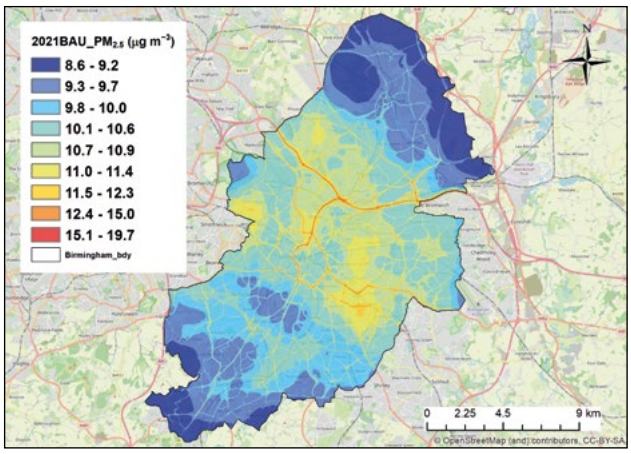
6. **The effects of air pollution are mostly faced in large urban areas, in particular, cities.** Transport and space heating are areas that need particular action to reduce air pollution.

Figure 8: a) Annual air quality map of mean NO_2 over Birmingham for 2021 b) Annual air quality map of mean $PM_{2.5}$ over Birmingham for 2021

a) Annual air quality map of mean NO_2 over Birmingham for 2021



b) Annual air quality map of mean $PM_{2.5}$ over Birmingham for 2021

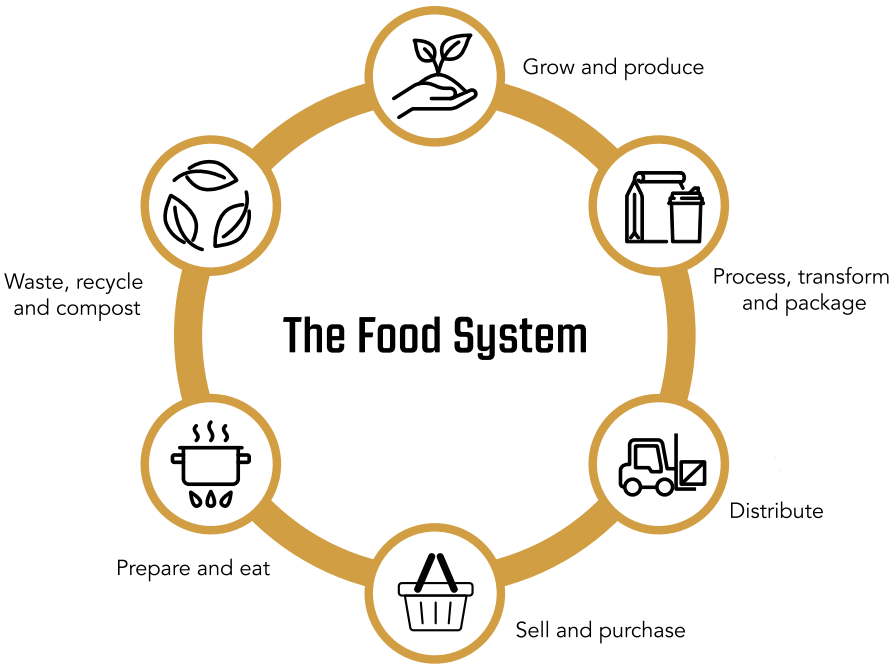


Source: Zhong et al.[5] as part of the West Midlands Air Quality Improvement (WM-Air) programme[6]

7. **Physical activity is one of the best ways to preserve health.** Cities provide both difficulties and opportunities for citizens to build exercise and physical activity into their daily lives. Cities should be ideal places for enabling active travel with shorter distances to the things we need or want on a regular basis, including supermarkets, places of leisure, work or healthcare. Making walking and cycling more practical and safer, and access to green space easier and more equitable, would go a long way toward removing barriers to improving physical activity levels and could significantly improve the health of England's increasingly urban population. Green space and sporting facilities are at a premium, but transport to them is usually good in comparison to rural areas. Areas of deprivation are often poorly served both for active transport and for sporting facilities.

8. **The food and outdoor leisure environment in cities varies between areas of affluence and deprivation.** It is often varied and exciting in areas of affluence, but frequently detrimental to public health in areas of deprivation, with a heavy concentration of fast food outlets concentrating on a limited range of products high in fat, sugar and salt, a high density of advertising of unhealthy foods and limited shopping opportunities. While the food system in cities is very complex, this provides an opportunity to improve the health of city populations by enabling better access to healthy food.

Figure 9: The food system



Examples of parts of the food system:

Farming and production
Transformation and processing
Transport and logistics
Energy and resources
Retail and sales
Employment
Skills and education
Healthcare
Third sector including charities
Research and innovation
Marketing and communication
Regulation and enforcement
Finance and investment
Waste processing and recovery

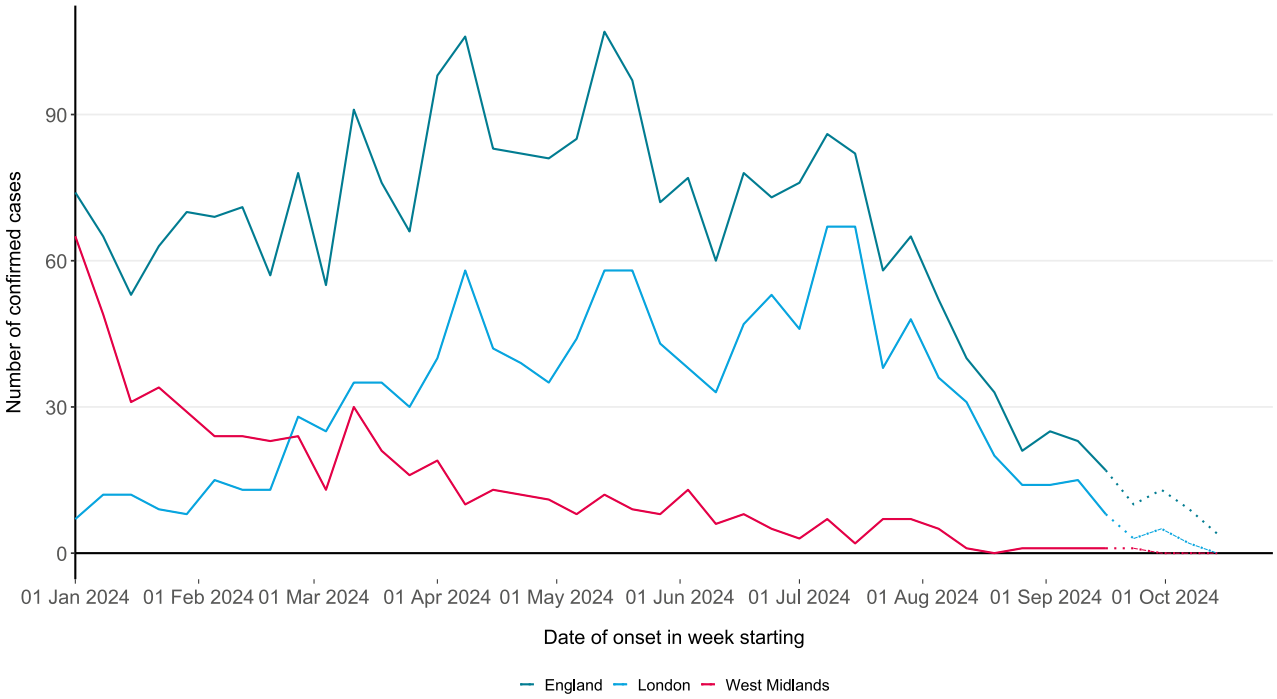
Source: Birmingham City Council Public Health. Birmingham Food Systems Strategy 2022-2030. 2023.[7]

9. **Higher and further education students are largely based in cities.** This population needs specific consideration in preserving physical and mental health, due to their transient nature in the area and in some cases relative social isolation.

10. **Rough sleeping numbers are highest in cities, especially London.** Though absolute numbers are small, people who have to sleep rough face specific challenges in terms of their complex health and social needs.

11. **The infectious disease risks in cities are different from those in less highly concentrated areas.** The close nature of city living makes respiratory infections and other infections of more crowded environments more likely. The high concentration of young adults leads to a concentration of sexually transmitted infections. As mentioned earlier, vaccination rates are also lower in city populations.

Figure 10: Laboratory confirmed cases of measles by week of onset of rash or symptoms reported, London, West Midlands and England: 1 January 2024 to 21 October 2024



Source: UKHSA, "Confirmed cases of measles in England by month, age, region and upper-tier local authority: 2024"[8]

12. **Cities are often a patchwork of much smaller, distinct communities with strong internal links and support but relatively little interaction with other communities in quite close proximity.** This is both a strength because social movements, services and the voluntary sector are often highly engaged in these communities, and a weakness because provision of health and social care services can often feel fragmented and less than the sum of its parts. Health services need to adapt to this reality and not treat a city as a single entity, though still need to function as a cohesive whole.

13. **The way the NHS operates in cities is often quite different to smaller towns and rural areas.** There may be easier access to specialist services in major hospitals and A&E may more frequently be the first port of call rather than general practice, especially for newer and more transient individuals in certain circumstances.

Recommendations

Overall recommendations

Breaking entrenched deprivation in cities will take a long time, but well-evidenced actions can be taken now to improve health and wellbeing for people living, working and studying in cities. Deprivation is highly concentrated in specific parts of cities. This affects millions of people in England and can lead to worse health and wellbeing. This impacts individuals and society as a whole, with higher health and care costs and lower productivity. National and local government should undertake co-ordinated and concerted efforts to break the cycle of ill health in those areas of cities where it has become entrenched. Concentrating prevention efforts and resources in these areas and adapting to their local communities is likely to be both more efficient and more effective than spreading a uniform service thinly over entire cities.

High smoking rates, obesity prevalence, air pollution, excess alcohol and lack of access to physical activity are more common in areas of high deprivation. Government, both national and local, as well as the NHS, should consider further targeted interventions to improve these well-known risk factors in concentrated urban areas and direct resources in order to do so. Tackling these risk factors is not alone sufficient to remove the stark inequalities in health seen in our cities, but failing to do so because the choices seem difficult is to condemn many people living in deprivation to shorter lives constrained by ill health.

Maintaining good health for the longest possible time can be harder in cities and should be seen as a major priority. In contrast to more rural areas the age-support ratio will remain reasonably stable in cities over coming decades, but the barriers to maintaining health of those ageing in cities can be high. Cities are better at providing curative than preventive services for older citizens. Action to remove barriers and maintain good health for older people in cities can include having age-friendly accommodation and ensuring practical access to places maintaining physical activity and social engagement for those with predictable mobility and sensory impairment of older age.

Cities are areas of high ethnic diversity. Both prevention and curative services need to reflect that. Measures to improve the sustained involvement of local communities in finding culturally competent solutions to local issues are essential. Steady, prolonged engagement rather than stop-start initiatives is key to maximising the chances of effective health improvement.

Specific recommendations

There are specific recommendations throughout this report, but here I highlight 4 important areas that can and should be improved.

The food environment in parts of cities entrenches inequalities in health and promotes obesity. Healthy food deserts combine with junk food advertising to set children and adults up to live a shorter and unhealthier life through obesity and the diseases it causes, particularly in the more deprived areas of our cities. Changes will need to be tailored to local needs and food choices.

To reduce air pollution, transport emissions, including from public transport and space heating (especially solid fuel burners), need particular action specific to cities. Air pollution is a particular risk in cities where the greatest levels of pollution are combined with the highest concentrations of people. It causes significant lung and cardiovascular disease. Many mayors and city authorities have proposed sensible steps to reduce them; those who oppose these should say what they would do to improve air quality instead.

Healthcare service planning and delivery should consider the needs of young adults in cities. The health needs of young adults are concentrated in cities and are often overlooked. Mental health issues generally emerge by or in early adulthood, and current increases in mental health needs for already stretched mental health services therefore fall disproportionately in cities. Similarly, increasing rates of sexually transmitted infections (STIs) and the weakened provision of STI services is particularly a city problem.

We need to account for, and explore solutions to, the itinerant nature of city populations in providing routine immunisation and screening services. Steady engagement with communities with historically lower uptake is also essential. The relatively poor, and falling, rates of routine immunisation and screening in our cities deprive their citizens of effective tools which could prevent major diseases. This needs action.

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3.10 Milton Keynes
Sam Smith, Vicky Head, Jon Palmer, Oliver Mytton, Gabriel Kenyon and Jack Pope

4 City contexts

Acknowledgements

This report considers a wide range of topics related to health in cities, and has drawn upon research and knowledge from a wide array of sources. We hope that others may expand further on the issues raised in these pages, and thus expand the knowledge base.

We would like to thank the authors and contributors who devoted their time and expertise in order to create this report. The chapters in this report remain the views of their authors, but we would also like to thank the following organisations, departments and similar, who have been invaluable in the scoping, evidence-gathering, and completion of this report.

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Contents

1 Introduction

Urban transition

Across the globe more people now live in urban areas than not.[1] Whilst living in towns and cities is now the norm, this is a new phenomenon from a historical perspective and has fundamentally changed the way humans exist. Even in the year 1800 it is estimated that only about 8 percent of people lived in urban areas globally.[2] These urban environments provide a completely different geography and built environment compared with rural areas, and has altered the types of housing we live in, the way we work, how we travel, and how we spend our free time.

The shift to urban living has taken place over a few centuries but has accelerated over recent decades. However, this shift has tended to be earliest in high-income countries, often alongside the industrial revolution. More than 80% of populations in most high-income countries now living in urban areas,[3] and there is indeed a correlation between economic growth and urbanisation.[4] In England in 2019, 82.9% of the population lived in urban areas.[5]

Whilst definitions of what constitutes an urban area or city vary, and there is no agreed consensus, the general trend of the world's population becoming more concentrated in dense settlements is clear, which has implications for how to approach public health.

Topics in this report

This report will not cover every public health aspect of cities. By virtue of the concentration and variety of people living in cities, and the differences between cities, it would be possible to select almost any health topic or disease and approach it from a city perspective. Therefore, we prioritised through meeting with public health leaders, doctors and other health professionals, academics, and leaders of organisations, charities and local authorities, of a variety of cities in England, including London and the UK Core Cities alliance.

There are broadly 4 areas which will be covered:

- Case studies from a variety of cities in England
- The built environment of cities and its effect on health
- Key populations which concentrate in cities
- Some of the specific medical topics which interact with cities in important ways, such as mental health

We hope that this report will encourage action in areas where improvements in health and wellbeing are possible for a public increasingly concentrated in larger population centres.

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2 Demographics and data

Hannes Hagson – Editor-in-Chief

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2.1 A note on definitions

Cities are hard to define. There are no absolute limits in terms of population numbers or density of housing and people which can be firmly drawn. Cities change; they grow, expand (and sometimes in history contract) and merge with other built-up areas, subsuming them. A variety of sources and geographies can be used to look at data on cities. Administrative and political areas, such as local authorities, can define city boundaries. However, these areas often have hard cut-offs which leave out areas that local people would consider part of a given city. Metropolitan area is often used when talking about a large conurbation, but this term tends to include completely separate towns and cities. A metropolitan area may, therefore, include a significant number of people who commute to and work in the centre, but otherwise live their lives outside it, as well as people who have little to do with the central city. ONS publish data on built-up areas (BUAs), which form the bulk of this demographics data chapter (see appendix for technical details).

2.2 Key demographics and data

Built-up areas (BUAs) are based on Ordnance Survey topographic data which recognises developed land, such as cities, towns, and villages, in order to allow statistics to be analysed based on the settled areas where people live. These BUAs are classified as follows:

Table 2.1: Types of BUA category by size[1,2]

Population range (usual resident population)	BUA size classification	Approximate settlement type
0 to 4,999	Minor	Hamlet or village
5,000 to 19,999	Small	Larger village / small town
20,000 to 74,999	Medium	Medium towns
75,000 to 199,999	Large	Large towns / smaller cities

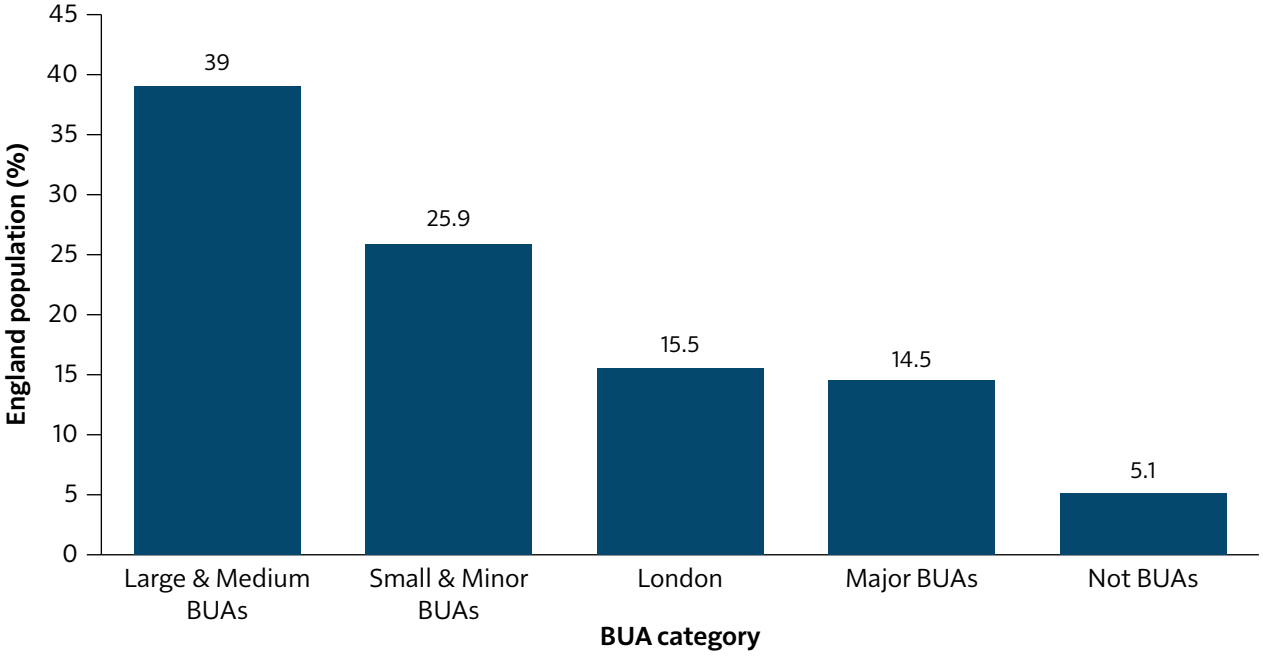
Population range (usual resident population)	BUA size classification	Approximate settlement type
200,000+	Major	Cities

Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021"(ref2) and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

As can be seen, there is an approximate definition of BUAs with over 200,000 residents to be classed as cities, but this is really on a continuous spectrum. In this chapter, London is looked at separately as its remarkable difference in size compared to all other cities of England would skew data. Large and medium sized BUAs are combined, as are small and minor BUAs. Doing so enables the differences between major BUAs and smaller urban settlements to be examined more meaningfully.

The percentage of England's population living in the different types of BUA can be seen in Figure 2.1. Of note, 15.5% of the population live in London. When combined with the 14.5% of the population living in major BUAs ('cities'), this means that just under one-third of England's population live in large cities. However, 39% live in large and medium sized BUAs, with a quarter (25.9%) living in settlements with populations under 20,000. About 1 in 20 people in England do not live in a BUA.

Figure 2.1: Percentage of England total population by BUA category



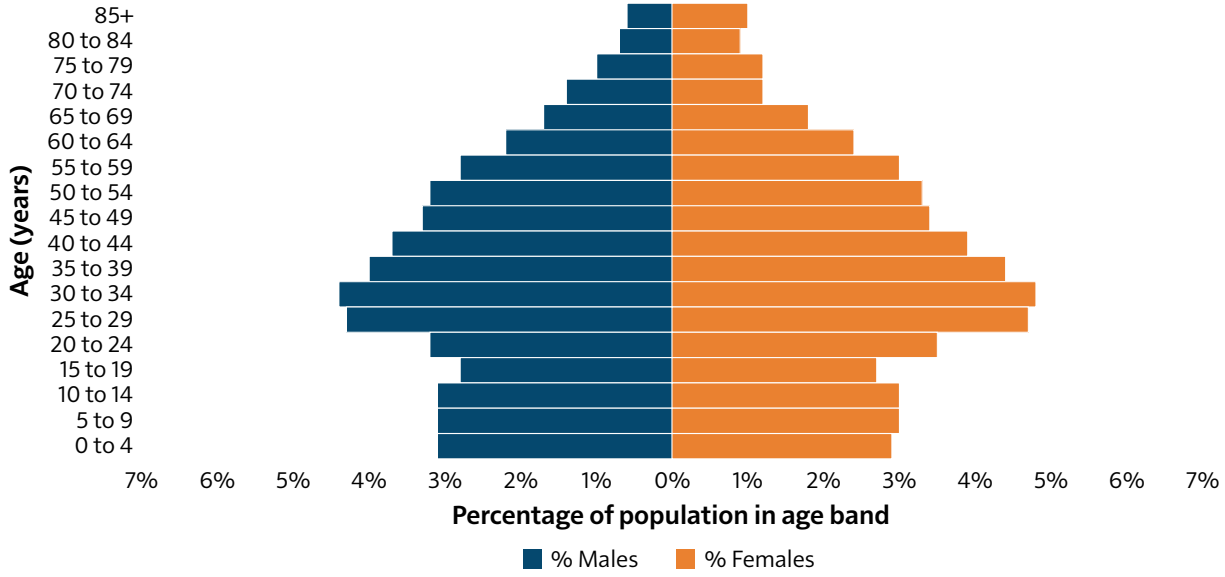
Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021"(ref2) and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

2.3 Population pyramids

To understand the differences in the populations which live in these different types of BUAs, it is worth investigating the population pyramids of the different types of area, as well as some specific cities.

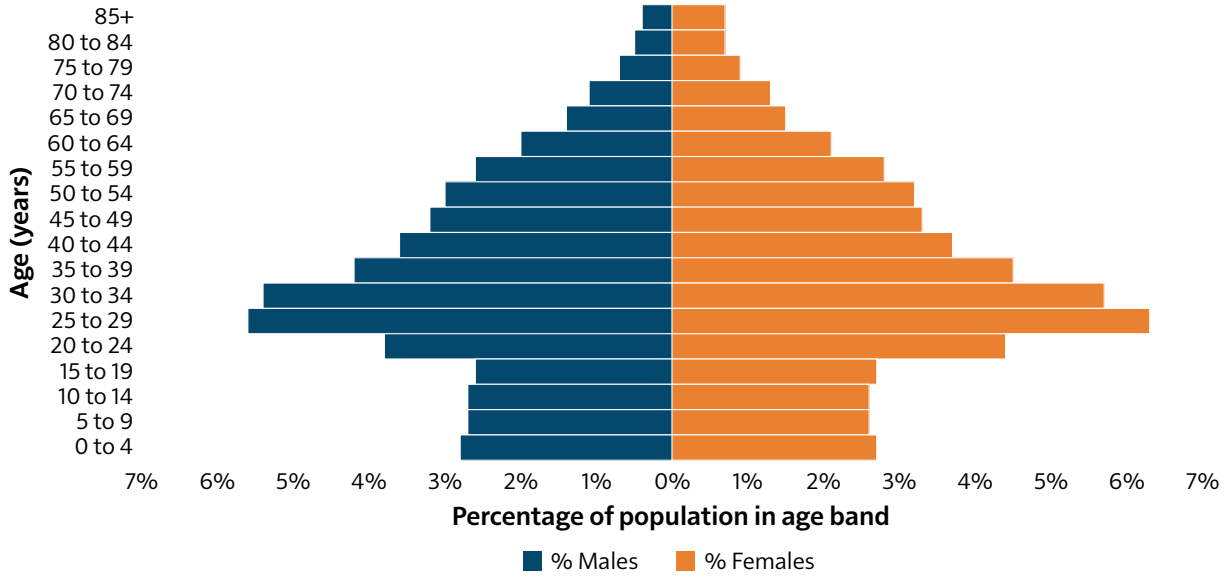
Figures 2.2, 2.3 and 2.4 show the population pyramids of London, inner London, and outer London (see appendix for definitions). As can be seen, inner London has significantly more people in their twenties and thirties compared to outer London. This demonstrates the important point that cities consist of a variety of different neighbourhoods and areas with different populations and dynamics, which require different planning in terms of public health. In a mega-city such as London, this is very apparent.

Figure 2.2: Population pyramid of London



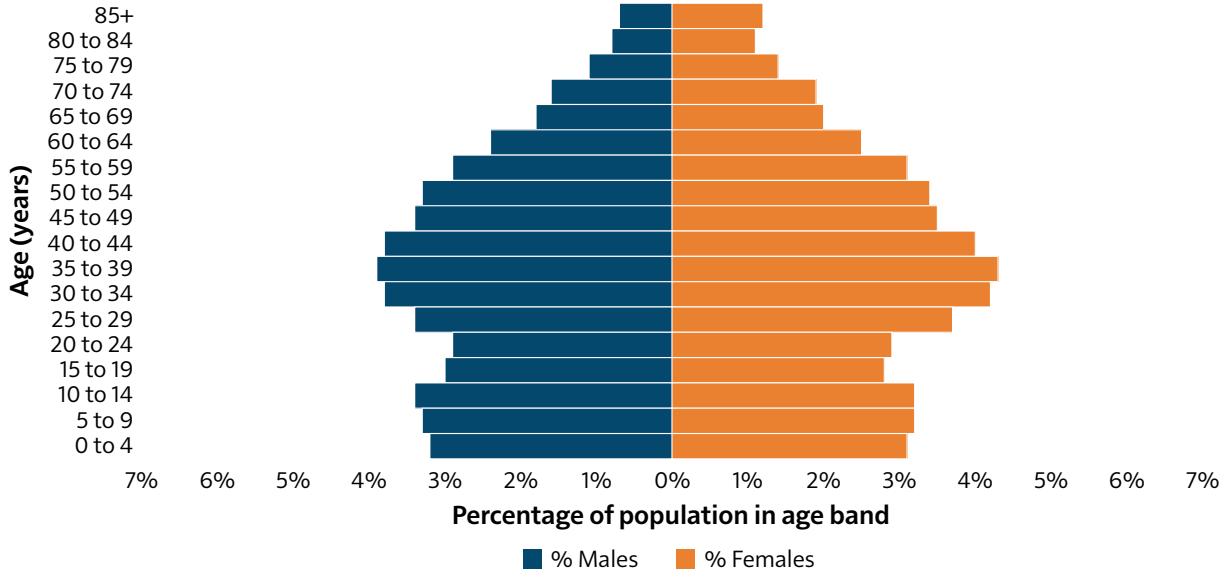
Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Figure 2.3: Population pyramid of inner London



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

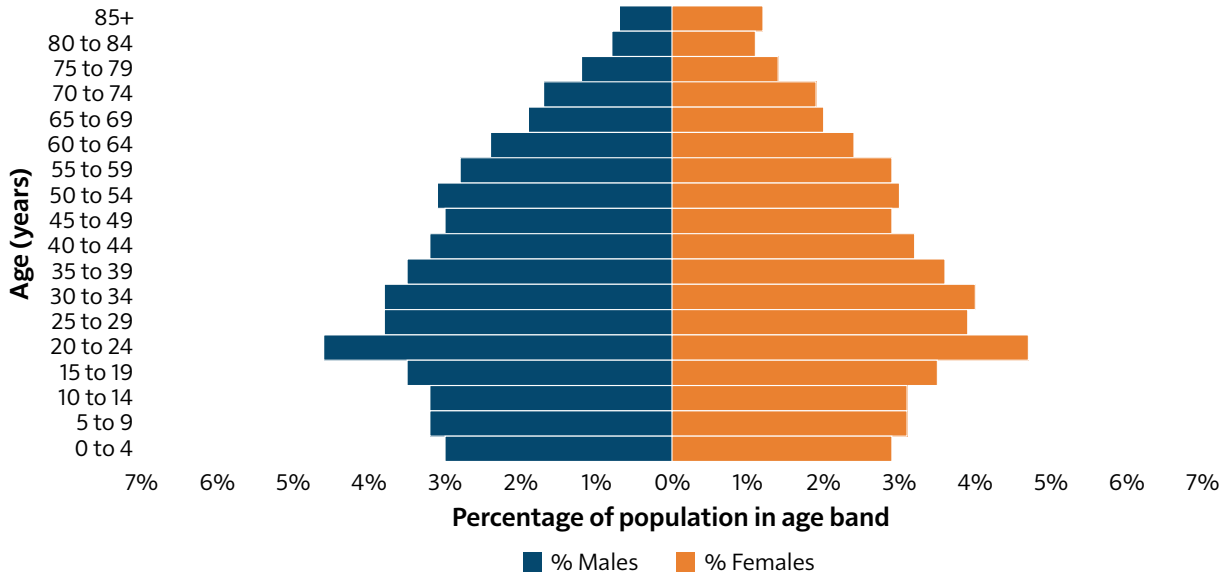
Figure 2.4: Population pyramid of outer London



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Looking at the population pyramid for major BUAs (200,000+ population, excluding London), shown in Figure 2.5, we can note again a relatively young population with a peak at those aged 20 to 24 years, likely moving into cities for work or study.

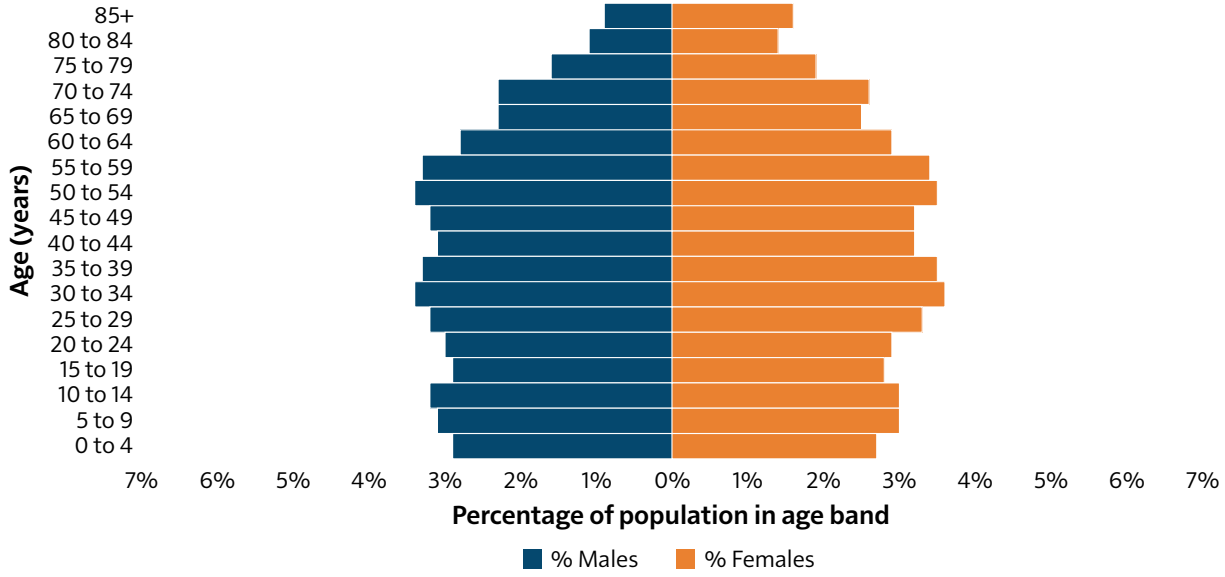
Figure 2.5: Population pyramid of all major BUAs



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

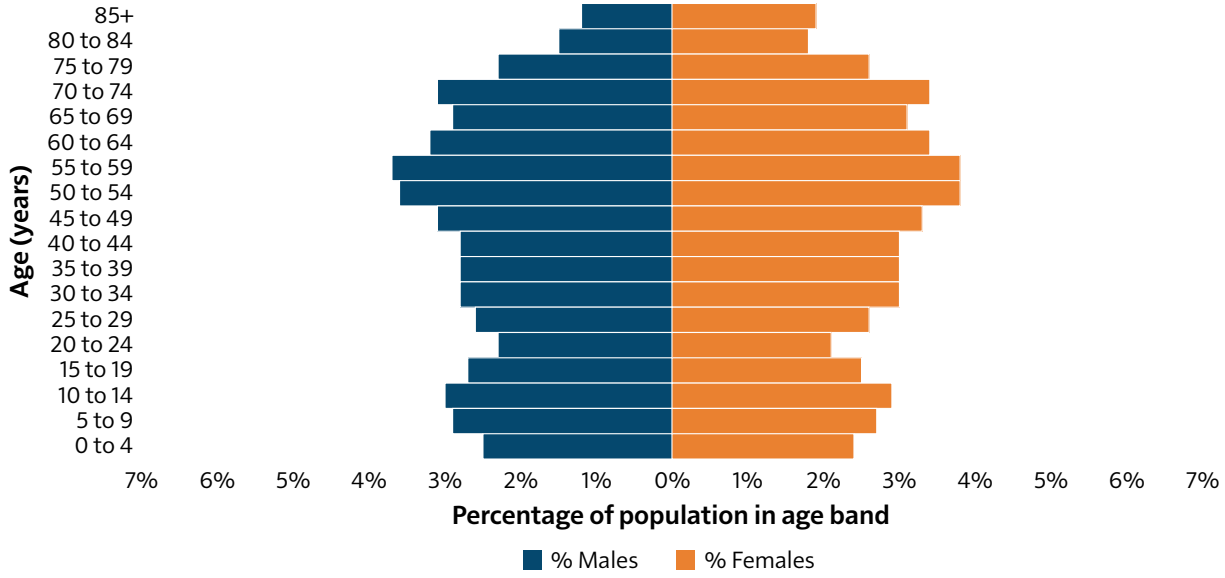
The population pyramid for large and medium BUAs (Figure 2.6) has essentially no bulge, whereas the age structure of small and minor BUAs (Figure 2.7) skews towards the elderly. This was explored in the CMO Annual Report 2023 on 'Health in an ageing society'.[3]

Figure 2.6: Population pyramid of large and medium BUAs



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Figure 2.7: Population pyramid of small and minor BUAs



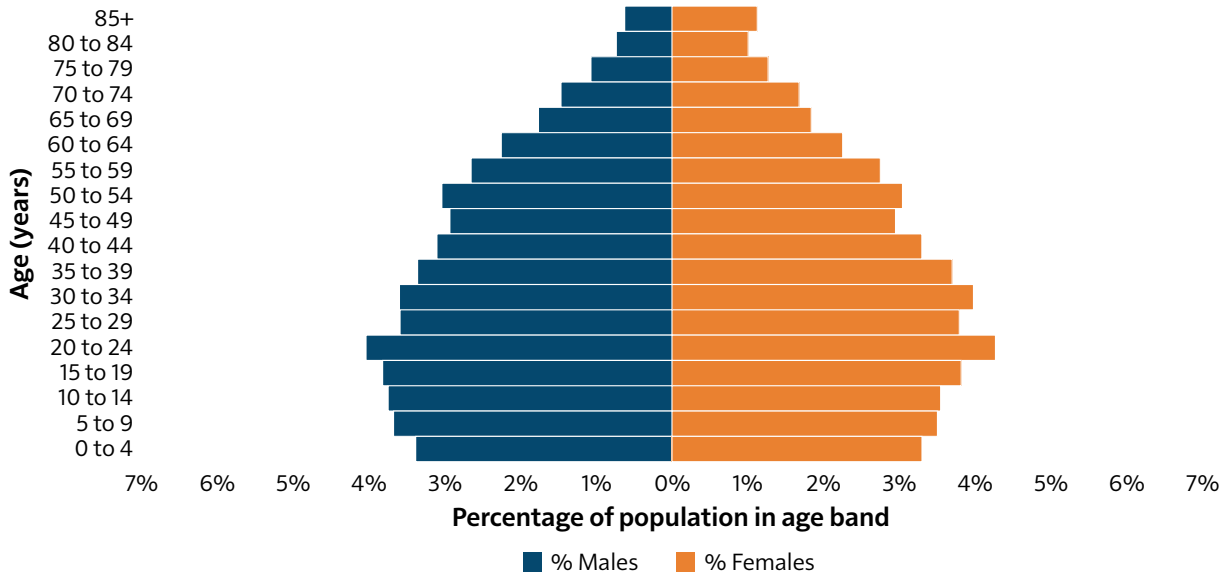
Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Three points stand out:

- The larger the BUA, the younger the population structure.
- In cities, there are greater numbers of people in their early twenties, which may be related to movement into cities for work or study.
- Different parts of cities (e.g. inner and outer parts) may have different population structures.

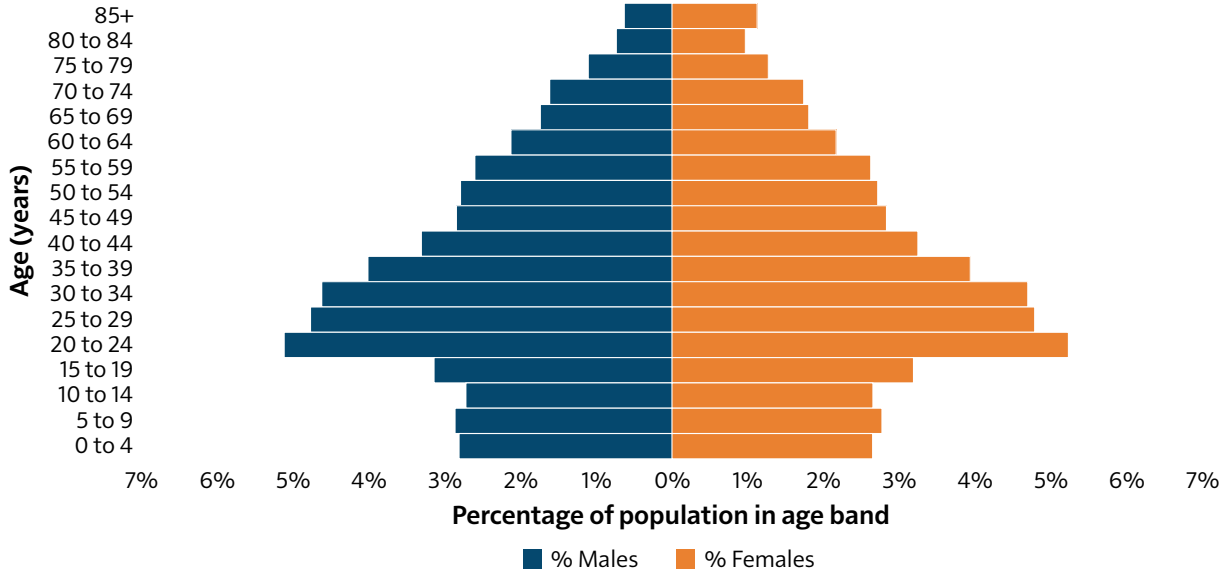
Below are the population pyramids for the 8 core cities of England (Figures 2.8 to 2.15). These demonstrate similar points, but also show that cities can still vary in their population structure. Some see specific and large peaks in young adults which can be quite stark, such as in Newcastle (Figure 2.13). This may represent differences in the ability of different cities to retain graduates or other young people.

Figure 2.8: Population pyramid of Birmingham



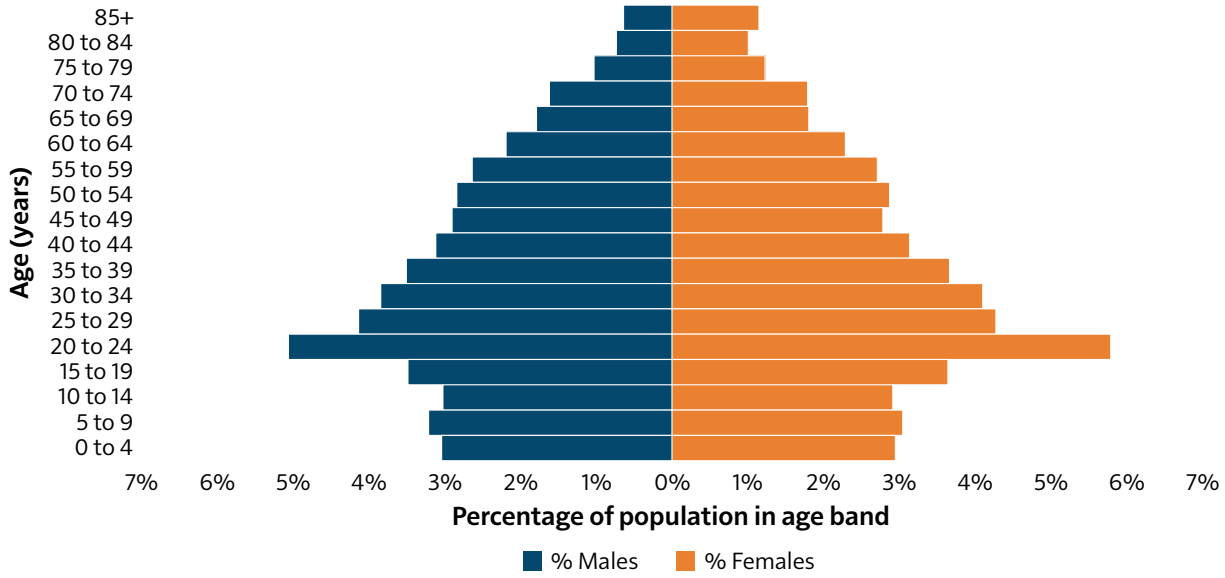
Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Figure 2.9: Population pyramid of Bristol



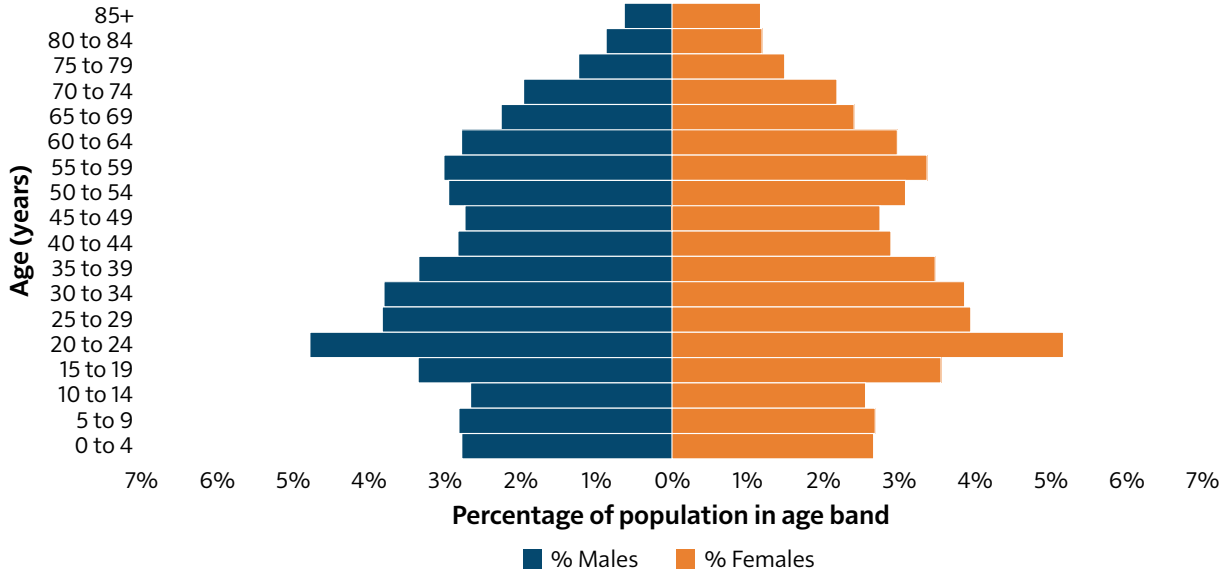
Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Figure 2.10: Population pyramid of Leeds



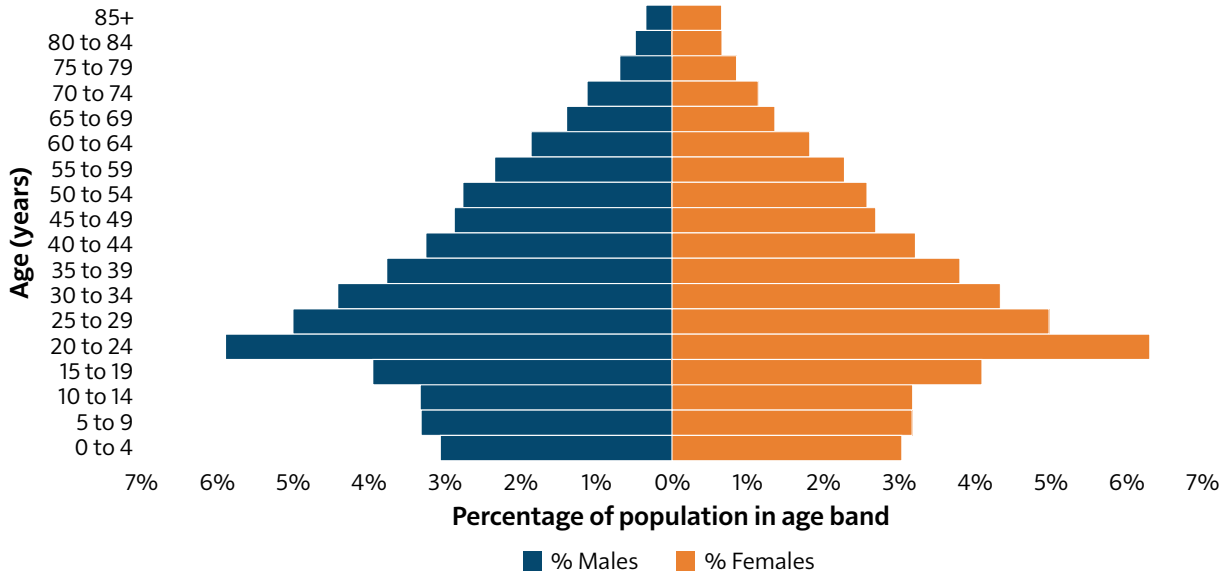
Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Figure 2.11: Population pyramid of Liverpool



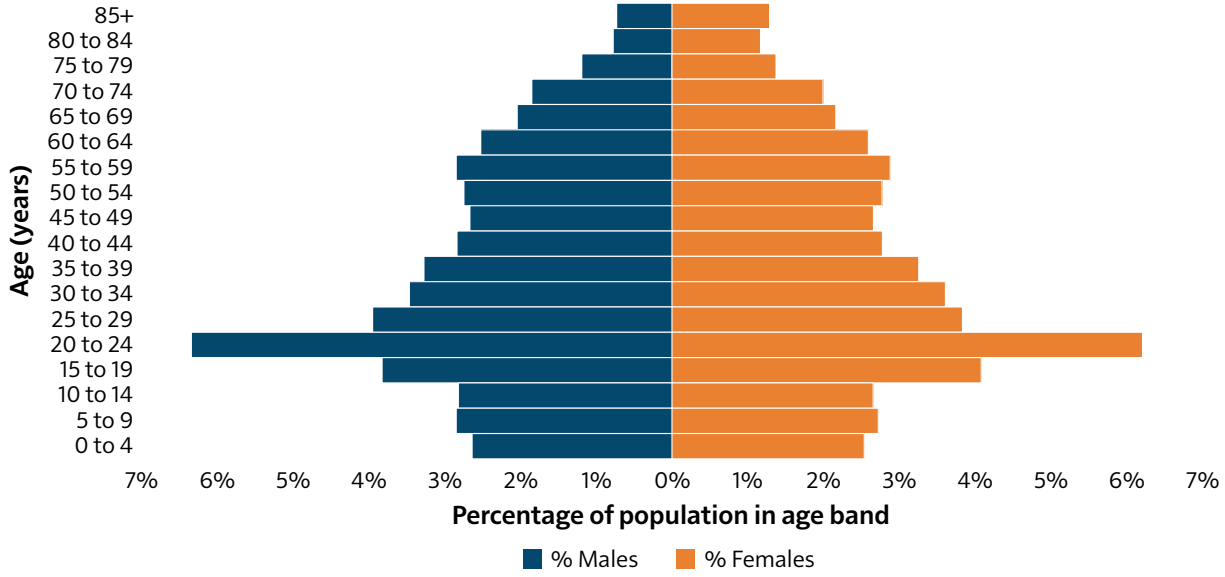
Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Figure 2.12: Population pyramid of Manchester



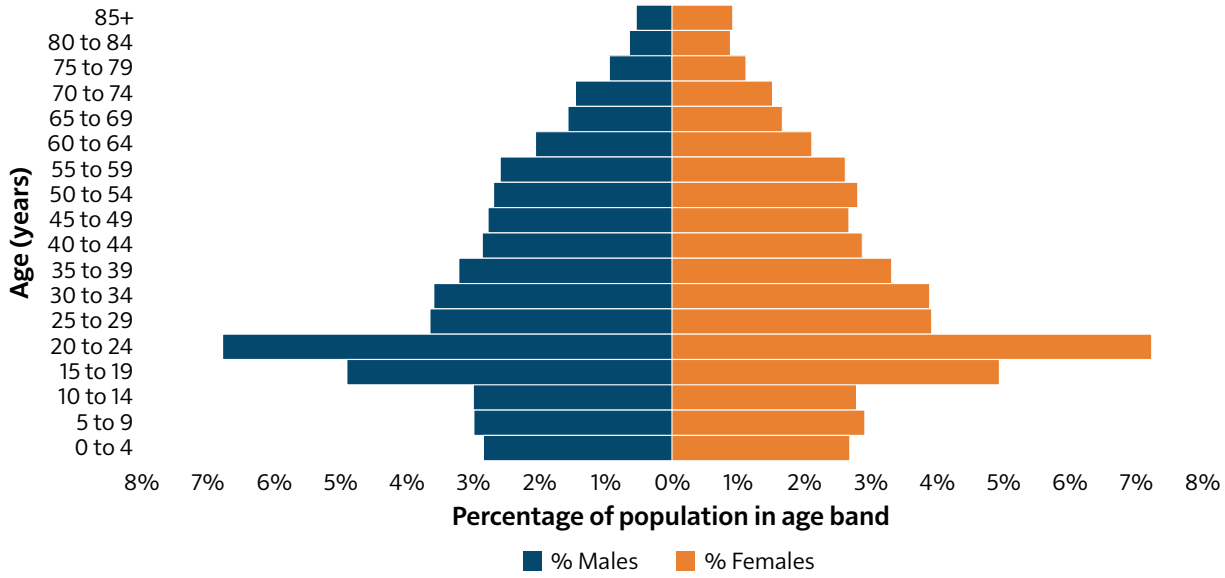
Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Figure 2.13: Population pyramid of Newcastle



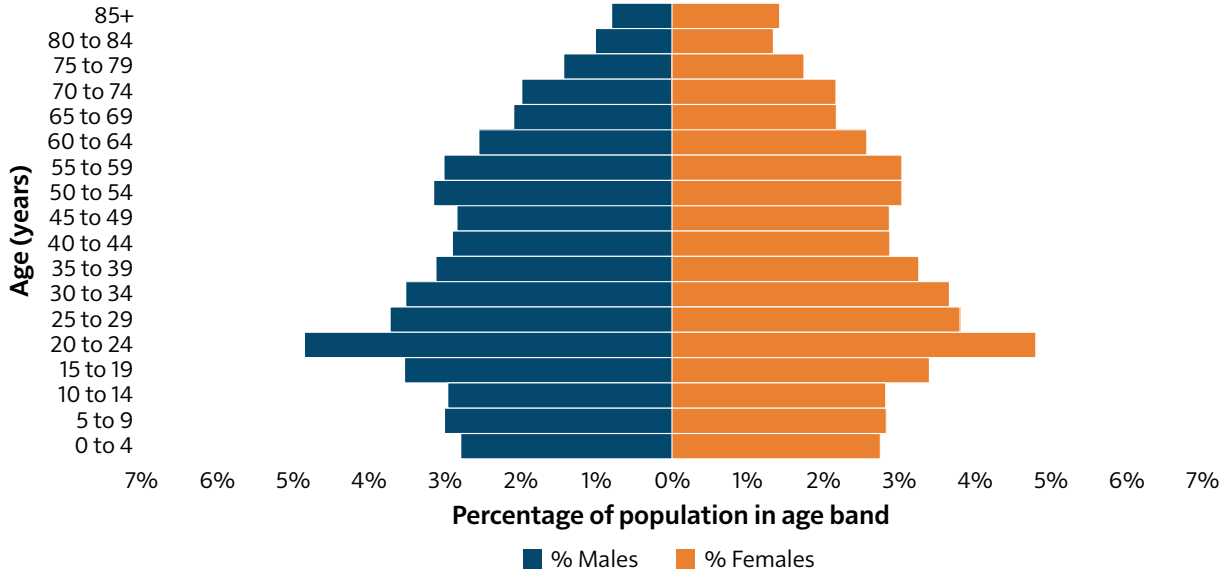
Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Figure 2.14: Population pyramid of Nottingham



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021" Note that x-axis is different from the other population pyramids in this chapter (8% limit).

Figure 2.15: Population pyramid of Sheffield



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

2.4 Population growth

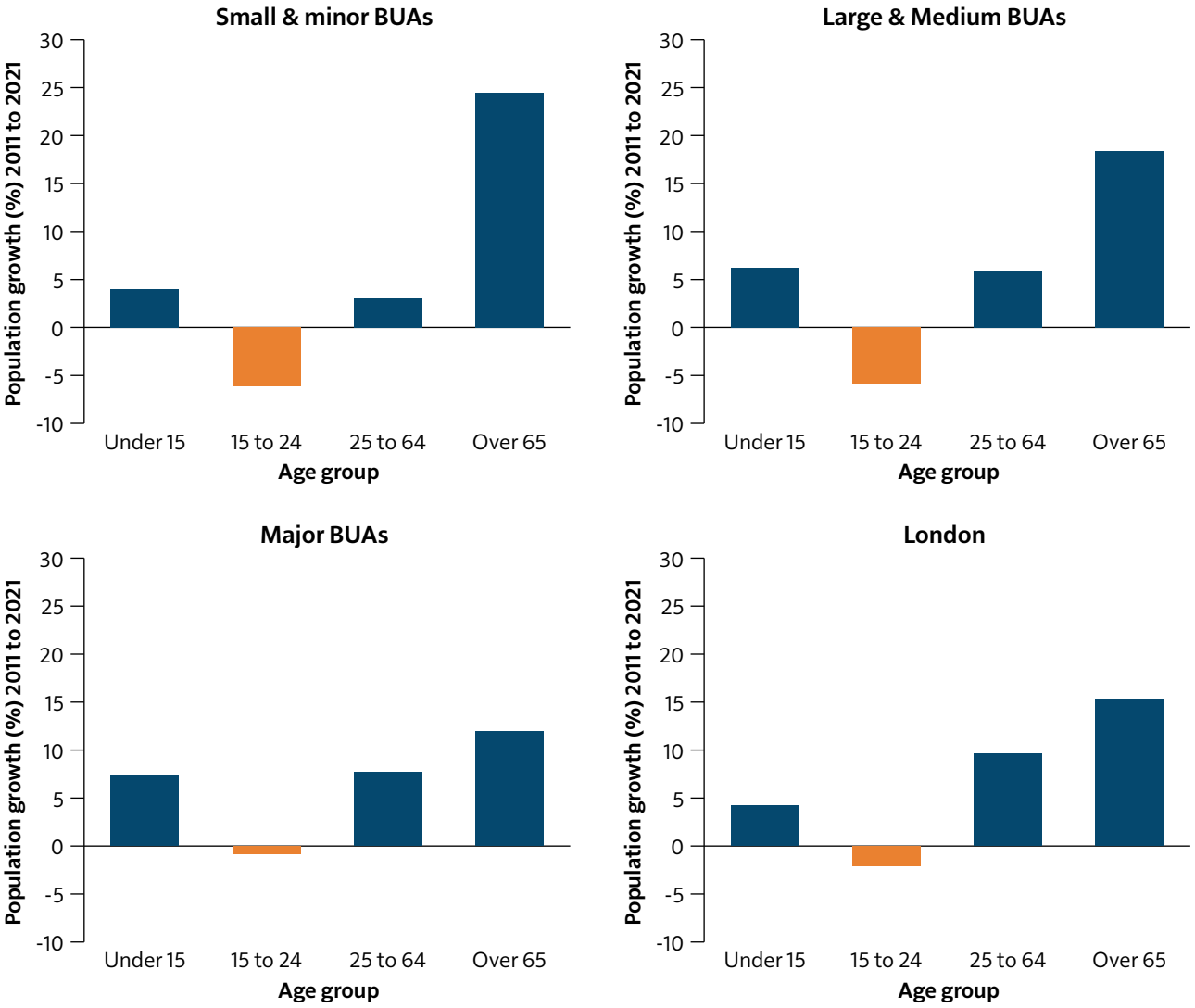
The growth in population in the different types of BUA is shown in Figure 2.16. The growth rates are similar for the different categories, with London slightly higher.

Figure 2.16: Population growth by BUA category 2011 to 2021

Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

However, there are differences in how the age structure has changed. Figure 2.17 shows population growth by age group in the different BUA categories, demonstrating a reduction in people aged 15 to 24 years in all categories. This reduction is much greater in smaller BUAs. At the same time, there has been an increase in the older population of smaller BUAs.

Figure 2.17: Population growth by age group and BUA category 2011 to 2021

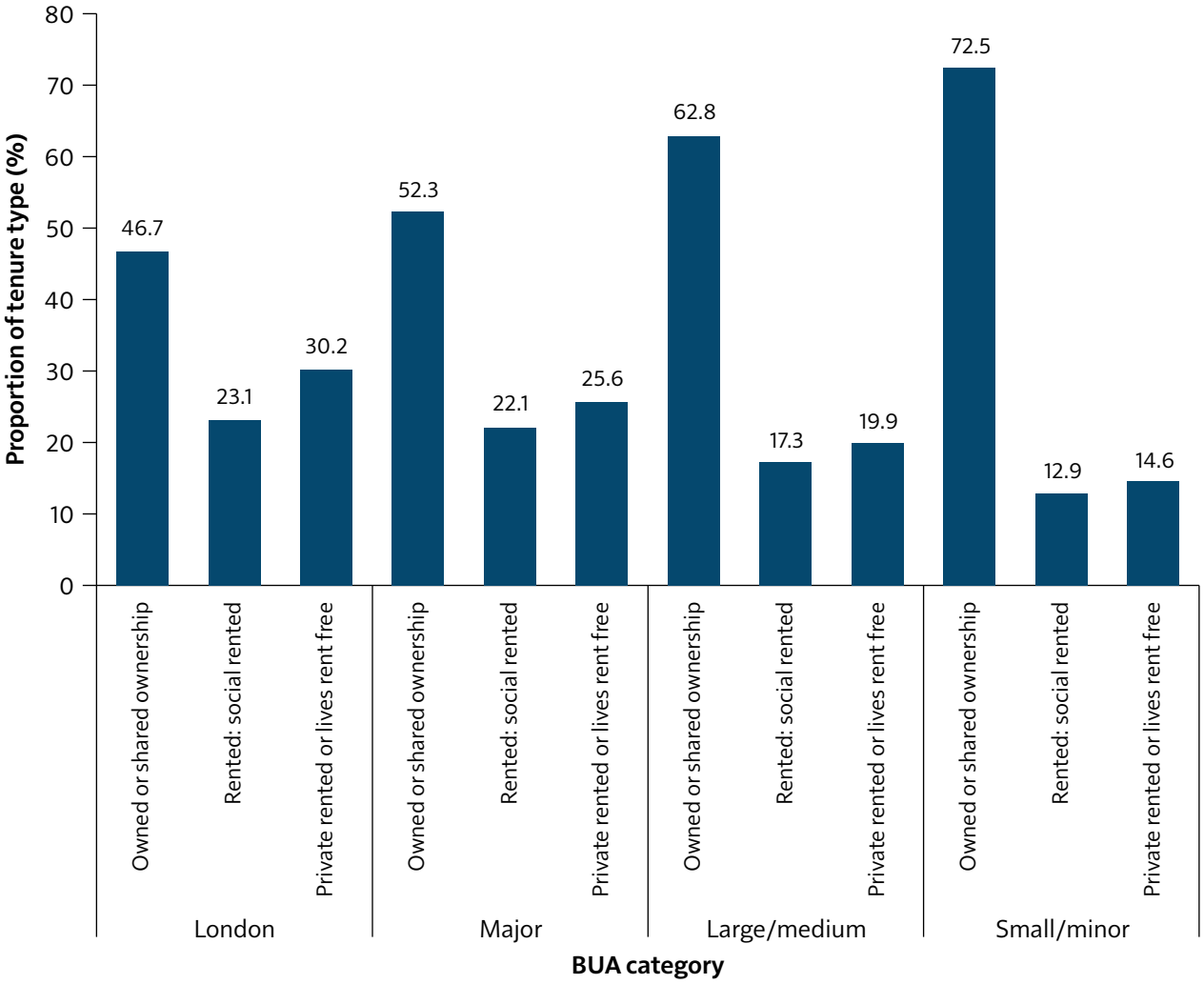


Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

2.5 Housing and employment

The type of household people tend to live in varies significantly by BUA category. Figure 2.18 shows the proportions of household type by BUA category, demonstrating that privately rented accommodation and social rented accommodation is more common in London and cities, with home ownership significantly more common in smaller BUAs.

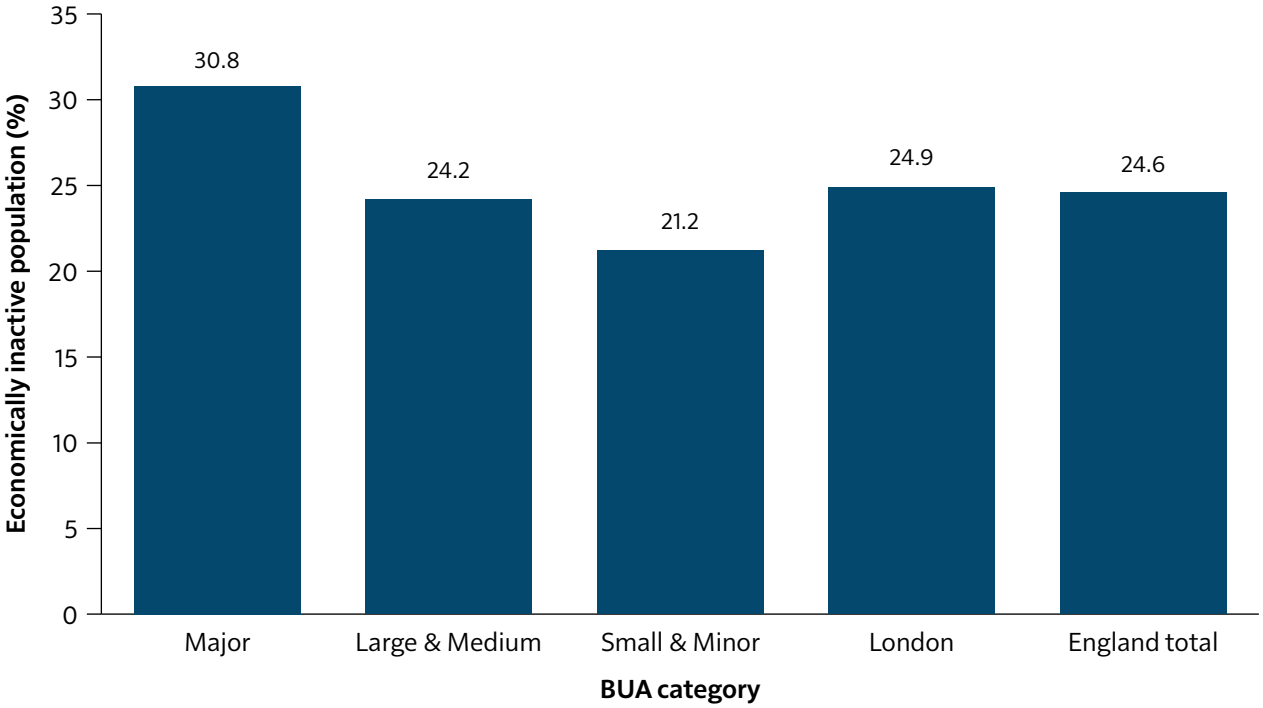
Figure 2.18: Percentage of household type of tenure by BUA category



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Across BUAs, the highest proportion of economically inactive people (those not actively seeking work) is in major BUAs, at 30.8%. London is more similar to large/medium BUAs, at 24.9% and 24.2% respectively. Small and minor BUAs have the lowest proportion of economically inactive people, with just over 1 in 5.

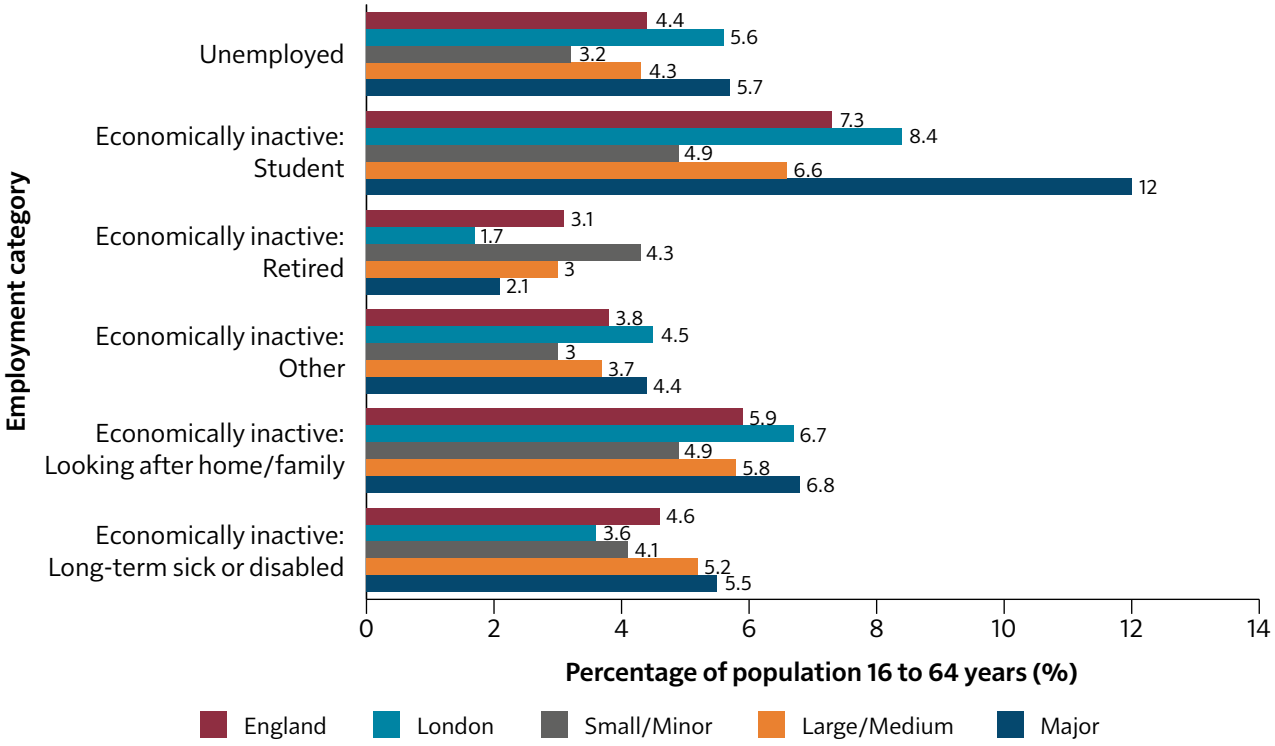
Figure 2.19: Percentage of population economically inactive by BUA category



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Figure 2.20 demonstrates reasons for economic inactivity, with a larger percentage of students in major BUAs and London, and a larger percentage of those retired in small/minor and large/medium BUAs.

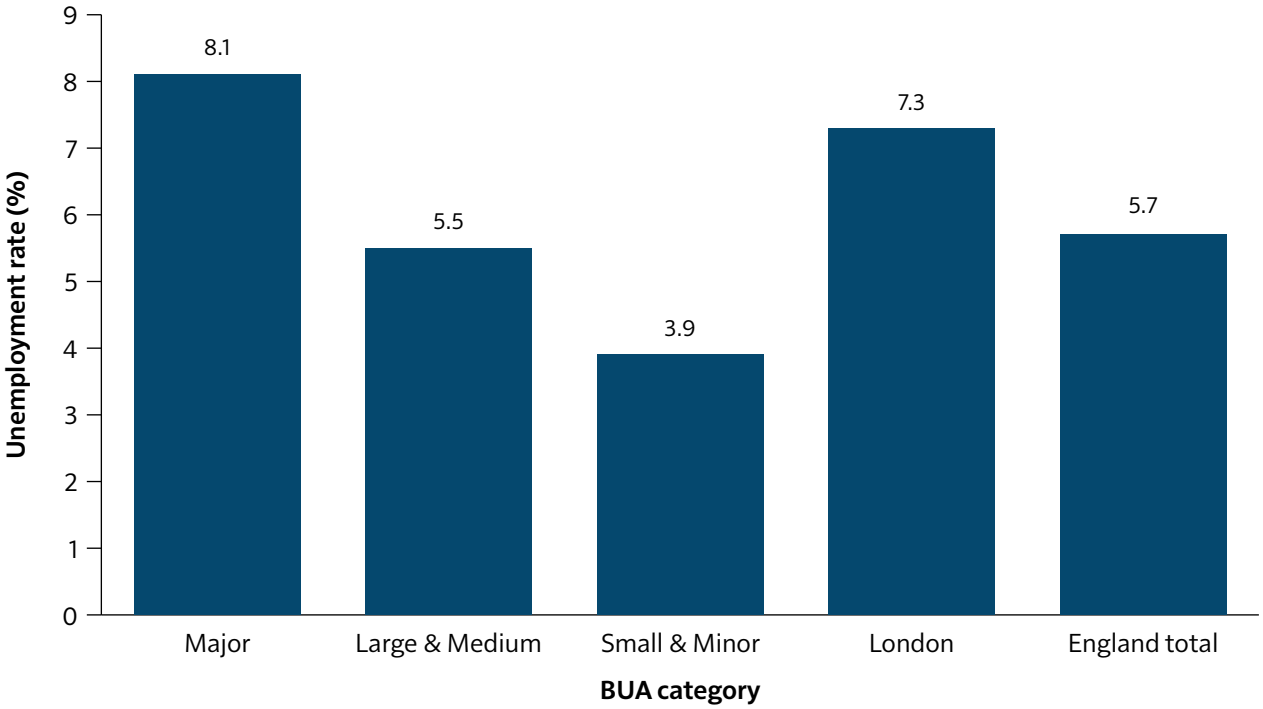
Figure 2.20: Percentage of population aged 16-64 years by employment category (excluding 'working') and BUA category



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Unemployment rates (the percentage of economically active people who are not able to find a job) by BUA category can be seen in Figure 2.21, noting that unemployment rates are highest in major BUAs and London.

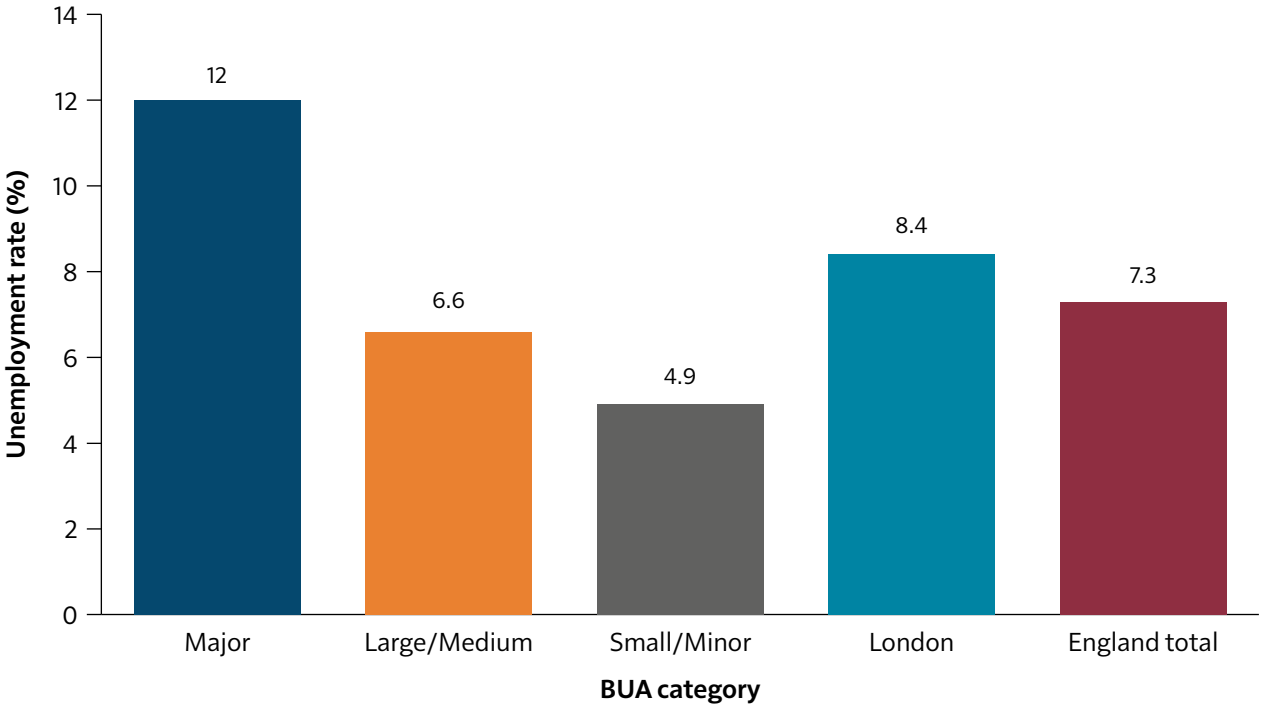
Figure 2.21: Unemployment rates amongst people aged 16 years and over, by BUA category



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"
Note: these rates are based on the population aged 16 years and older, whilst the numbers presented in Figure 2.22 are based on the working age population only (ages 16-64 years).

As seen in Figure 2.22, students make up a larger percentage of the population in major BUAs and London, compared with smaller BUAs and England.

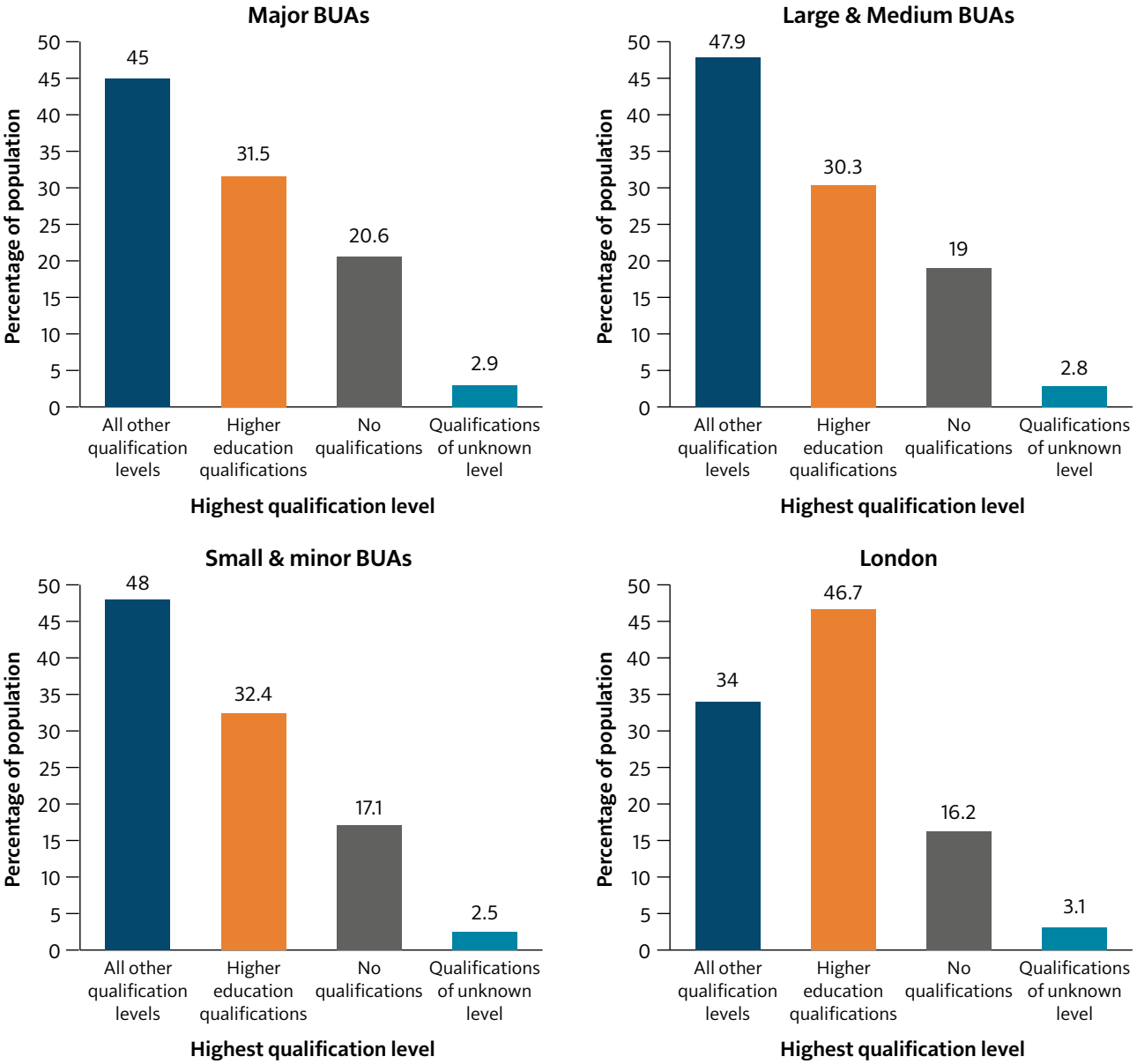
Figure 2.22: Students as a percentage of population aged 16 to 64 years



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

Looking at education qualifications, London stands out as having the largest adult population proportion with higher education qualifications, which are otherwise similar across the BUA categories, as can be seen in Figure 2.23.

Figure 2.23: Percentage of population by highest level qualifications and BUA category



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

2.6 Deprivation

The Index of Multiple Deprivation (IMD), also known as the English Indices of Deprivation,[4] is a common data source when analysing deprivation. The indices measure relative levels of deprivation in small areas called Lower-layer Super Output Areas, and are a useful tool to understand concentrations and effects of deprivation. They range from decile 1 group (most deprived 10% of areas) to decile 10 group (least deprived 10% of areas). Table 2.2 and Figure 2.24 show the numbers of individuals, and percentages of populations, living in each IMD decile group in the different BUA categories.

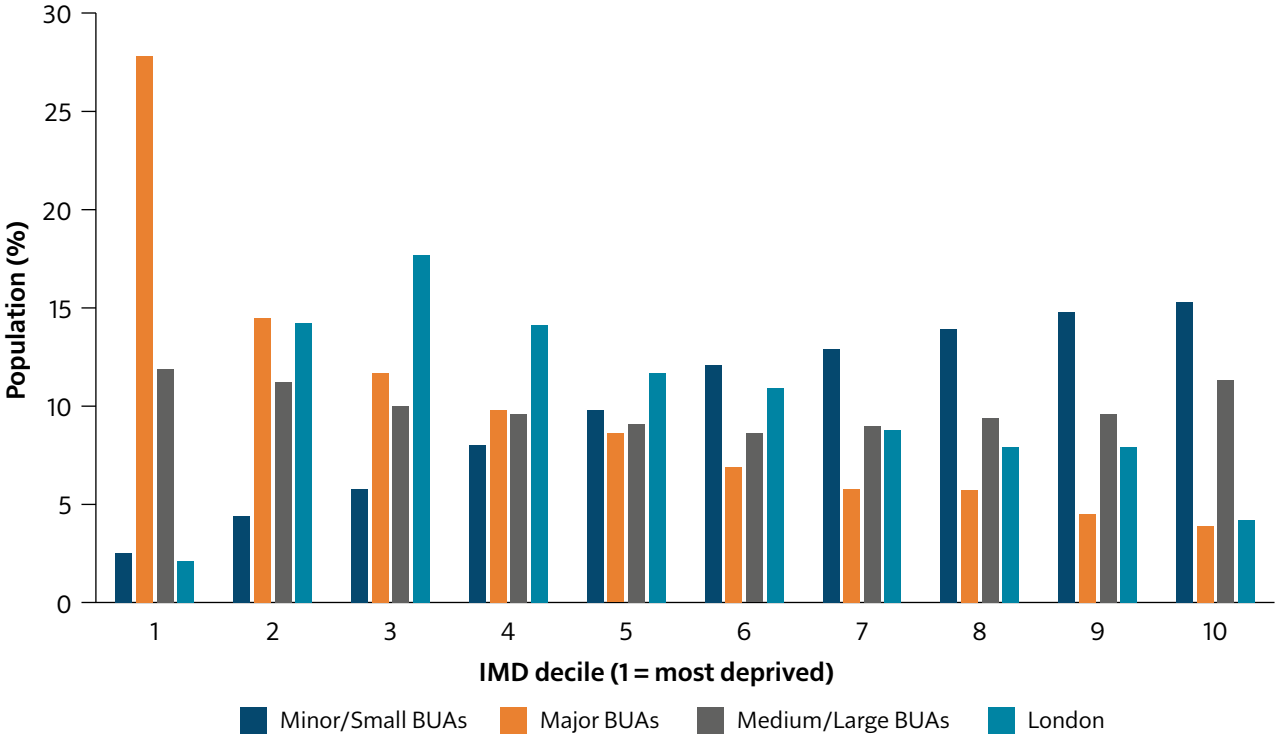
As can be seen there are far greater numbers of people and higher percentages of populations living in the most deprived areas in major BUAs. Conversely, smaller BUAs have higher percentages living in areas of lower deprivation. Of note is that London has a far lower percentage of people in decile 1 group than other cities.

Table 2.2: Table showing counts of individuals in England by IMD decile and BUA category

Index of Multiple Deprivation Decile	Minor/Small		Medium/Large		Major		London	
	Count (n)	Percentage	Count (n)	Percentage	Count (n)	Percentage	Count (n)	Percentage
Decile 1 group (most deprived)	341900	2.5	2406980	11.9	1976485	27.8	156900	2.1
Decile 2 group	600915	4.4	2253330	11.2	1032095	14.5	1072235	14.2
Decile 3 group	796165	5.8	2018490	10	831375	11.7	1338470	17.7
Decile 4 group	1105125	8	1944650	9.6	696025	9.8	1066930	14.1
Decile 5 group	1346165	9.8	1828645	9.1	613280	8.6	888685	11.7
Decile 6 group	1661020	12.1	1735765	8.6	489940	6.9	824715	10.9
Decile 7 group	1765980	12.9	1825865	9	412310	5.8	663150	8.8
Decile 8 group	1915980	13.9	1888300	9.4	407205	5.7	600920	7.9
Decile 9 group	2038655	14.8	1945025	9.6	317275	4.5	596225	7.9
Decile 10 group (least deprived)	2103985	15.3	2282800	11.3	278210	3.9	318035	4.2
Missing	59970	0.4	56985	0.3	44850	0.6	42340	0.6

Data source: ONS, 'Health Inequalities by built-up area and ethnic group, England: March 2021 to May 2023'[5]

Figure 2.24: Percentage of population by BUA category and IMD decile



Data source: ONS, 'Health Inequalities by built-up area and ethnic group, England: March 2021 to May 2023'

Deprivation and health

The link between deprivation and health is well known. Those living in areas of higher deprivation are more likely to be exposed to risk factors which negatively impact health, live shorter lives, and live a shorter period of their life in good health.

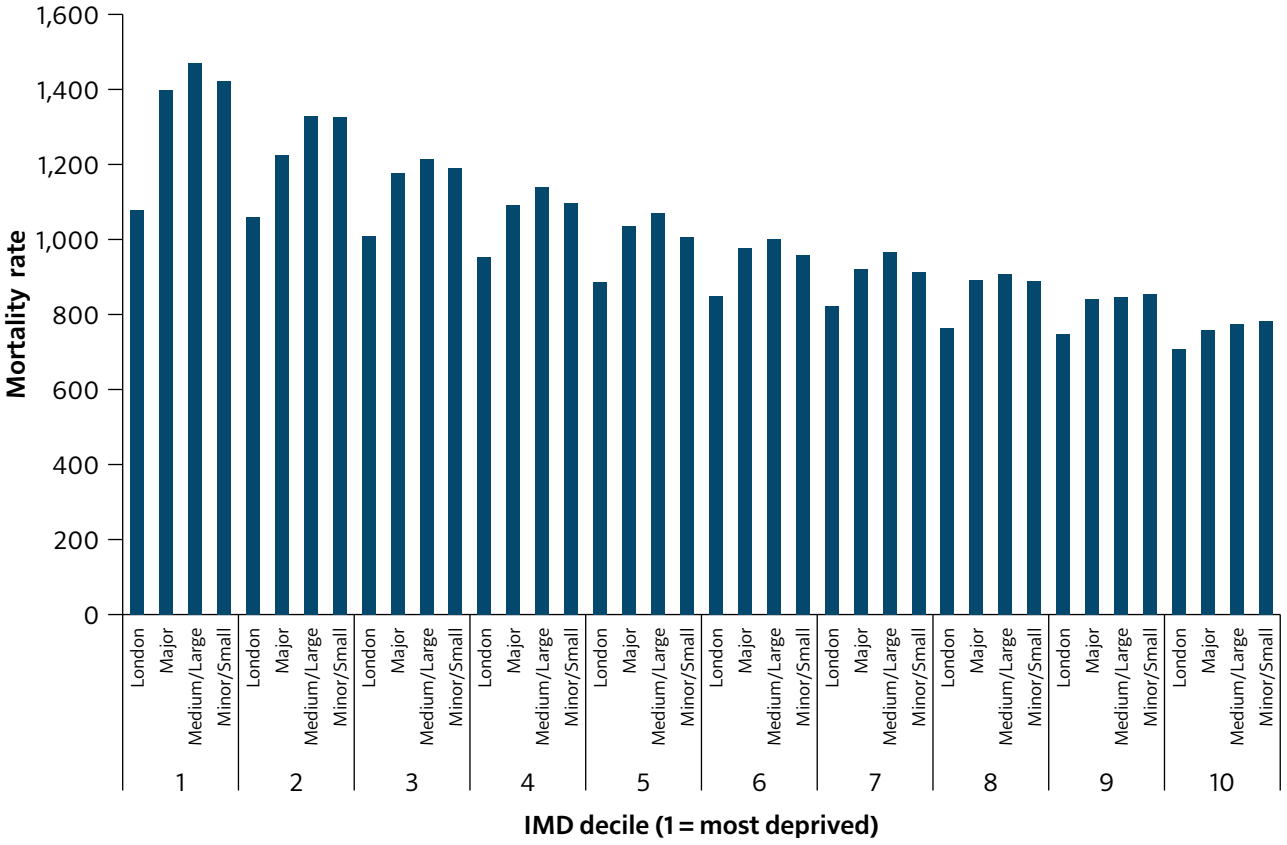
Using ONS data, Table 2.3 and Figure 2.25 demonstrate the link between deprivation and mortality rates in the different BUA categories. The link between higher deprivation and higher mortality rates is clearly demonstrated, and it is noteworthy that the mortality rates in London are lower for each IMD decile. It also shows that the highest rates by IMD decile tend to be in medium and large BUAs.

Table 2.3: Age-standardised all-cause mortality rates (per 100,000 person-years) by IMD decile and BUA category

	BUA category			
Index of Multiple Deprivation Decile Group	**Minor/Small ASMR (95% CI)**	**Medium/Large ASMR (95% CI)**	**Major ASMR (95% CI)**	**London ASMR (95% CI)**
Decile 1 group (most deprived)	1421.6 (1391.4, 1451.9)	1469.0 (1456.2, 1481.8)	1397.6 (1382.7, 1412.5)	1078.5 (1028.4, 1128.5)
Decile 2 group	1326.4 (1305.7, 1347.1)	1327.9 (1316.0, 1339.7)	1224.2 (1205.9, 1242.4)	1059.9 (1040.4, 1079.3)
Decile 3 group	1189.5 (1173.1, 1205.8)	1214.7 (1203.5, 1226.0)	1176.8 (1157.5, 1196.1)	1009.9 (993.0, 1026.7)
Decile 4 group	1097.5 (1084.9, 1110.1)	1140.4 (1129.5, 1151.2)	1090.5 (1071.1, 1109.9)	954.2 (936.8, 971.5)
Decile 5 group	1005.2 (994.4, 1015.9)	1069.8 (1059.3, 1080.2)	1037.0 (1017.8, 1056.1)	885.6 (868.4, 902.7)
Decile 6 group	957.8 (948.6, 967.1)	1000.6 (990.3, 1010.9)	976.7 (956.4, 997.0)	849.9 (833.5, 866.2)
Decile 7 group	912.5 (903.8, 921.2)	966.0 (956.3, 975.6)	920.3 (899.6, 941.1)	821.8 (804.9, 838.7)
Decile 8 group	890.4 (882.0, 898.8)	907.2 (898.3, 916.2)	892.4 (872.9, 912.0)	763.8 (747.6, 780.0)
Decile 9 group	855.7 (847.8, 863.6)	847.5 (839.1, 855.9)	840.0 (818.7, 861.3)	749.0 (733.7, 764.4)
Decile 10 group (least deprived)	782.1 (774.7, 789.4)	774.1 (766.8, 781.5)	758.5 (737.0, 780.0)	708.0 (688.1, 727.9)

Data source: ONS, 'Health Inequalities by built-up area and ethnic group, England: March 2021 to May 2023'

Figure 2.25: Age-standardised all-cause mortality rates (per 100,000 person-years) by IMD decile and BUA category



Data source: ONS, 'Health Inequalities by built-up area and ethnic group, England: March 2021 to May 2023'

Age-standardised rates of having bad/very bad self-reported health, living with a disability (that is, having a health condition that limits day-to-day activities) and providing unpaid care are highest in major BUAs, as shown in Table 2.4.

Table 2.4: Age-standardised rates for having bad/very bad self-reported health, a disability which limits day to day activities, and providing unpaid care (per 100,000 people), by built-up area category

Variable	BUA category			
	Small/Minor ASR (95% CI)	**Large/Medium ASR (95% CI)**	**Major ASR (95% CI)**	**London ASR (95% CI)**
Bad/very bad general health	4414.2 (4403.6, 4424.8)	5493. (5483.3, 5503.7)	6708.0 (6687.6, 6728.5)	5313.2 (5294.6, 5331.7)
Limiting disability	16775.3 (16754.1, 16796.5)	18461.7 (18442.9, 18480.4)	19820.9 (19786.5, 19855.4)	15528.2 (15497.3, 15559.1)
Unpaid care provision	9099.5 (9083.3, 9115.6)	9200.7 (9187.1, 9214.3)	9230.5 (9206.6, 9254.5)	7803.8 (7782.1, 7825.4)

Data source: ONS, 'Health Inequalities by built-up area and ethnic group, England: March 2021 to May 2023'

Analyses from the Office of Health Improvement and Disparities (OHID) demonstrate similar relationships between deprivation and health, and chapter 4.2 'The geography of cities – deprivation and health inequalities' goes into further detail on deprivation in English cities.

Separate chapters in this report further explore important demographic topics such as ethnicity and cities and deprivation and cities.

Notes:

Core Cities UK is an alliance of 11 regional cities in the UK, of which 8 are in England.

The cities outside of London (which had a population of 8.9 million in mid-2023)[6] classed as major BUAs are (core cities highlighted):

City	ONS Census 2021 BUA population
Birmingham	1,121,375
Leeds	536,280
Liverpool	506,565
Sheffield	500,535
Manchester	470,405
Bristol	425,215
Leicester	406,580
Coventry	344,285
Bradford	333,950
Nottingham	299,790
Newcastle upon Tyne	286,445
Brighton and Hove	277,105
Derby	275,575
Kingston upon Hull	270,810
Plymouth	266,955
Stoke-on-Trent	260,560
Southampton	249,620
Northampton	243,520
Wolverhampton	234,025

City	ONS Census 2021 BUA population
Luton	233,525
Portsmouth	223,305
Reading	203,795
Norwich	200,770

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1 Office for National Statistics (ONS), Towns and cities, characteristics of built-up areas, England and Wales: Census 2021 (August 2023) [Internet]. Available from: https://www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/townsandcitiescharacteristicsofbuiltupareasenglandandwales/census2021 (cited 2024 Oct 31)

2 Office for National Statistics (ONS), Coastal communities, characteristics of built-up areas, England and Wales: Census 2021 (February 2024) [Internet]. Available from: https://www.ons.gov.uk/releases/coastalcommunitiescharacteristicsofbuiltupareasenglandandwalescensus2021 (cited 2024 Oct 31)

3 GOV.UK [Internet]. 2023 [cited 2024 Oct 4]. Chief Medical Officer's annual report 2023: health in an ageing society. Available from: https://www.gov.uk/government/publications/chief-medical-officers-annual-report-2023-health-in-an-ageing-society.

4 GOV.UK [Internet]. 2019 [cited 2024 Oct 21]. Ministry of Housing, Communities & Local Government (2018 to 2021). English indices of deprivation 2019. Available from: https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019.

5 Office for National Statistics (ONS), Health inequalities by built-up area and ethnic group, England: March 2021 to May 2023 (October 2024) [Internet]. Available from: https://www.ons.gov.uk/releases/healthinequalitiesbybuiltupareaandethnicgroupenglandmarch2021tomay2023 (cited 2024 Oct 21).

6 Greater London Authority, London Datastore, London's Population (October 2024) [Internet]. Available from: https://data.london.gov.uk/dataset/londons-population

3 City case studies

Whilst there are commonalities between cities in England, they have distinct histories and characteristics. These case studies, written by public health professionals, capture features relating to cities and health in local areas and share learning and good practice.

There was no perfect way of deciding which cities to include, so we chose those of the UK Core Cities alliance which are located in England, as well as London (including a subsection on a London borough) and Milton Keynes (providing a perspective on planned cities).

3.1 Birmingham

Rebecca Howell-Jones – Assistant Director Public Health (Knowledge, Evidence and Governance), Birmingham City Council

Aidan Hall – Service Lead (Governance), Public Health Division, Birmingham City Council

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Justin Varney-Bennett – Director of Public Health, Birmingham City Council (2019 – 2024)

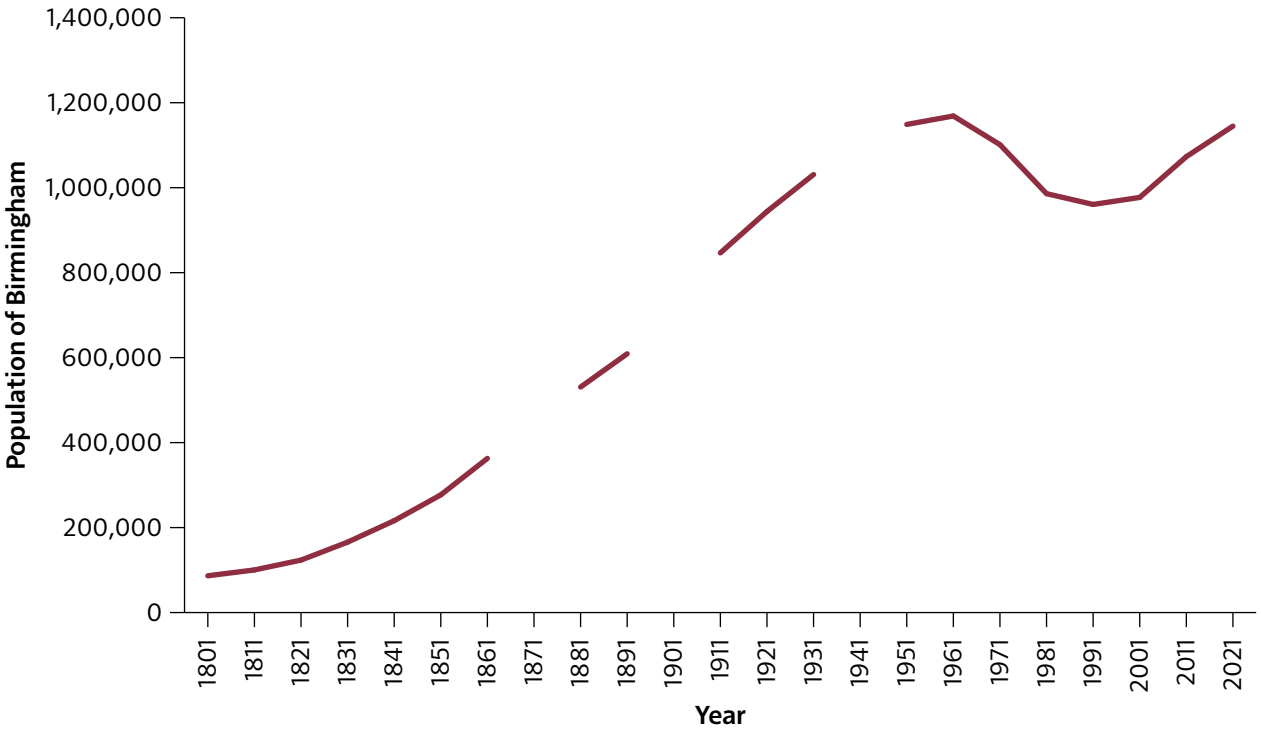
Birmingham epitomises the major opportunities and challenges for cities and the health of their populations. Birmingham offers citizens a great place to live, learn, work and play. It boasts opportunities for social mobility, cultural diversity, creative and intellectual innovation, and internationally renowned centres of education and industry drawing in a young, constantly churning population. However, like many cities, there are challenges including inequalities often layered with discrimination and cultural tensions and historical legacies, poverty and affluence side by side, congested traffic, insufficient affordable housing and air pollution, to name just a few. The paradox creates a tale of two cities divided by wealth, culture and class living side-by-side.

In this chapter, we look at some of the unique aspects of the population and economics of Birmingham to illustrate the potential of cities as pivot points to improve the health of the wider nation.

Birmingham economic landscape

Birmingham is the 'city of a thousand trades' and, for centuries, has been an economic, educational and cultural hub in England.[1] The city's growth accelerated from the early 19th century (Figure 3.1).[2] Birmingham has been at the centre of multiple trades and industries, from car manufacturing and heavy industry to the famous Cadbury's chocolate and artisan jewellery and metalwork.

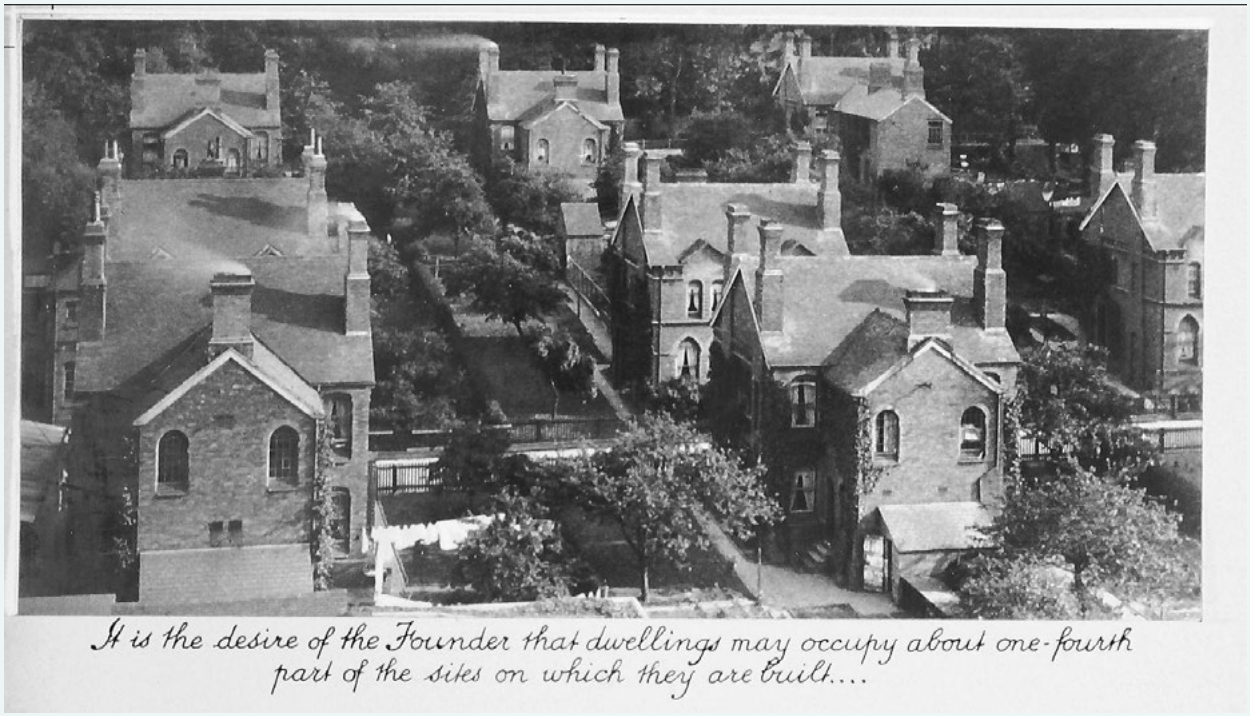
Figure 3.1: Population of Birmingham[2]



This history is not without problems both historic and contemporary. The Industrial Revolution brought mass transportation accompanied by rapid population growth, over-crowding and urban expansion. Many industries relied on low paid manual labour. Sadly, not all employers took the visionary approach the Cadbury family did in supporting a healthy workforce (Case Study 1).

Case Study 1: Cadbury and development of Bournville Village

Bournville was created by the Cadbury brothers, and particularly the social vision of George Cadbury. The brothers moved their chocolate factory from the city centre and into the open countryside, building the "factory in the garden". But impressively, they did much more and pursued over many years an approach to planning, developing and building which led to a thriving village for their employees and others. With a focus on good quality houses affordable to industrial workers, in an environment which supported recreation, food growing and community, through the Bournville Village Trust they were able to create a thriving development which is still viewed as a great success today.[3]



Credit: Bournville Village Trust

In the post-war car manufacturing boom, Birmingham became shaped by motor vehicles with communities dissected by dual carriageways and encompassed by motorways, totemic in the iconic Spaghetti Junction which separates the northern segment of the city from the city centre.

Today the city is still a patchwork of industry alongside artisanal and professional services: within a mile of the global corporate headquarters in the city centre, there are small and medium enterprises as diverse as manufacturing medical equipment, making jewellery and repairing cars. Woven through this industrial and economic patchwork is a thread of hospitality and retail and a strong and vibrant creative community serving visitors and residents.

As Birmingham emerged from the COVID-19 pandemic, there was a significant shift to home-working and a cost-of-living crisis, significantly impacting the resilience of the hospitality, retail, and entertainment sectors, although the city has seen growth in the creative industries and digital and education sectors. Many businesses have become less anchored in local high street economies. It faces now a re-imagining of the city, in both physical and social environment, for the post-pandemic expectations and needs of people who live, work, learn and play in Birmingham.[4]

In addition to the physical infrastructures, the darker legacy of Birmingham's economic past continues to influence today. Many of the city's iconic historical landmarks are built on the backs of slavery and oppression and the city has faced many difficult periods of cultural conflict and disruption including the IRA pub bombings, the Handsworth riots, and the Trojan Horse incidents. This past is not just part of the history books, it is passed down as intergenerational weathering and creates cultures of distrust within the city which underpin many health inequalities.[5]

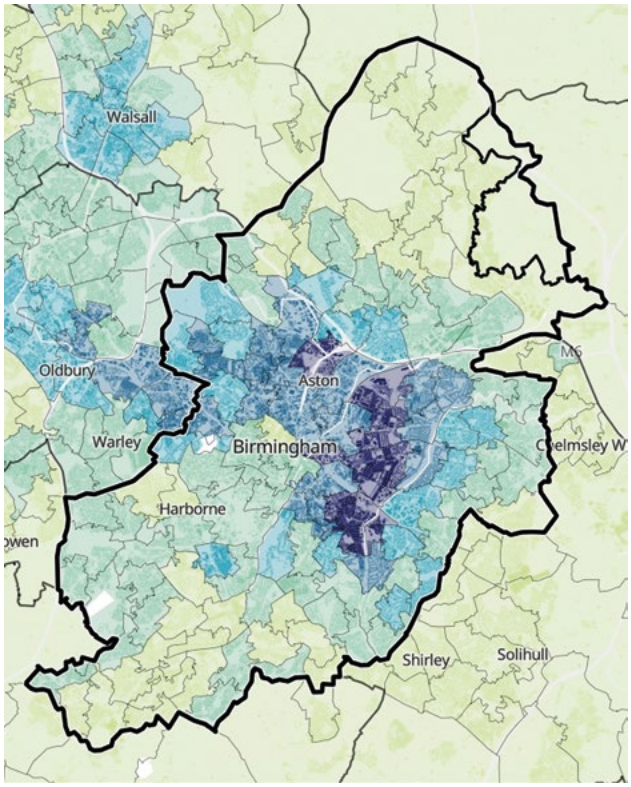
Cities tend to have a forward focus, with continually evolving identity, economic drivers and transport hubs. However, the legacy of the past and its resonance with citizens and communities must remain conscious in policy makers' minds in order to shape the future with fewer inequalities.

Population flows

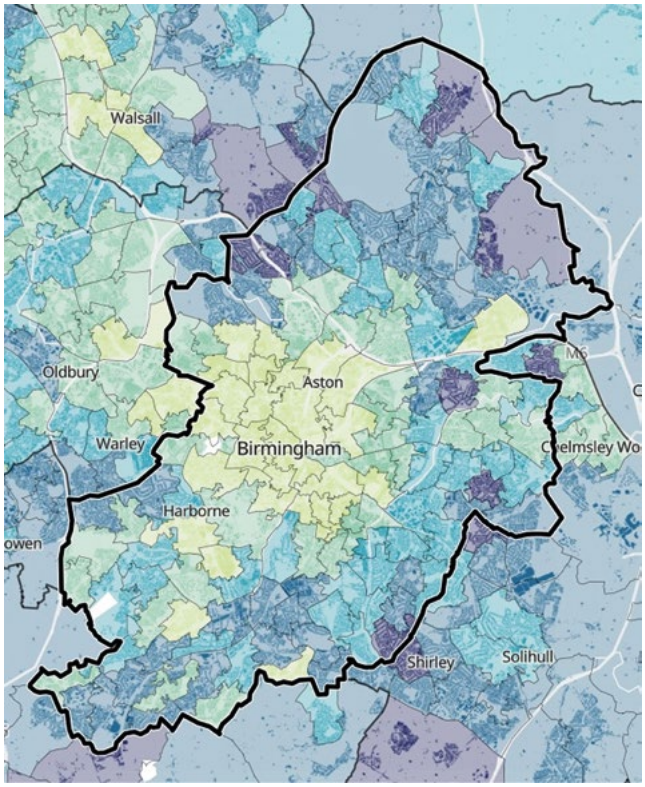
Cities face the unique challenge in stabilising and improving the health of their population whilst that population flows in and out of the city, and moves around within it. The opportunities to move or stay vary for different populations and communities. Key drivers for moving residence are education, employment and social and economic mobility. Cities like Birmingham often mirror the cities of the past mapped out socially in zones of high-cost and low-cost housing and deprivation through which citizens move physically as their socio-economic potential is realised. Figure 3.2 shows the geographical distinction across the city of overcrowding as an indicator of insufficient housing contrasted with ownership as an indicator of economic capacity.

Figure 3.2: Map of a) overcrowding (density of occupancy rating for bedrooms of -2) and b) ownership (owns with a mortgage or loan, or shared ownership)

a)



b)



Source: Census 2021[6]

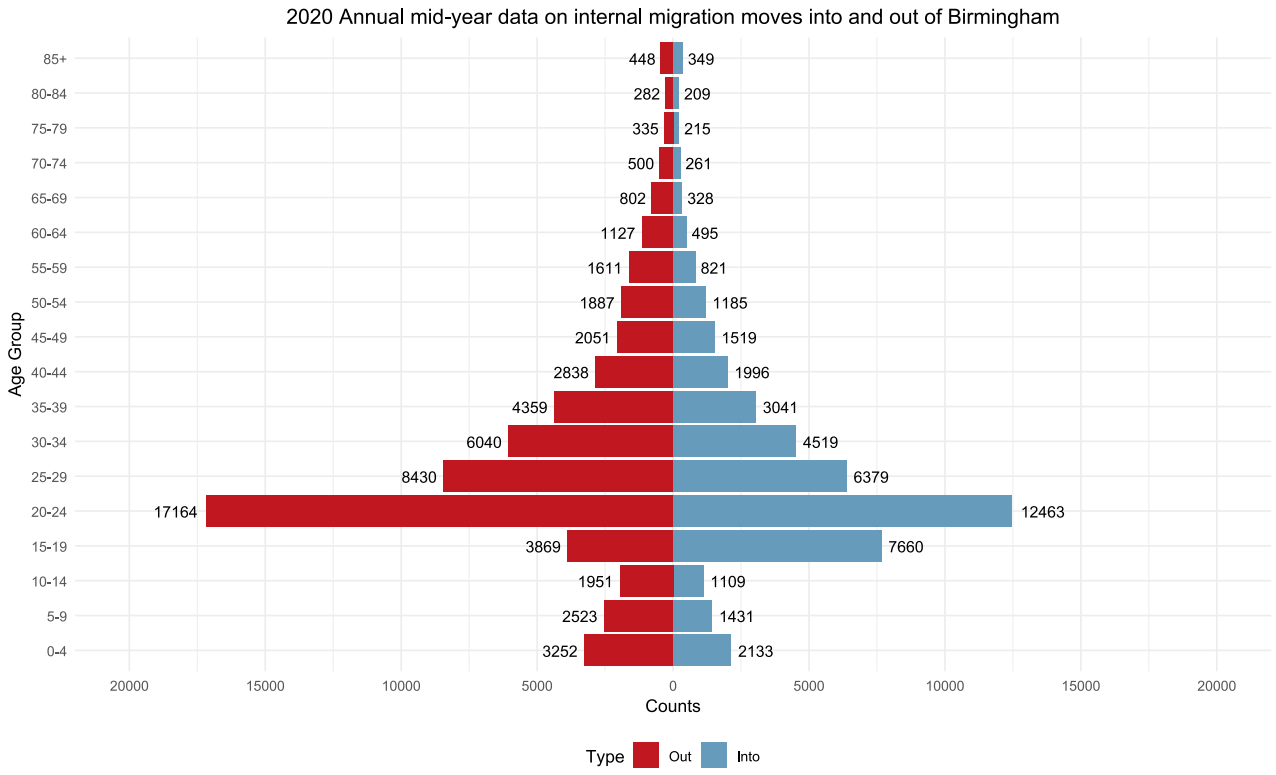
Those who are unable to achieve social mobility remain 'trapped' within the poorest zones, unable to afford to move, so they remain in deprived and disadvantaged environments with worsening burdens of health. These deprived zones cannot 'regenerate' unless there is intentional public investment because they lack economic discretional spending that attracts aspirational retail, business and healthier affordable options in ways that retain the original population rather than 'pricing them out' of their homes. This requires an intentional and co-produced approach to economic growth that is truly inclusive and focused on retaining populations in place whilst investing in addressing the physical, economic and social infrastructure around them.

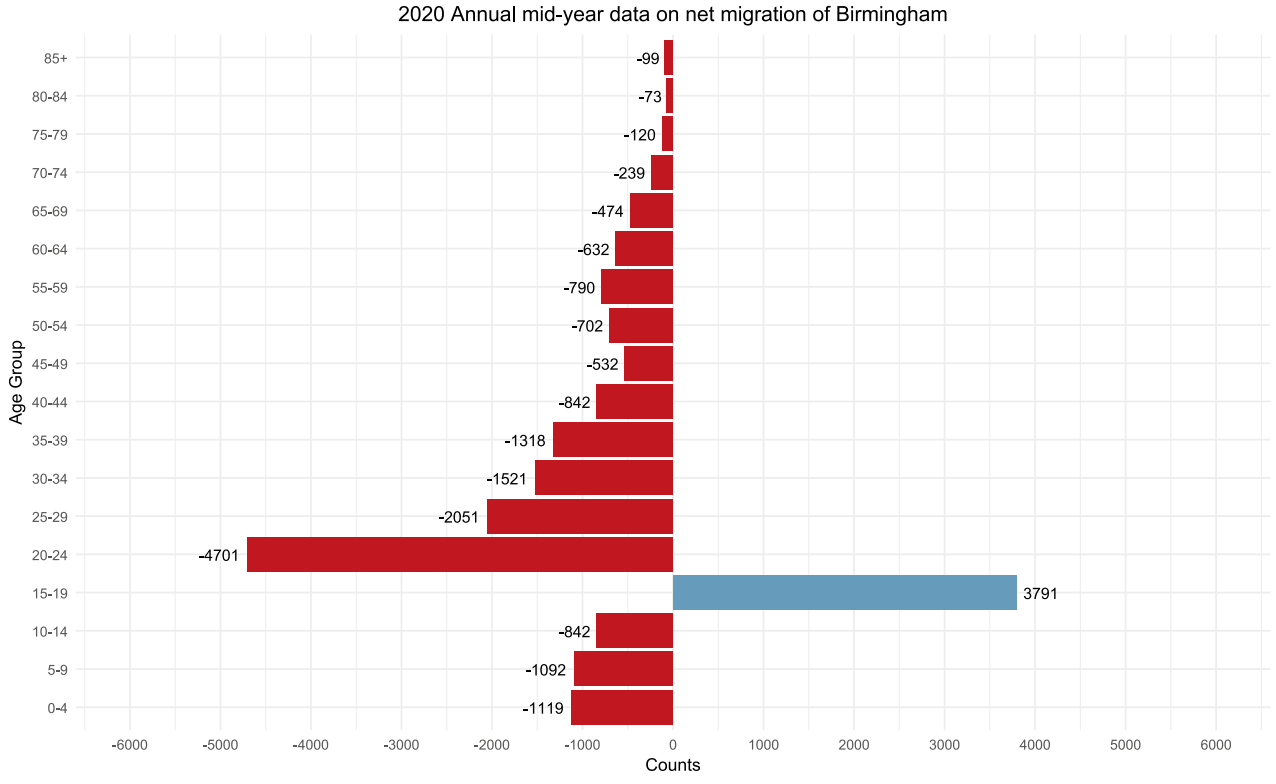
Education migration

Birmingham has a large number of 18-24 year olds: students come to the city to study, with more young people moving into the city than leaving for elsewhere in the UK (Figure 3.3) as well as 12,600 international students.[7] There are 5 large universities and several specialist smaller university campuses, each with a different "USP", and for several of them this includes a specific focus on serving and improving the lives of local populations and those from economically less advantaged areas.[8,9,10] However, following the influx of young adults, nearly 1 in 5 of 20 to 24 year olds move out of the city. The number of students shifts the demographic profile of specific localities across the city on a regular annual basis, creating a high level of fluctuating demand

on services like primary care and resources, especially private rental accommodation. This mobility and instability limits the ability to build community cohesion outside of the university campuses.

Figure 3.3: Annual mid-year data on internal migration moves a) into and out of Birmingham and b) net, 2021[11]





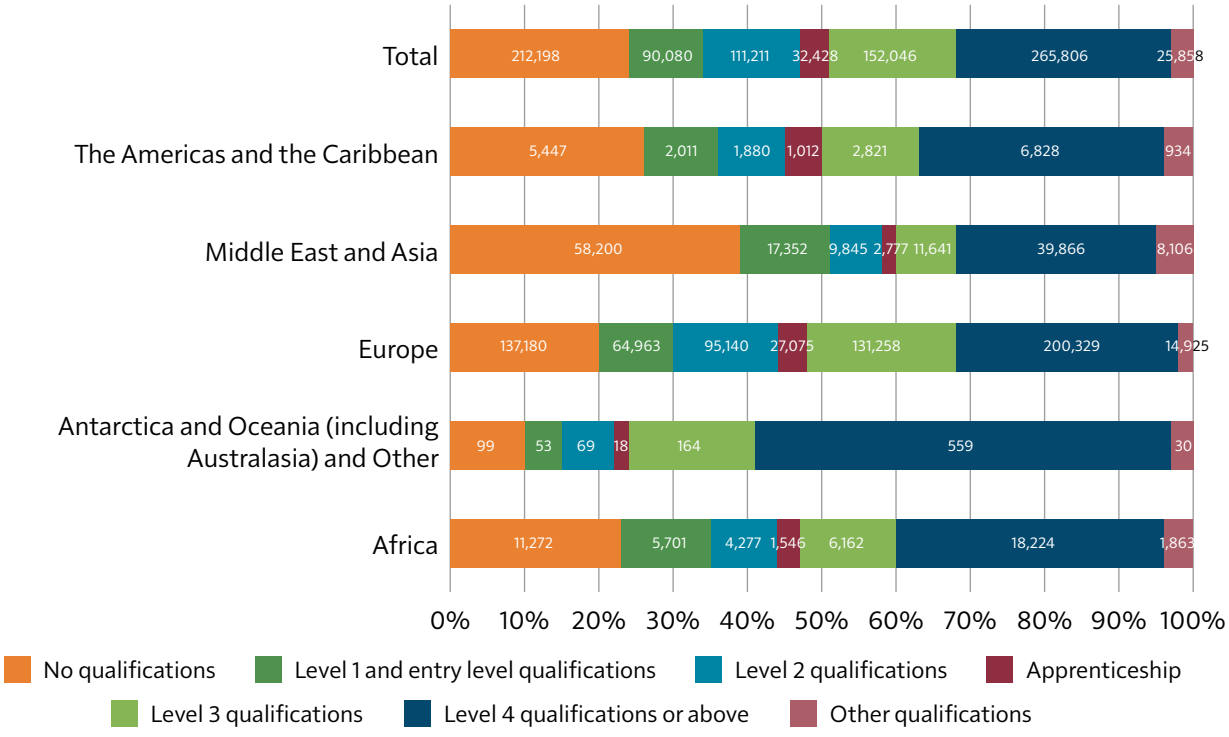
Employment and economic migration

The manufacturing and trade industries on which Birmingham is built are now a smaller part of the employment picture than across the UK.[12] The industries employing the most people in Birmingham are "Human Health and Social Work activities" (17.1% of employees) and "Professional, scientific and technical activities" (11.4% of employees), showing the link with the universities and anchor public sector organisations in cities as core employers.[12]

Whilst there are 170 large employers (>250 employees) in Birmingham, there were nearly 33,000 micro-employers (0-9 employees) and 3,340 small employers (10-49 employees). The city continually sees businesses cease trading and new ones come to life. Between 2021 and 2023, over 31,000 new businesses opened in the city, whilst around 13,000 closed their doors.[13]

Economic migration has always been a key part of the population of Birmingham, and these are often highly qualified people. Whilst 22% of those born in Europe (including the UK) have a level 4 or above qualification, 28% of those born outside Europe and living in Birmingham have a level 4 or above qualification (Figure 3.4).

Figure 3.4: Percentage of highest academic qualification by country of birth for Birmingham population



Source: Census 2021[14]

Birmingham residents earn a significantly lower average salary than those who work in Birmingham as well as lower than the national average (Table 3.1). It is well known that income and employment are key determinants of health and drivers of health inequalities. Being in "good work" improves health and wellbeing across the life-course, and protects against social exclusion, whilst unemployment is associated with increased risk of ill-health and dying.[15]

Whilst Birmingham City Council is committed to becoming a Living Wage City,[16] there is still a significant way to go to close the economic inequality across the city and for all employers in the city to pay the real living wage.

Table 3.1: Median earnings for people living in and employees working in Birmingham compared with median earnings in Great Britain (2023)[12]

Earnings (2023)	**Birmingham**		**Great Britain (£)**
Gross Weekly Pay	**By Place Of Residence (£)**	**By Place of Work (£)**	
Full-time workers	624.4	652.0	682.6
– Male full-time workers	666.9	729.4	728.3
– Female full-time workers	563.6	592.9	628.8
Hourly Pay – excluding overtime	**By Place Of Residence (£)**	**By Place of Work (£)**	
Full-time workers	15.91	17.02	17.49
– Male full-time workers	16.75	18.27	18.15
– Female full-time workers	14.70	15.84	16.64

The challenge for cities is that job creation does not necessarily lift local people out of poverty unless the jobs and skills training offer mobilises alongside social and cultural interventions to make the new jobs accessible and desirable to residents.

Good work is essential for good health and is more than just income, it is about safe and supportive working environments that enable people to achieve their potential and be productive. Birmingham, and the wider West Midlands, benefit from the Combined Authority led Thrive at Work programme, which works with employers to develop positive work environments that support health.[17] However, the penetration is very low with small businesses, which open and close, and who often lack the time and resources to give to this space.

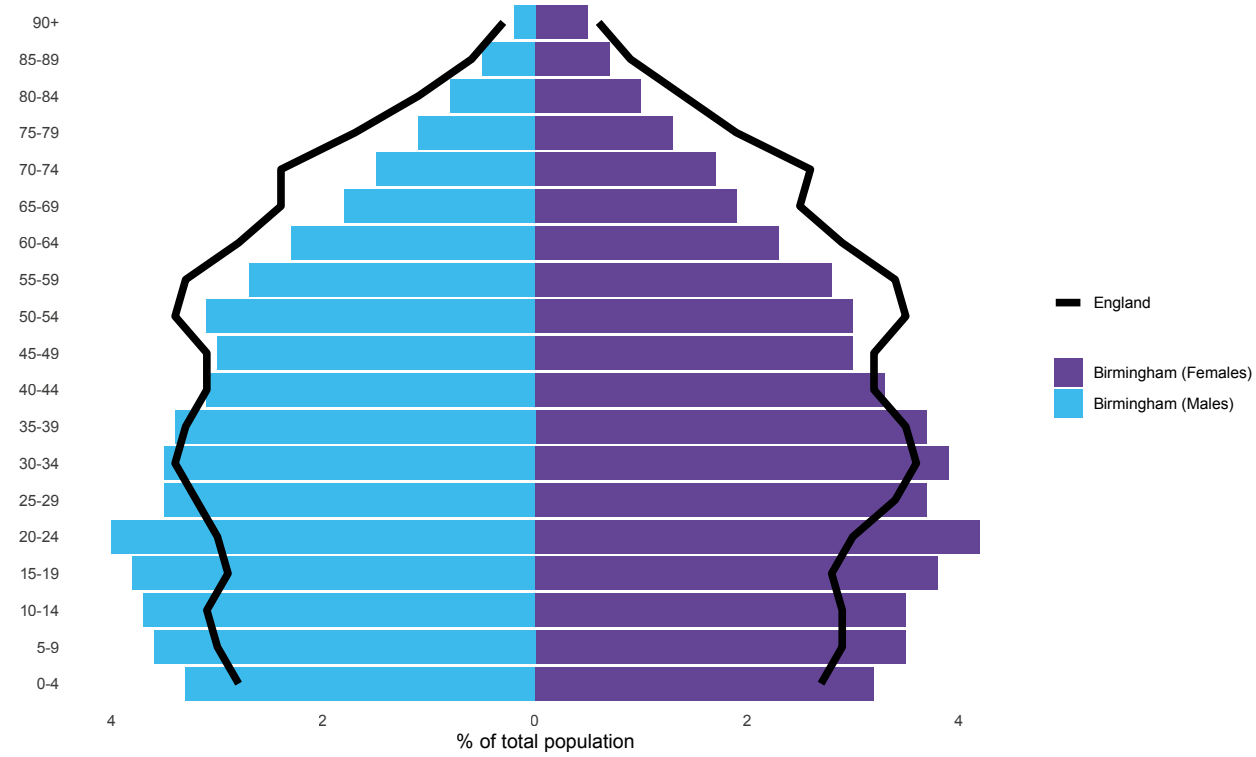
Key population demographic change

Cities, in general, are younger and more diverse than the general population. This is a result of the economic, educational and social dimensions of cities, and Birmingham epitomises this.

Age

Birmingham has a much younger age profile than England profile (Figure 3.5) with nearly a quarter of the population aged under 16 years. However, birth rates and the proportion of the population who are children in Birmingham are decreasing while the number of adults and older people, particularly the pre-retirement age, has increased. More people are remaining in the city as they age and retire, creating new community dynamics and a different emphasis for health and social care services, and creating a strong narrative for age-friendly cities.

Figure 3.5: Birmingham population pyramid, with England comparison



Source: Census 2021[14]

In broad terms, there are older populations in the north and south of Birmingham, whilst the central band has a younger profile. This reflects the focus of universities in the central band, with associated private rental accommodation, but also the outward migration linked to social mobility. This requires a more layered approach to services and urban design, including a sub-city level. In Birmingham the integration of health and social care and voluntary and community sector organisations is being done through a locality model, where services are integrated and co-designed in 5 areas. Working with an "early intervention and prevention" approach has improved citizen outcomes and satisfaction and developed a much more connected support around families and households linked up at place.

Many of the older population live alone: in Birmingham those living alone increases steadily from around 10% of 40 to 44 year olds to more than half of those aged over 85 years, and often in under-occupied houses.[18] Under-occupation may be a choice, but often it is a result of financial and social limitations that mean individuals are not able to find suitable alternative

accommodation as they age and can leave them trapped in unsuitable housing navigating deteriorating health and care needs.

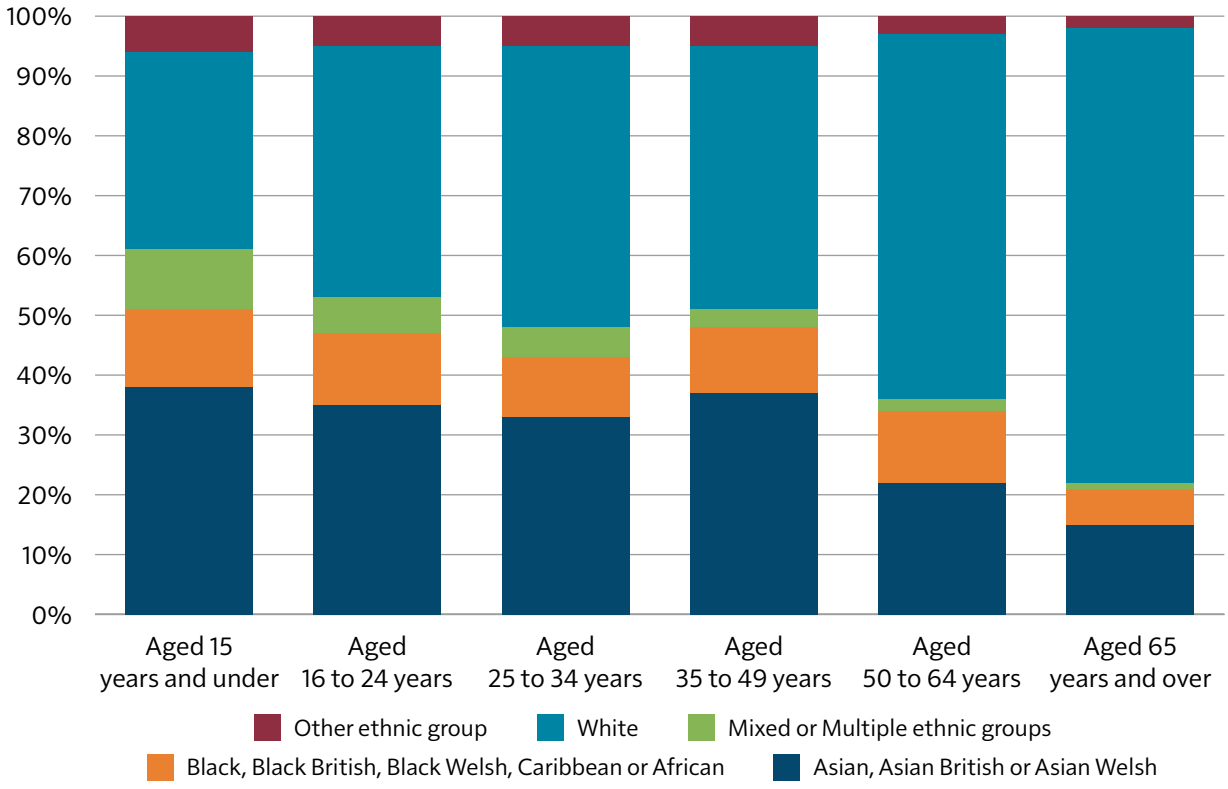
The challenge for our city, like many others, is to support a healthy childhood that stimulates and supports children into healthy, productive adulthood and healthy, independent old age through infrastructure including appropriate housing, environment and transport as well as compassionate and cohesive communities.

Ethnicity

> *"I have my own way of thinking and my contribution from Nigeria. Someone from Pakistan will have their own way of thinking and their own contribution. Someone from India and someone from Australia the same. When we come together, we see things from different perspectives and it helps."* – Birmingham resident

Work has drawn migrants to Birmingham from across the world and has led to Birmingham becoming a super-diverse city with more than half of the population (51.4%) identifying as belonging to a group commonly described as an ethnic minority. Birmingham's super-diversity is particularly evident in the younger population, with 67% of 0-to-15-year-olds identifying as from an ethnic minority (Figure 3.6). Diversity in the city is expected to continue to increase over the next decade.[18]

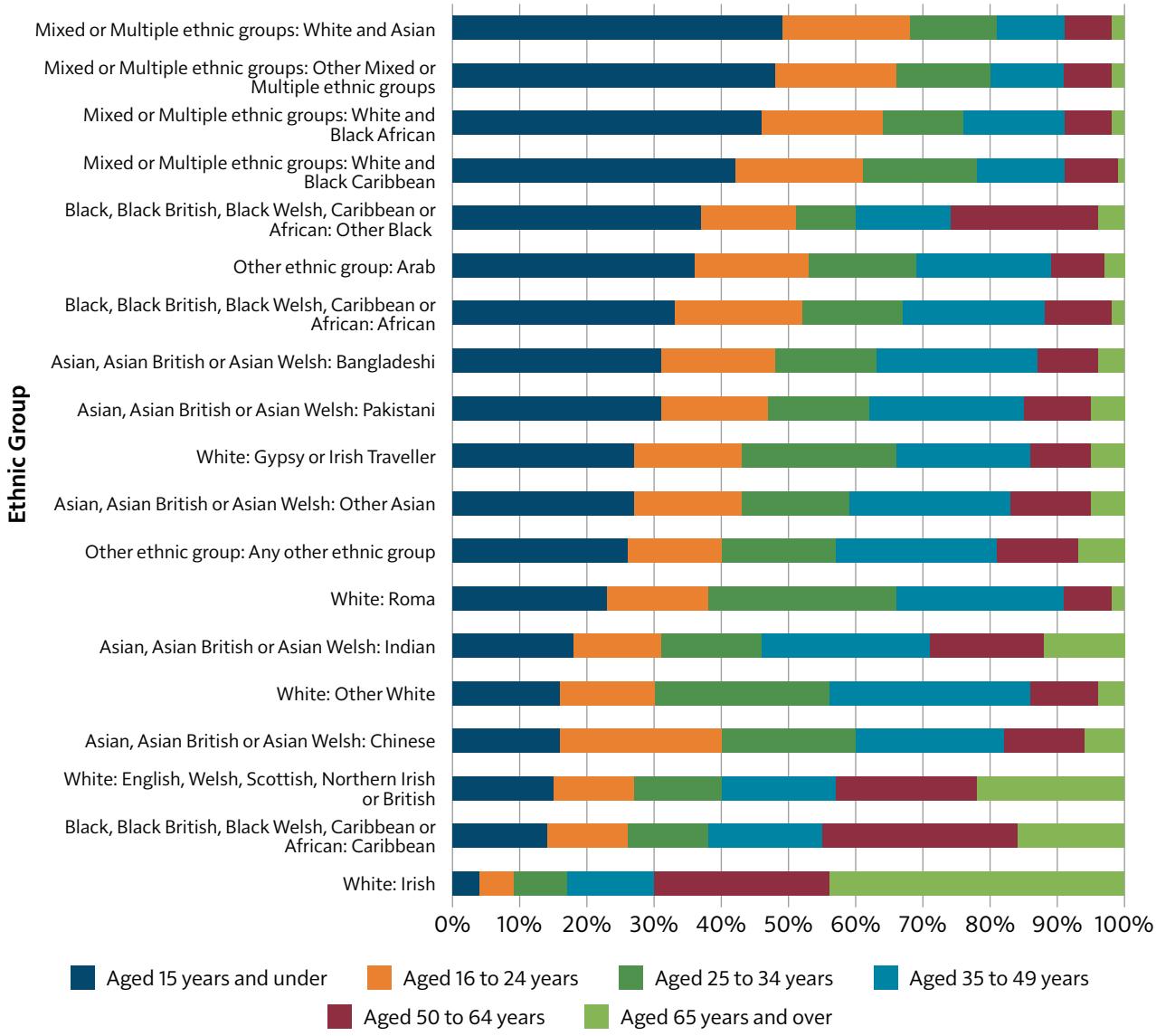
Figure 3.6: Usual residents in Birmingham by age group and ethnicity (broad group)



Source: Census 2021[14]

The history of the city can be observed through the age-profiles of ethnic communities. For example, Irish people who came to Birmingham looking for work, and the Windrush era saw people from the Caribbean help rebuild the country after the Second World War. Both communities have the highest proportion of adults aged 50 years and older (Figure 3.7) More recent immigration followed the expansion of the European Union, as well as the immigration from conflicts and crises in Afghanistan, Syria and Ukraine. Many of these communities, whether recent or well-established, have strong links to countries of heritage and origin. Social media and digital communication can strongly influence the health narratives and beliefs based on those country's social norms.

Figure 3.7: Usual residents in Birmingham by ethnicity (specific group) and age group



Source: Census 2021[14]

The inequalities in health outcomes experienced by people from ethnic minority groups cut across a range of preventable and treatable conditions, including infant mortality, diabetes, hypertension, obesity, asthma, heart disease and cancer, and were clearly seen in the COVID-19 pandemic.[19,20,21] The causes of such health inequalities are complex, being driven by the wider determinants of health (income, education and housing), as well as racism and discrimination and access to health information, services and treatment and health-related behaviours.[19,22] Within these communities, there are often inequalities linked to other aspects of identity, particularly gender, disability and sexual orientation. Understanding how these vary and impact multiple communities is essential to improving outcomes and designing services that support citizens in a culturally competent way. In Birmingham, we have produced the Community Health Profiles to improve this understanding.[23]

Granularity is important, but it is not often captured or considered in our understanding of populations. In Birmingham, the size and diversity of the city mean that there are sufficient number of people to investigate the important differences between ethnic communities. These differences can be seen in demographics, such as the age-profiles of different communities within a broad category, but also in communities, networks, lifestyles and health outcomes. It is not good enough to homogenise groups and assume that this will lead to culturally competent and effective interventions. As a public health system and a wider civic society, we have to be better in understanding these differences and responding to them in partnership with the communities themselves (Case Study 2 and Case Study 3).

Cities are at the forefront of navigating the politics of identity and racial disparities, and Birmingham demonstrates the potential to think differently and explore the potential and value of the vibrant diversity of a global majority city.

Case Study 2: Birmingham and Lewisham African and Caribbean Health Inequalities Review, BLACHIR.[24]

The BLACHIR project was launched in 2020 as a partnership between Birmingham and Lewisham to explore and better understand the inequalities affecting African and Caribbean communities and co-produce opportunities for action to break structural inequalities and achieve sustainable change. The review used a mixed methodology and worked with an external community and academic advisors to examine findings and shape recommendations.

The report, published in March 2022, identified 39 opportunities for action with seven overarching key priorities areas: Fairness, Inclusion, and Respect; Trust and Transparency; Better Data; Early Interventions; Health Checks and Campaigns; Healthier Behaviours; and Health Literacy. The BLACHIR Implementation Board (with a broad membership and two independent chairs) was established to ensure the delivery against the areas for action. Local community engagement partners were commissioned to ensure implementation plans and solutions are co-produced with the communities and the local voice of lived experience is the key driving force.

Case Study 3: Jamaican 60th Anniversary Arts, Culture and Health programme, 2022

In 2022, as part of our Arts, Culture and Health programme, a series of projects with the Jamaican community were commissioned to celebrate Jamaica's 60th Year of Independence. The project demonstrates how targeted arts and culture activities can be used effectively to educate and empower people about their health in a way that is creative, accessible and culturally appropriate. Celebrating participants' Jamaican heritage was a core aspect to each project, and became an asset in promoting and improving health. The project included:

Maternal health: Workshops with Jamaican women, where participants created podcasts and used digital storytelling to explore their experiences of pregnancy alongside professional and culturally appropriate information on the health and wellbeing aspects of pregnancy and maternal health.

Mental health: Local churches delivering cooking workshops, fitness classes, Jamaican dance and drumming classes, life coaching workshops focused on empowering participants to maintain their wellbeing.

Musculoskeletal conditions: Drama workshops with older Jamaican adults roleplaying common scenarios when engaging with healthcare services, interacting with healthcare professionals, navigating digital services, and self-expression of symptoms and pain to encourage earlier reporting and improve communication between individuals and healthcare professionals.

CVD and diabetes: practical and culturally appropriate cooking sessions to address cardiovascular disease and diabetes in the Jamaican community. The guided cooking sessions were focused on making healthier modifications when cooking traditional Jamaican dishes.

Sexual orientation and gender identity

> *"I don't see much harm coming from inclusion and supporting people… I feel like that would have had a direct positive impact on the health and wellbeing of someone like me"*
> – Birmingham resident from the LGBTQ+ community

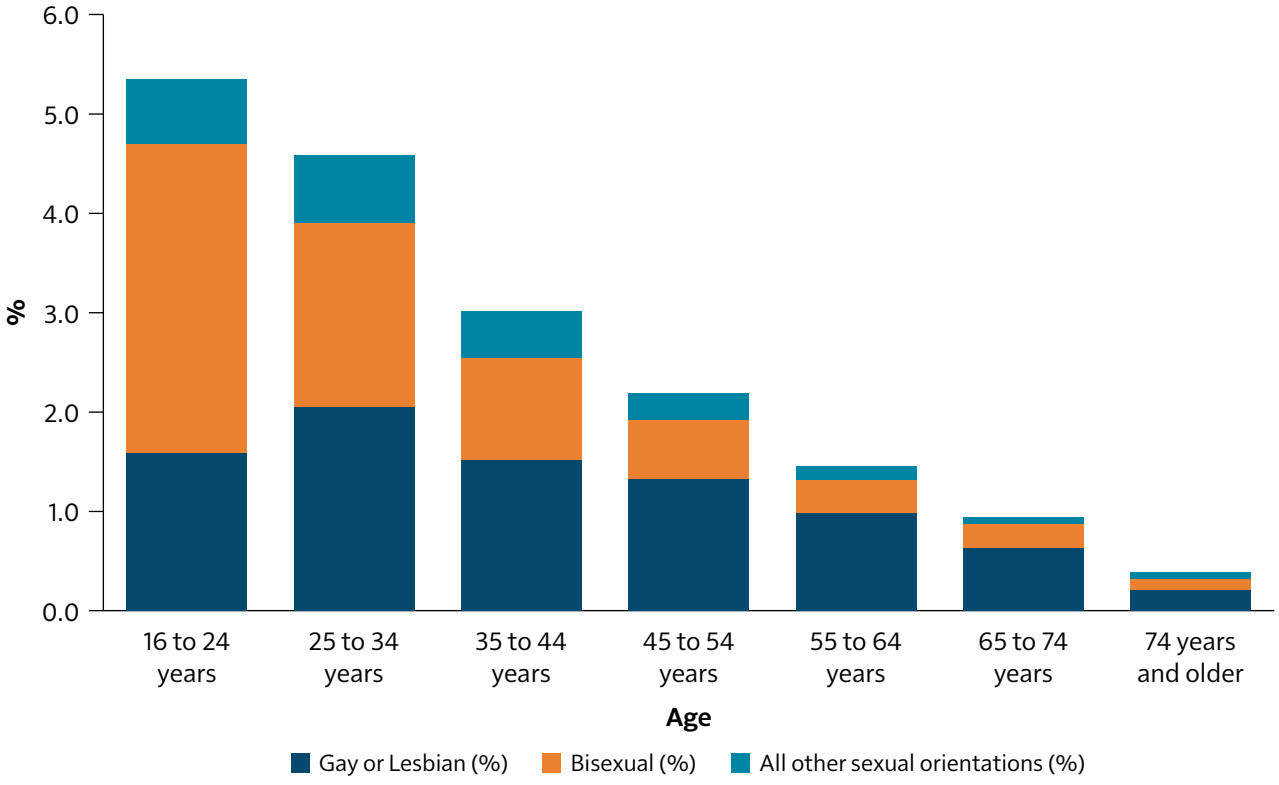
Birmingham, like many cities, has vibrant communities of people who identify as lesbian, gay, bisexual and/or trans (LGBT+). Many drawn to the safety and community of the urban settings and visible retail and hospitality and voluntary sector, others coming for education and employment and coming out as they find new families of choice and safe communities.

Historically, the LGBT+ community has faced discrimination, violence and exclusion, as well as the devastating impact of HIV. Sadly, whilst the impact of HIV has lessened due to medical advances, discrimination, violence and exclusion continue today.[25] There are well-reported

health inequalities between those who identify as heterosexual and those who identify with an LGB+ orientation.[26]

In Birmingham, Census 2021 showed around 3% of the population (aged 16 and above) identify with an LGB+ sexual orientation and 0.9% with a gender identity that is different from their sex registered at birth, similar to England overall.[18] A third of LGB+ orientated individuals are aged between 16 and 24 years old (Figure 3.8). Birmingham has a greater proportion of people identifying as 'trans+' than England, and the differences are greater in those aged over 25 years. This may reflect the positive work of Birmingham LGBT community organisation over many years supporting the Trans community. For both sexual orientation and gender identity, there was a slightly higher proportion of Birmingham residents who did not answer these questions in the Census 2021 than seen across England.[18]

Figure 3.8: Sexual orientation, excluding Straight/Heterosexual and Not Answered, by age-group in Birmingham



Census 2021[14]

Across most LGBT+ groups, there are high rates of risk behaviours such as smoking rates, alcohol consumption and substance misuse.[27,28,29] However, there are differences between lesbians, gay men and bisexual and trans communities. Some are more obvious, for example, higher levels of HIV in gay men and men who have sex with men than heterosexual men. Others less so, for example, higher levels of sexual and domestic abuse experiences by bisexual women than heterosexual women and higher levels of self-harm and suicide risk among trans+' communities.[28] This demonstrates the need in cities to think beyond a simplistic LGBT+ grouping and understand in more detail the differences between communities and their different needs. It also reinforces the importance of monitoring health inequalities specifically

for LGBT+ communities. The Birmingham and Solihull Integrated Care System 10 year strategy includes a range of metrics for success linked to specific communities of identity and experience.[30]

Health inequalities are compounded by multiple barriers to accessing health services, including expected or actual discrimination, lack of knowledge or understanding and avoidance among healthcare professionals as well as in patients, and this is particularly an area of concern in primary care linked to perceived risks of discrimination.[28] This reinforces the need for inclusion and cultural competency training to be developed and implemented for LGBT+ communities, not just for ethnic communities, and drawing on existing good practice models like the Pride in Practice framework.[31] In Birmingham, we have rolled out LGB and Trans+ awareness and inclusion training across health and social care, and we are building on this through the Birmingham Cultural Intelligence Framework for senior leaders.[32]

Cities provide a focal meeting point for people from LGBT+ communities, providing connection and safety, and opportunity for protest. The No Outsiders programme, a pro-equality primary school programme that sparked protest outside a local Birmingham school, shows the continued need for work to promote equality as well as the importance of communication, dialogue and visible support in the face of discrimination, as shown at Birmingham Pride 2019.[33] Addressing the inequalities affecting LGBT+ communities requires a whole system public health approach and demonstrates the value of seeing discrimination across all communities as a public health issue.

Disability and long-term ill-health

> *"I'm not disabled because of my impairment; I'm disabled because society doesn't take into account my impairment and enable disabled people to participate."*
> Bob, Birmingham resident

Actions to create environments – physical, economic and social – that enable people living with impairments and do not disable them from participating in city life and achieving their potential are imperative. This is not least as people in Birmingham spend more years in ill-health than the England population overall, despite dying earlier.[34] In 2021, nearly 200,000 (17.3%) Birmingham residents reported themselves to be disabled under the Equality Act, i.e. day-to-day activity limited by long-term illness or disability. Disabilities also interact with other characteristics, such as ethnicity and sexuality, and circumstances, such as poverty and employment, to amplify challenges and discrimination faced by people.[35] Alongside this, there is clear evidence of an increase in children with special education needs and disabilities (SEND), especially a marked increase in neurodivergent diagnoses reported.[36]

The disabled community is highly diverse, and it is essential to recognise that the needs and the response to those needs of different disabled communities are different. Too often we have used the shorthand of disabled communities to group physically impaired people in with blind or D/deaf people, or learning disabilities for example and homogenised their needs. This undervalues their identities as well as their needs. Part of our approach in Birmingham is to undertake, publish and actively disseminate intelligence work which includes lived experience,

to understand our population in a more granular way and the challenges and inequalities they face in Birmingham. Examples include the Learning Disabilities in Birmingham Deep Dive and the Community Health Profiles on the D/deaf and hearing impaired communities and the visually impaired communities.[23,37]

The incidence of disability increases with age. Many impairments are linked to long term health conditions, and some are potentially preventable. Therefore, there is a need to ensure prevention and secondary prevention in NHS long-term health condition pathways are actively embedded, including better clinical management and early identification and treatment. Factors such as smoking, physical activity, and maintaining a healthy weight are all key to helping us live healthier lives for longer, pushing back the time when our daily lives might be limited and/or care is required. Ensuring timely access to services for musculoskeletal issues, for example, can prevent a cycle of decline (e.g. early intervention with exercise on prescription can defer, and potentially prevent, joint replacement[38]), and is particularly important for reducing inequalities.

Our disabled citizens have told us how they face many challenges in the city, from physical barriers like too small typeface on signage for visually impaired people or the absence of British Sign Language translation of basic health advice to experiences of paternalistic and patronising discrimination by professionals.

Creating an enabling environment is key to reducing inequalities, and West Midlands Transport have made this a central pillar of the West Midlands Transport plan to create more accessible public transport. We are working as a city and a region to embed accessible housing and adaptable housing into our requirements of new developments alongside championing the Disability Confident approach with employers and raising understanding and awareness in communities to improve the social environment of the city. We want to be a city that enables people living with impairments to achieve their potential and not be disabled by our society, and we recognise that our demographic shifts mean that this is even more important now than ever before.

Summary

Birmingham is a globally diverse city with a continually changing population, which creates both the challenge of inequalities and the opportunities of growth and evolution. Cities are changing in their nature: Birmingham was a city built on industry, craftmanship and manufacturing, whilst more recently professional services have become the dominant industry alongside the public sector employment. The economic changes link closely to the demographic changes and in turn to the health outcomes experienced by the population. Responding to these changes requires an intentional approach to economic growth, urban planning, social cohesion, and the building of social capital.

Birmingham demonstrates the potential to respond to these challenges through a deep understanding of communities, working with these communities to co-design solutions and considering health in the broadest context of physical, mental and social health in a whole system way.

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3.2 Bristol

Source: Bristol City Council

Clifton Suspension Bridge

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A historic and global city

The largest city in the South West, Bristol is home to a wealth of cultures and creative ideas. It is a city of sanctuary[1] and is proud of the diversity of its communities, with 90 languages spoken by residents born in more than 185 countries across the world.[2]

Bristol, or Brig Stow, the place of the bridge, is a thriving and innovative global city. The seafaring city's most famous landmark is undoubtedly the Clifton Suspension Bridge. In 1831 the Victorian engineer Isambard Kingdom Brunel began to build the bridge over the Avon, connecting the city to neighbouring Somerset. Brunel also created Bristol's floating harbour, managing the tidal Avon through pump houses and lock gates which remain in operation today. The development of the Kennet and Avon Canal, and later the Great Western Railway, opened

trade between London and the South West, making Bristol ever more networked to the national and global realm.

At the centre of trade for many years was the tobacco industry. The history of the industry can still be seen in local place names – Imperial Court, Regal Apartments, Capstans Road. Much of the city's public health work in recent years has focused on reducing rates of smoking in the city.

Also linked to its trading past is the city's role in the transatlantic slave trade. Racism and discrimination are now well understood to be public health issues, revealed starkly during the COVID-19 pandemic through the differential impact on people across Black and minoritised communities and different social and economic groups. It was during the Covid pandemic, as part of Black Lives Matter anti-racism demonstrations in June 2020,[3] that the statue of slave trader Edward Colston was toppled from its plinth and thrown into the harbour. Following a period of reflection, the statue of Colston is now preserved in the city's M- Shed Museum[4] to tell the story and invite engagement with the issues of historic and modern-day enslavement and discussion about the role of protest.

The way that the city responds to its past informs its present. This moment of awareness and reflection presents an opportunity to address issues such as identity, racism, oppression, threats to health and issues of belonging, safety and equity- essential conditions for the health and wellbeing of individuals and communities. Art, music and theatre support and enable the expression of diverse voices and perspectives, bring people together and strengthen the social and culture capital of the city.

Source: Bristol City Council

St Paul's Carnival

Bristol's sense of place, and pride in being Bristolian, combined with its reach as a global city connected by commerce, travel and family means that creativity and culture seep out of every pore in the landscape. Since 1968, St Paul's Carnival has grown to become one of the UK's most accessible and inclusive events, promoting and celebrating Bristol's multi-cultural communities through song, art, music and movement. Bristol is also the home of Banksy, whose works can be found around almost every corner, and Ardman Animations, creators of the much-loved Wallace and Gromit.

Most recently the University of Bristol Dental School collaborated with Ardman to create a new brand for Oral Health in the city- these have been called the 'denticles'. Art and creative health alongside nature-based activities are new and growing movements for health and wellbeing which Bristol has embraced in many and different forms.

Denticles at University of Bristol Dental School
Source: University of Bristol

Banksy "Girl with a pierced eardrum – with mask"

A growing, diverse and young city

Bristol is one of the 11 'Core Cities' in the United Kingdom. With a population of 479,200 in mid-2022 and an increase of 10.6% in the last 10 years, Bristol was the second fastest growing of all Core Cities over the last decade. If pre-pandemic trends were to continue, the total population of Bristol would be projected to increase by 13% to reach 525,800 by 2040.[5]

Bristol is a young city with a median age of 33.9 years compared to 40.6 years in England and Wales.[6] There are 43,700 full-time students aged 18 and over living in Bristol, making up 9.2% of the total population. However, despite having two world class universities, Bristol has some of the lowest rates of people going to university. This reality sits alongside the city's £15 billion economy, thriving business sector and one of the highest retention rates for graduates in the country.

Bristol is also an increasingly diverse city with at least 45 religions, 185 countries of birth, 287 different ethnic groups and 90 main languages. 28.4% of people in Bristol belong to a minority ethnic group.[7]

Of course, cities are always evolving, and the city is now open for business 24 hours and 7 days a week. With two regional hospitals on the city's footprint hosting some 20,000 staff, 2 universities and being a Destination City with a thriving night-time economy accounting for 38% of all jobs in Bristol, taking care of the nighttime is important. The Bristol Nights programme includes work on creating a safe nighttime environment and supporting the mental health and wellbeing of those who are out at night.

An unequal city

Health outcomes, risks and protective factors are baked into the fabric of place. These can be observed, tracked and investigated, just as a geologist might reveal structures in the strata of rock. The task is to make these visible and take steps to create a more equal city.

On many health outcomes the city performs poorly compared to the England average, but better than most of the English core cities. However, there are significant health and wellbeing inequalities within the city.

Over 70,000 people (15% of the population) of Bristol live in the top 10% most deprived areas in England, including 17,900 children and 7,600 older people.[8] 27,560 households in the city are in fuel poverty,[9] with more than one in five (22%) children living in poverty.[10] Deprivation in Bristol is strongly geographical, with the greatest levels of deprivation being found in the areas of Hartcliffe & Withywood, Filwood in the south and Lawrence Hill in the east.[11]

Life expectancy is 82.6 years for women and 78.2 years for men (2020 to 2022), both of which are lower than the national average.[12] The inequalities gap in life expectancy between the most and least deprived areas in Bristol is 9.9 years for men and 6.9 years for women (2018 to 2020). Cancer remains the biggest killer in the under 75 age group, causing 444 early deaths in Bristol in 2022.[13]

Bristol's healthy life expectancy (years living in good health) is 61.5 years for women and 59.8 years for men (2018 to 2020); both significantly lower than the national average of 63.9 and 63.1 years respectively.[14] Despite this, and testament to the response of our communities and faith groups in keeping people safe, the mortality rate for COVID-19 was 279.3 per 100,000 people, significantly lower than both the England average of 340.1 and the other English core cities (March 2020 to January 2023).[15]

Smoking and tobacco

The current smoking rate in the city is 14.8% (2022) which is similar to the national average (12.7%), however, this hides considerable inequalities. In the 10% most deprived areas, 25% of households have a smoker living in them, compared to 8.8% of households in the 10% least deprived areas, manifesting in disparities in life expectancy and healthy life expectancy.[16]

Smoking remains the leading cause of premature and preventable death causing harm across the life course including stillbirth, asthma, heart disease, chronic obstructive pulmonary disease, 15 different types of cancer, stroke and dementia. These impacts can be observed as unequally distributed across our city, perpetuating inequality. A landmark Tobacco and Vapes Bill has been introduced in the UK Parliament, focusing on protecting children and future generations from the immediate harmful impacts of tobacco, and restricting how disposable vapes in particular are able to appeal to children.

Based on the lifelong impacts of smoking, Bristol's public health team works closely with maternity services to support women who are smoking during pregnancy to quit. This has included a bespoke programme delivered to all community midwives to implement the Saving Babies Lives Care Bundle.[17] All pregnant women receive routine carbon monoxide testing and opt-out referrals to smoking cessation services. Over the last 10 years we have successfully reduced the gap in smoking during pregnancy prevalence between our most and least deprived communities by 50%, with the greatest impact seen amongst women living in our most deprived communities (a reduction from around 25% in 2013/14 to 13% in 2023/24). We have also reduced the age gap, with our youngest mothers (aged under 20) who are amongst the most likely to smoke during pregnancy experiencing the most significant reductions in smoking prevalence over the last 10 years (from 51% prevalence in 2013/14 to 19% in 2023/24).

Source: Bristol City Council

Stop Smoking Advert

Bristol's public health team also works closely with colleagues in trading standards, through our specialist stop smoking advisers, the NHS, health visitors, schools and education services and local communities to support people to quit smoking, to stop the start and to reduce harm from second hand smoke.

We have been pleased to accept new Department of Health and Social Care 'Stopping the Start' funding which will enable investment into new resources to support members of our communities who experience the greatest addiction to smoking and the greatest barriers to change to quit smoking for the good of their health and their families.

Unhealthy weight

In Bristol, 21.5% of 4 to 5 year olds have excess weight, rising to 35.2% for 10 to 11 year olds (2022/23).[18] These local figures are reflective of a national increase in rates of unhealthy weight. This suggests that unhealthy weight is not purely an individual lifestyle issue, but is also an outcome of wider social, economic and environmental circumstances. Our focus on healthy weight in based on creating healthy environments for physical activity – being able to walk, cycle and play safely – and food equality- being able to access affordable, nutritious food and know how to prepare it. The individual healthy weight services which we commission are community based and family focused.

Recognising the well-established link between poverty, unhealthy weight and access to healthy food, One City partners came together to produce a One City Food Equality Strategy,[19] with partners resourcing school holiday meals when Bristol failed to receive much needed funding for this programme. Bristol City Council has adopted a Good Food and Catering Procurement Framework[20] and the first council Advertising and Sponsorship Policy outside of London,[21] focusing on reducing advertising for high fat, high sugar foods, tobacco and alcohol. Bristol's whole system focus on active environments has had positive results, with 75.9% of Bristol adults reporting that they are physically active, significantly higher than the national average (67.1%) and highest of all English core cities (2022/23).[22] Disparities across the city persist however, and focused community led interventions are supported in key neighbourhoods to address this.

Source: Bristol City Council

Bristol cyclists

Alcohol and Drugs

The Drug and Alcohol Strategy for Bristol[23] sets out a city-wide vision for reducing harms from alcohol and other drugs. It has been developed and is delivered in partnership across the city. The strategy has been informed by Bristol's thriving peer support and recovery community which hosts the biggest 'Recovery festival' in the Southwest every year, showcasing the talents and achievements of the community. Bristol has the second largest rate of opiate and/or crack users (per 1,000 population) of all the English core cities and the largest proportion of very high complexity clients who need to remain in treatment for longer with specialist support.[24] Harm reduction approaches, such as drug testing, and a broad definition of living well in recovery are integral to the Bristol approach.

A particular focus for Bristol is reducing harms from alcohol consumption. The rate of alcohol-related hospital admissions in 2022/23 was 675 per 100,000 people, significantly higher than the England average of 475,[25] with the rate of hospital admissions for residents living in the 20% most deprived areas of Bristol more than twice as high than residents living in the 20% least deprived areas. There are twice the number of alcohol-specific deaths amongst men than women.[26] In addition to treatment services, prevention and abstinence interventions such as alcohol-free nights, and alcohol-free zones are being explored.

In recognition of the high level of need in Bristol, the city has received considerable additional national funding over the past 5 years. This has supported innovative approaches, a greater focus on prevention and treatment for alcohol addiction and improvements to treatment continuity within the prison pathway.

Source: Bristol City Council

Substance Use Support Network

Food and fuel poverty

27,560 households in Bristol are estimated to experience fuel poverty, meaning 12.8% of all households are fuel poor (national average 13.1%).[27] 8.3% of Bristol households, and 18.9% in the most deprived areas, have experienced moderate to severe food insecurity in the last 12 months.[28] To address these challenges, Bristol One City supported the Welcoming Spaces network.[29] The network consists of 105 Community Centres and spaces offering warmth, socialising and support related to the cost-of-living crisis.[30] In addition, One City Partners mobilised the provision of computers to schools and is focused on developing new skills, training and recruitment programmes creating ladders of opportunity.

Source: Bristol City Council

Welcoming Spaces – Lockleaze Hub

Bristol: One City, Many Communities

In a recent report by the Institute for Health Equity 'Health Inequalities, Lives Cut Short',[31] Sir Michael Marmot called for action on *"the conditions in which people are born, grow, live, work and age,"* citing that *"These social conditions are the main causes of health inequalities."*[32]

For some time, and predating COVID-19, health in Bristol and elsewhere has been declining, with health inequalities widening. Our challenge as a city is to use our creativity, wealth and considerable assets to address the disparate social conditions which cause the inequality which we see reflected in unequal life expectancy and healthy life expectancy. There are many, complex reasons for this. Economy and health are inextricably linked. Poverty and health outcomes combine to create a social gradient in health. Racism and discrimination cause great harm to health. Within this context, we have asked ourselves what can we do locally to improve and protect the health of future generations in Bristol?

The Bristol One City approach is a large part of the answer. One City is a coalition of the willing, a convening space for all who wish to be involved. It brings together a vast range of public, private, voluntary and third sector partners to work together to make Bristol fairer, healthier and more sustainable, mobilising action around health, the economy, and the wider social determinants of health.

The One City Office is funded by Bristol City Council, University of Bristol, University of the West of England, City of Bristol College, North Bristol NHS Trust and University Hospitals Bristol and Weston NHS Foundation Trust. The One City Plan[33] documents year-by-year goals until 2050 delivered through six themed Boards: Children and Young People, Economy and Skills, Environment, Health and Wellbeing, Homes and Communities and Transport, as well as a cross-cutting Culture Board. The network of civic and community organisations represented within the One City partnership offers opportunities to build health into the fabric of city and to systematically address inequality and improve access, opportunity and outcomes. The Health and Wellbeing Board provides an effective bridge between the different One City themes, such as housing, economy and environment and the wider health and care system.

Working together with Civic Partners and communities, the city has tackled issues including food and fuel poverty and serious violence. By focusing on the places we live, and the people who live in them, we can make tangible improvements for health and wellbeing. By investing in diverse talents of the children, young people and families of today, we are investing wisely in a fairer, healthier future. A healthier future benefits individuals, organisations and the whole economy.

As we move into the mid-21st century, with the challenges and opportunities of technology, climate change and an increasingly global community within a fragile world order, our Bristol One City, Many Communities approach will continue to be our strongest asset when facing population health challenges. Working together, our approach will continue to be grounded in community, rooted in the history, character and needs of Bristol.

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3.3 Leeds

Source: Leeds City Council media library

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Background to Leeds

Leeds is a culturally diverse city with a thriving economy and is home to 812,000 people.[1] It is situated in the heart of the UK, with good national and international transport links and the beautiful and varied Yorkshire countryside on the doorstep. Leeds City Council covers a broad geography, including the vibrant city centre, densely populated inner-city neighbourhoods, diverse suburbs and rural areas with villages and market towns, each of which has its own identity.

As a regional core city, Leeds is at the centre of the wider Leeds City Region of over 3 million people. The city region has a workforce of over 1.37 million people and a mixed economy with

strengths in financial and business services, creative industries, retail, leisure and digital and tech industries, including in health. There are also thriving voluntary, community and social enterprise (VCSE) organisations and networks. In total, over 76,000 students study at one the 6 universities in the city, and over 30,000 at further education colleges.[2] The city's health infrastructure includes Europe's largest teaching hospital, local primary and community healthcare services that have strong collaboration with VCSE partners and a new Department of Health and Social Care (DHSC)-funded Leeds Health and Social Care Hub. The hub brings together local organisations with government departments to improve health outcomes across the region. The city also includes 3 prisons, an international airport and major venues that host large cultural and sporting events.

Leeds has a young population and is one of the fastest-growing cities in England. The median age was 36 in 2021, compared with 40 years in England as a whole.[1] Almost 1 in 5 of the population are aged 0 to 15, and the 2022 annual report of the Director of Public Health (DPH) focused on children and young people's health and experiences of the pandemic.[3] There is also a growing and increasingly diverse population of adults aged 50 and over, which was the focus of the 2023 DPH report.[4] The population of Leeds is ethnically diverse, with over 200 languages spoken across the city.

Not everyone benefits from the city's thriving economy in the same way. Economic and social inequalities have longstanding roots and have recently been exacerbated by the pandemic and the cost-of-living pressures. One in four of all Leeds adults and more than 1 in 3 school children live in the most deprived 10% of neighbourhoods nationally.[5] The most deprived neighbourhoods are home to the youngest and most ethnically diverse communities.

The differences in geography, economic and social conditions across the city lead to large inequalities in health and wellbeing. People living in the poorest part of Leeds live more of their life in ill-health and die around 12 years earlier than people living in the most affluent part of the city. As a large, global city, Leeds is also home to large numbers of people from communities with specific health needs that are often present in much smaller numbers in other local authorities, for example refugees and people seeking asylum, specific ethnic groups including Gypsy, Roma and Traveller communities, LGBT+ communities, people who are homeless and a large student body. This brings a range of assets and opportunities to the city and means that there are large numbers of people who could benefit from tailored support on priority health issues.

Key features of the city that influence our public health response

a) Size and scale, including

- A large total population over 800,000
- Large communities with specific health needs, e.g. students, people who are homeless
- A global city with travel hubs and an international airport

b) Concentration and density, including

- Densely populated neighbourhoods
- Concentration of different communities living in close proximity to each other
- A high concentration of partners and stakeholders, including a large and active VCSE

c) Diversity and breadth, including

- An increasingly ethnically diverse population, with highest ethnic diversity among children and young people
- Areas with high levels of deprivation alongside more affluent areas
- A wide breadth of health issues and challenges, alongside strengths and assets

Figure 3.9: Map of Leeds, showing the most and least deprived areas

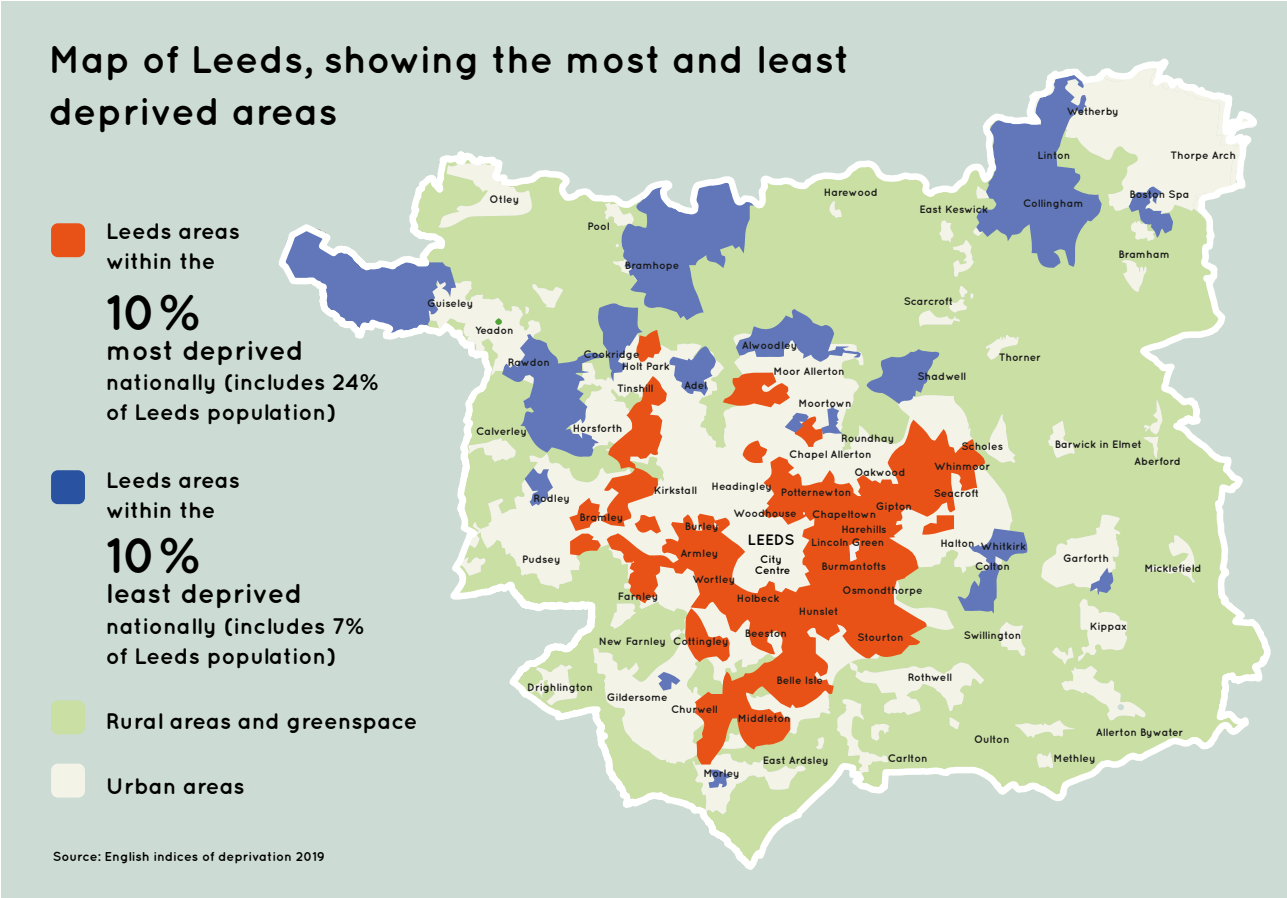
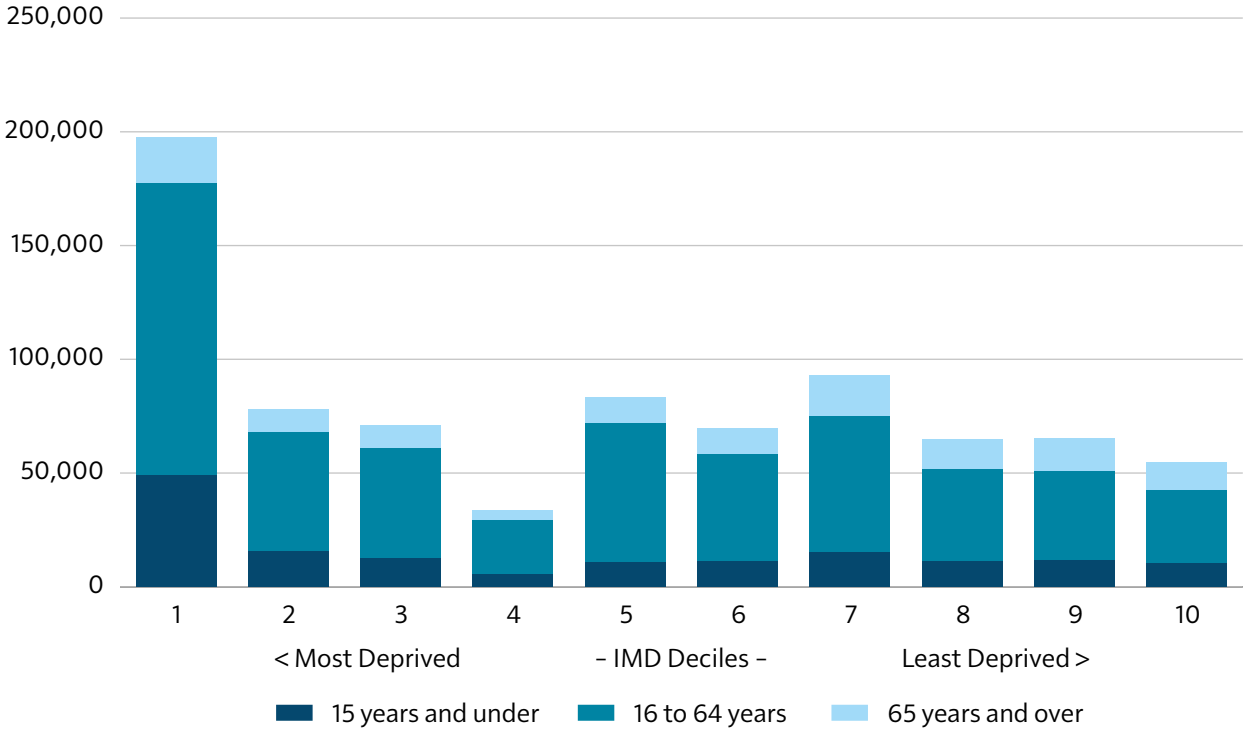
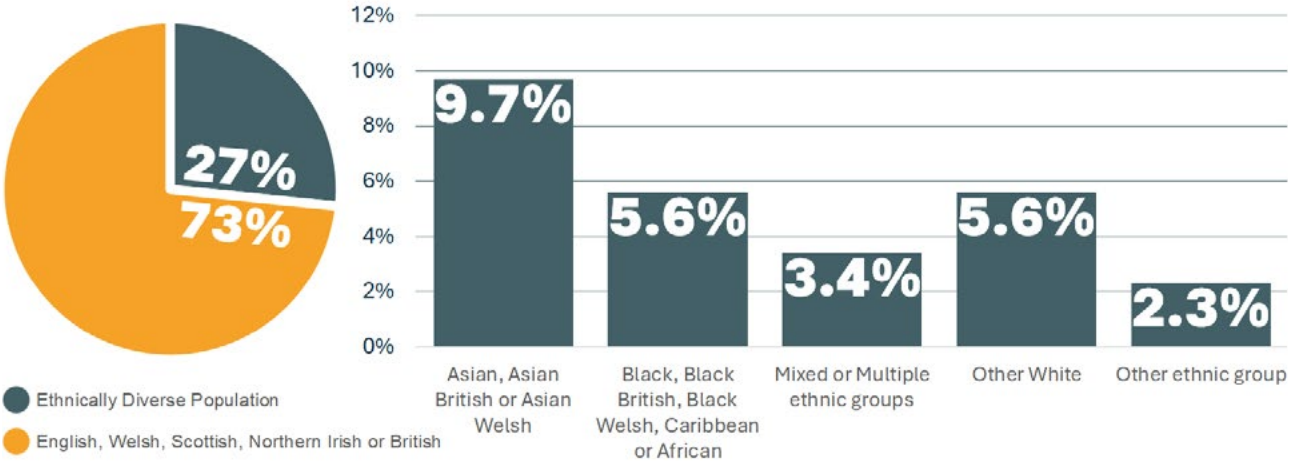


Figure 3.10: Age profile for each Index of Multiple Deprivation (IMD) (2019) decile



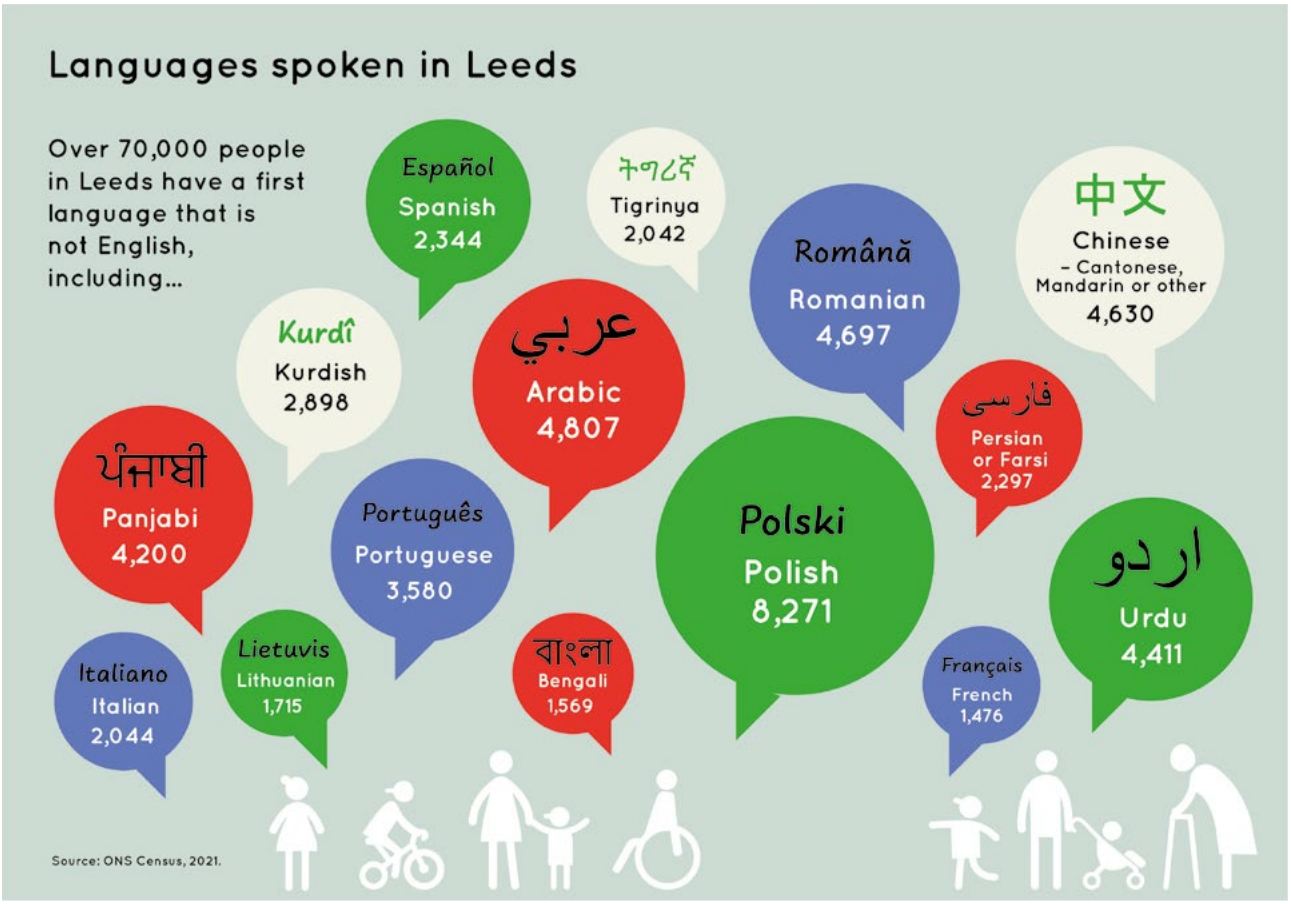
Source: IMD 2019 and Census 2021

Figure 3.11: Ethnicity in Leeds 2021



Source: Census 2021

Figure 3.12: Languages spoken in Leeds



Meeting the needs of diverse populations in the city

The diverse nature of the Leeds geography and population presents both opportunities and challenges for work to improve and protect population health and wellbeing.

Meeting the needs of communities with high levels of deprivation alongside areas of affluence, ethnically diverse communities alongside stable populations, and high numbers of people from specific communities and with specific needs requires targeted and scaled approaches, balanced with universal approaches for the whole population. Partnership work builds on the assets of the city, including the health infrastructure, VCSE sectors and the strong track-record of cross-partner collaboration. It allows work at scale with communities who are often marginalised that wouldn't be possible in other areas with smaller such communities.

This chapter presents five case studies of approaches to improve and protect the health and wellbeing of communities in Leeds. We have selected examples of unique and specific approaches to address the challenges above and build on the strengths of working in a large, global city.

Source: www.harehillslove.uk/2023/12/2023-advent-calendar-day-1-trees

Public health approaches in Leeds

Fairer, Healthier Leeds – a Marmot City

As a large city with high levels of deprivation, persistent health inequalities remain a challenge and are growing in some areas. Leeds has a strong history of collaborative work, with a commitment to reduce health inequality at the heart of our local approach, reflecting the scale of the challenge in our city. Leeds became a Marmot City in 2023, with a shared commitment to building a fairer city and going further in reducing inequalities in health and wellbeing.[6]

Being a Marmot City means working to ensure everyone has access to the right 'building blocks' to good health, including high-quality and secure housing, better education, and reliable and well-paid jobs. It includes a focus across the life course, taking a proportionate universal approach, adapting the scale or intensity of activities depending on the needs of communities.[7] No one organisation can do this alone; it requires a full city effort.

Over a two-year period colleagues in Leeds are working with the Marmot team at the Institute for Health Equity (IHE) to scope work in the city, identify gaps and opportunities. We are hosting partnership events to bring together key stakeholders, to identify issues and opportunities to deliver on our ambition to *Join up, Scale up and Be Bold* to drive change. In the first year, we have focused on two priority areas: Best Start and housing and health.

Best Start

There are approximately 9,500 babies born in Leeds each year and a third of births are in families living in the 10% most deprived areas of England. In Leeds, a Best Start partnership oversees work to ensure every baby will get the Best Start in Life. The Marmot team have worked with the partnership to identify key issues, including the need to have a single integrated approach to 0 to 5 year olds, clarify the offer for children aged 0 to 5 years and their families, review complex governance arrangements for children's service and strategic planning, and address poor outcomes for young children from ethnically diverse communities. Partnership work includes: extending the focus from the First 1001 days to age 5 years, building on work to develop family hubs across the city to meet the needs of communities, and identifying targeted actions to improve health outcomes for children from ethnically diverse communities.

Housing and health

In Leeds, the 'Housing and Health group' is co-ordinating action to support better joint working between housing and health in the city. The group has worked with the Marmot team to identify priorities including training for health and housing staff, 'out of hospital' workers in acute sectors and development of a children's asthma/housing pathway. The selective licensing scheme in an area of Leeds was identified as an area of good practice to improve housing quality in the private rented sector and the group supported an evaluation. Work is ongoing to support better relationships between health and housing workers on the ground, to improve sharing of information and better address housing concerns for people with additional health needs.

Figure 3.13: Life expectancy at birth in Leeds

Figure 3.14: Adults and children living in the most deprived areas in Leeds

Better Together – Community Health Development in Leeds

We adopt community health development approaches to strengthen resilience, improve health and wellbeing and reduce inequalities for the city's diverse population and large communities with specific needs. Better Together is a commissioned service that is delivered by trusted VCSE organisations, able to connect with communities and develop and design approaches with them.

The service identifies people who will benefit and works with them to understand local needs and ensure appropriate support and interventions. It has been effective at engaging with, and reaching into, diverse communities at risk of experiencing significant health inequalities.

Public Health teams work with Better Together providers, building on the insight and trust to develop approaches that will work in different communities. A strong partnership approach between statutory services and VCSE organisations at all levels has been a major factor in the success of the work.

The Better Together approach is led by BARCA Leeds in the west of Leeds,[8] Health for All with Asha, Holbeck Together, and St Luke Cares in the south[9] and Feel Good Factor with Shantona, Space 2, Touchstone and Zest in the east.[10] All started as small, grassroots organisations that reflect their communities and are responsive to local needs.

The service operates at scale with an annual target of meaningfully engaging with 10% of people living in the most deprived areas in Leeds (IMD decile 1). This means approximately 20,000 people are engaged in a variety of settings each year through door knocking, attending events, galas, places of worship, visiting tower blocks, and many more – where people live, work and socialise.

A wide range of group work and activities are delivered in the target areas based on what matters to local communities and include food and cooking, physical activity, conversation and peer support, employment, skills, and education and arts and crafts.

Better Together has provided flexible capacity to address key public health issues, such as our response to the COVID-19 pandemic. This included delivering practical support (food, medicine, social connections), promoting testing and vaccinations in communities and operational delivery of Track and Trace in communities. With a high level of community trust, visual presence and compassionate approach, Better Together colleagues were able to successfully engage with communities. More recently, they have played a key role in our response to hardship caused by the cost-of-living pressures.

"Today I have a Doctor appointment, for the first time I am now going to go without an interpreter because I can go myself and understand." (Conversational English groups participant)

"I love this group, I've made friends, it makes me so happy." (Group activity participant)

Synergi-Leeds Partnership – Tackling ethnic inequalities in mental health

Equity in mental health access and outcomes are a key issue for the ethnically diverse populations in the city and inequalities.

Synergi-Leeds is an innovative and ambitious citywide approach to tackling ethnic inequalities in mental health. The Partnership takes a preventative approach to keep people mentally healthy and address stigma and discrimination. The Partnership is instrumental in supporting Priority 2 of the Leeds All-Age Mental Health Strategy, 'reducing the over representation of people from Black, Asian and minority ethnic communities admitted in crisis'.[11]

In 2017, consultation with practitioners and strategic leaders working in the system, found that they felt unconvinced that action would result in change given multiple previous failed attempts. The National Synergi Collaborative centre helped us frame 'the problem' in a different way. Namely, that there have been failures to effect real change in the past because:

- service user voices are marginalised,
- divergent views or opinions are ignored, and
- people in positions of power fear 'getting it wrong'.

In response, the Synergi-Leeds Partnership was established. This growing network of statutory and voluntary sector organisations adopts a whole system, life course approach which embraces the complexity of people's lives. The partnership acts as a 'community of practice', with a culture shift to a more progressive dialogue about racial equity and justice. 'How' these conversations take place is just as important as 'what' people do to bring about change, using psychological theories and techniques to enable these challenging and difficult conversations to take place.

Key areas of focus include:

- Key statutory and VCSE organisations becoming signatories of the National Synergi Pledge in 2020, focussing on service level change to reduce ethnic inequalities in mental health access, experience and outcomes.[12]
- A focus on 'commissioning for racial equity' in mental health services, exploring how we can increase the diversity of the workforce and increase access to culturally appropriate interventions.
- A grants programme which supports local activity on the determinants of mental health across the life course, building capacity, reducing stigma and improving access to early intervention.
- Collaborating with 'Creative Spaces' co-founder Words of Colour to co-produce events that place the voices of people with lived experience at the centre including the latest creative programme, 'Remembering What's Forgotten'.[13]

There are early indications that this work is having an impact on reducing the numbers of people from both Asian and Black ethnic groups being detained.

The work is challenging but the city is proud of the relationships forged across culturally diverse groups and organisations and is grateful for the learning that continues to be shared.[14]

> *"For me personally and professionally it has given me a range of tools and models of thinking that will help me to connect with and develop provision for others but more importantly it has developed my own mindset and self perspective." (Third Sector staff course, Leeds Mindfulness Cooperative)*

Home Plus support for people to live safely and independently in their own homes

Prevention of ill health, avoidable admissions and delayed discharges due to health risks in the home is a priority to address inequalities in the city. This includes falls, energy efficiency and affordability, warmth and condensation/damp, and repairs. The Home Plus service takes a holistic approach to supporting people to stay safe and independent within their own homes.[15]

The service is funded jointly by Leeds City Council Public Health and Housing teams and the West Yorkshire NHS Integrated Care Board. It is delivered by Care and Repair Leeds in partnership with Age UK Leeds and Groundwork Leeds Green Doctors. A typical journey for a client through the Home Plus service might look like:

- a referral for a client in hospital following a fall;
- a new stair rail being fitted to enable a safe discharge;
- additional needs being identified on in-person assessment, leading to plans for further works;
- onward referral for advice around pension credits, and the most appropriate tariff for their gas/electricity bill.

There are an estimated 47,000 home hazards relating to falls risk and damp/cold in Leeds with a disproportionate number of these occurring in the most deprived areas of the city (30-40%).

Home Plus support reduces the health risks from housing, helps people to achieve their aspirations to live independently and in their own homes for as long as possible and reduces inequalities. The service aims to ensure equitable access for at risk groups and areas of high need (for example, young families, people with cold related long term health conditions, those at risk of falling, people on low incomes and those who may be isolated).

Most beneficiaries (75%) are over the age of 60. Each year there are approximately 5,000 referrals into this service, with a majority of these being for falls prevention. In 2022/23, 30% of people using the service lived in areas classed as the most deprived 10% in England, with the ambition to increase this further. Additionally, almost all clients report feeling safer (97%) and more independent (95%) in their home. A comprehensive health and care evaluation is planned for 2024.

Case Study: Mr L

Mr L is 75 years old and lives with his wife and adult disabled daughter in his own property. He had been very independent until he suffered a stroke, which left him unable to walk independently and use his left arm effectively.

He has spent many months in hospital and has recently been discharged from hospital, following the fitting of stair rails through Home Plus hospital discharge. At a Home Plus home visit it was identified that Mr. L needed bathing equipment and that smoke alarms were not working – referrals were made for both of these. During the conversation it emerged that Mr. L was not in receipt of any disability benefits and was paying full council tax, so a referral was made for a benefits check. He was grateful for the visit and hoped that his life would be much more comfortable.

Protecting the health of the population of Leeds

The scale, diversity and complexity of the Leeds geography and population presents both opportunities and challenges when protecting the public from infectious diseases and environmental hazards, including new and emerging global public health threats. This means that we are often required to provide a robust, dynamic and agile health protection response across a wide range of settings and situations.

Health protection plans and services are in place to ensure that we can effectively address health protection risks associated with a large core city, with prisons, a large teaching hospital, six universities including large numbers of international students, in addition to over 140 care homes, and contingency hotels accommodating asylum seekers. This is all against a backdrop of high levels of housing density and overcrowding in parts of Leeds, with poverty and inequalities exacerbated by cost of living pressures, ethnic diversity, large communities with specific health needs and an unprecedented number of forcibly displaced people due to conflict, persecution and violence. We recognise that health protection is everyone's business, with the people of Leeds as our greatest asset. Health protection colleagues work in partnership with communities, our trusted VCSE sector, faith leaders and ward members all who support the delivery of health protection initiatives and response.

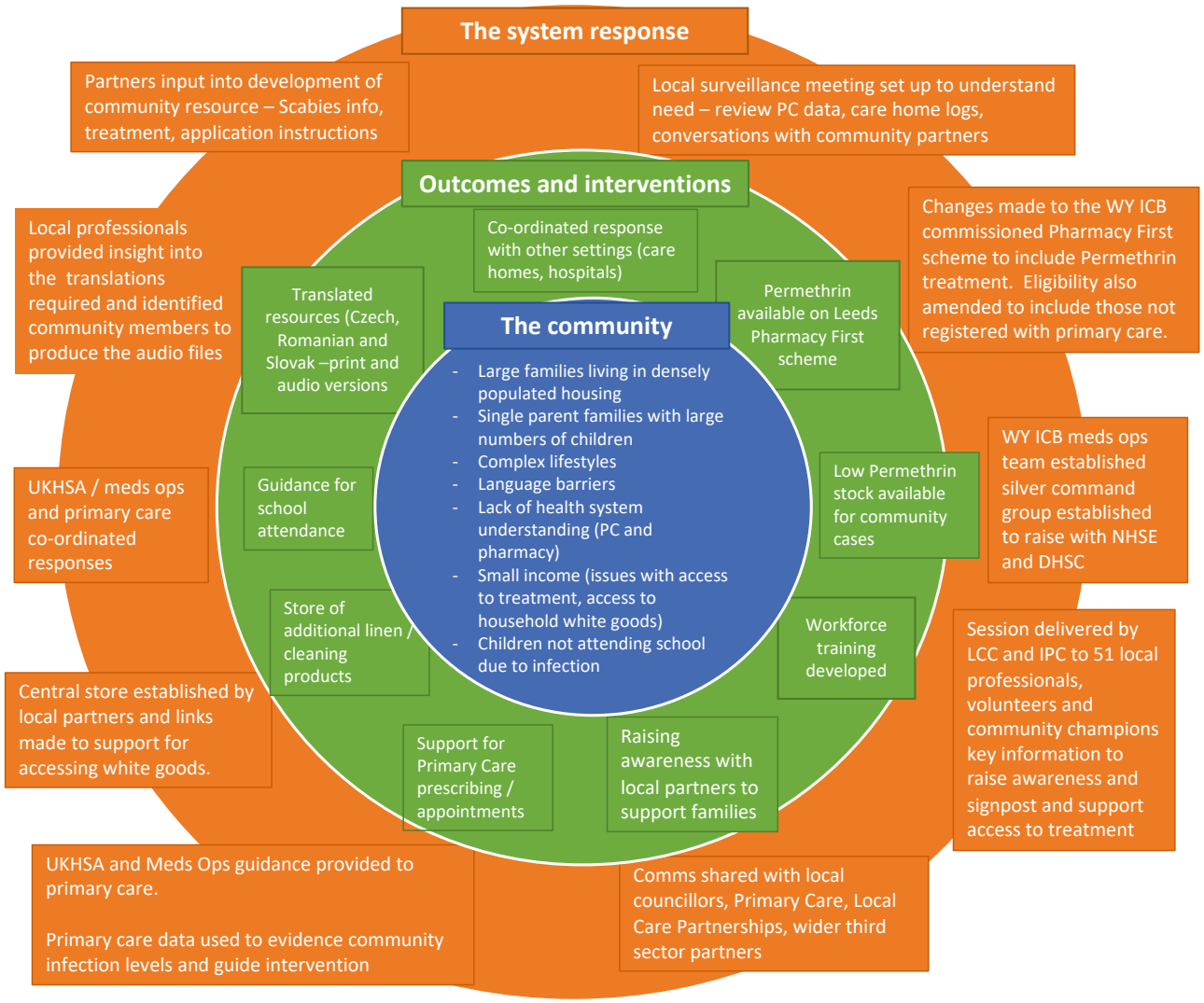
Overarching responsibility for health protection arrangements is led by the Director of Public Health who chairs the Health Protection Board. Members include UK Health Security Agency, Leeds City Council (LCC) Health Protection Team, Leeds Community Health Infection Prevention Service, LCC Environmental Health Service, NHS West Yorkshire Integrated Care Board and VCSE partners. Together we work as a system to prepare for and respond to new and emerging health protection risks and provide leadership and support to long term challenges such as low immunisation uptake, antimicrobial resistance, TB and impact of living in cold damp conditions.

The Leeds health protection system is experienced in providing an agile, dynamic and quick response at scale where there are multiple layers of complexity of different communities living in a dynamic urban environment. We have responded to outbreaks such as TB affecting homeless people, scabies and Hep A impacting families experiencing high levels of poverty, in addition to seasonal flu and covid outbreaks in care homes. Our local approach is built on working with communities, community assets, VCSE, trusted leaders, health champions and elected members.

Our local surveillance system and strong partnership working in communities mean we are quickly able to identify when there are increased levels of infection circulating and provide a timely professional response. A recent example was the rapid identification of scabies circulating in a densely populated, deprived area. Working with partners, control measures were quickly put in place, including; improving supply of the first line treatment cream, provision of washing facilities and clean linen for families and bespoke written and audio resources for families who did not speak English as a first language. Through engagement with families, partners have been able to promote other health and social care advice, including vaccination (Figure 3.15).

Leeds as a young and vibrant city, which is welcoming and inclusive and can be enjoyed by all, brings health protection challenges. The Leeds health protection system is experienced at working within this context recently providing an effective response to Mpox affecting men who have sex with men. Partners quickly established a system wide pathway to identify and treat cases, their partners and support people to isolate. Our ability to stand up a timely response and operate at scale meant that we were also able to help neighbouring cities in the early onset of the outbreak. A programme of vaccination for men who have sex with men (MSM) who have casual/multiple partners was launched by the NHS. Leeds Community Health Leeds Sexual Health Service (LSH) and Infection Prevention Service (IPC) worked together, using support and transferable learning from the LCH Covid Vaccination Team, to develop a responsive vaccination programme across the city. This was a successful vaccination programme administering the highest number of vaccinations in North East & Yorkshire. For further information please see the Leeds Health Protection Board report (2023) which outlines the proactive measures taken by the system to mitigate risks and address local priorities.[16]

Figure 3.15: Leeds scabies system response



PC = primary care

Three priorities for our way of working in Leeds

1. "Team Leeds" approach

There are many organisations in Leeds who have roles and responsibilities to improve and protect the health of the population of Leeds. The sheer number of organisations required to work together across the city, means that partnerships and relationship building are a priority to prevent fragmentation across the system. There are specific commitments to support this, including investing in VCSE infrastructure, long term contracts and putting people's voices at the heart of our local approach, particularly the least heard. Our focus on getting partners around the table facilitates a one-system response, with people and communities at the centre. This means that approaches are joined-up, and benefit from the expertise of different organisations to ensure they are tailored to specific needs of communities.

2. Community focus

Working with communities is a core value. Leeds is a culturally and geographically diverse city and, as such, we recognise the different assets, needs and experiences of the people we work with. Leeds has consistently invested, even in tougher times, in the social infrastructure the city needs and have worked in partnership with VCSE organisations to build relationships and provide services to people in an accessible way close to their home. The commitment to a range of community-centred programmes, including community champions and community-led health development services, is changing the way we work with people, with opportunities to go further.

3. Focus on inequalities throughout everything we do

Reducing inequalities and tackling poverty is at the centre of the city's strategic ambition. This reflects the scale of the challenge in Leeds; we need to work at scale to address the inequalities faced by the third of children and quarter of adults living in the most deprived neighbourhoods. Addressing inequalities is therefore woven into everything we do – from strategic approaches through to services and work with communities. However, it is recognised that deep rooted inequalities have been exacerbated by recent pressures including the pandemic and cost of living crisis, and there is a need to go further to make Leeds a fairer city.

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3.4 Liverpool

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Liverpool is a vibrant dynamic city with fantastic people and strong communities. Our vision is to make Liverpool, fairer, cleaner and stronger for all. The chapter outlines the innovative and creative ways we are working together to empower local people, transform local services and build a healthier city.

History of Liverpool

With 800 years of history, Liverpool is a city with a long and eventful past. By the early 19th century over 40% of the world's trade passed through Liverpool's Docks.[1] After the devastating blitz of the Second World War, Liverpool suffered the same post-industrial confidence crisis that hit many northern cities. However, due to high dependence on port industries Liverpool found the transition harder than others.

Liverpool has always been a pioneering city in health. The city was an early embracer of public health improvements by implementing sanitary reform, health visiting, mother and infant welfare centres, and built Britain's first municipal housing scheme in 1870. Liverpool also has a proud tradition of Directors of Public Health, dating back to 1847 when Dr William Henry Duncan was appointed as the UK's first Medical Officer of Health.[2] Liverpool continued this journey with innovative public health interventions, delivering one of the first population screening programmes for tuberculosis (1959) and in the 1980s being the first city in the UK to pilot a needle exchange programme. In more recent times, Liverpool was the first city in the UK to pilot a COVID-19 mass population testing scheme.

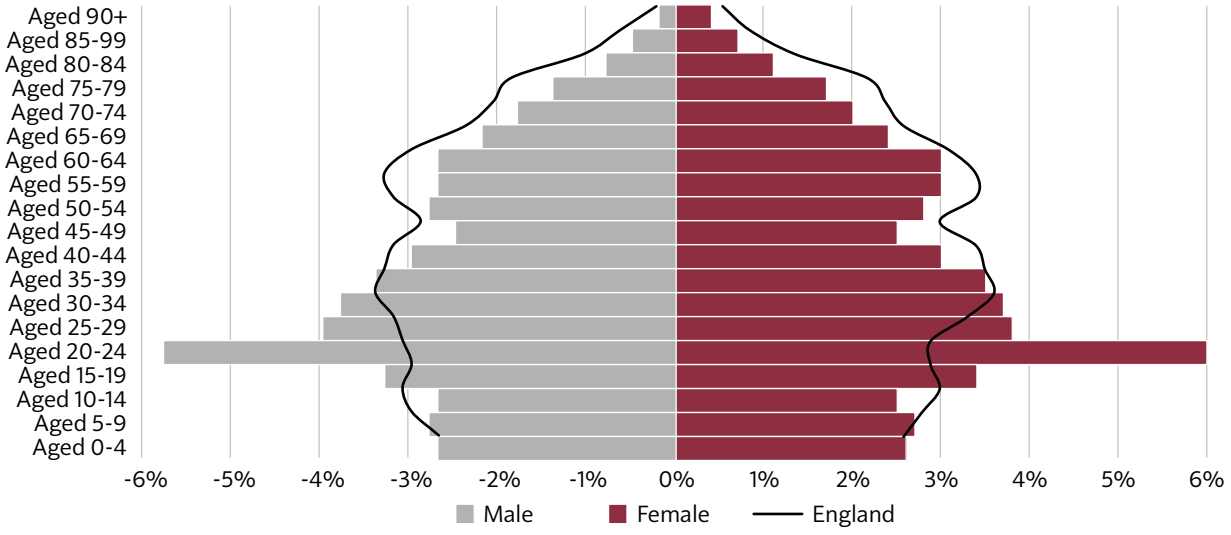
Today, Liverpool is a world-famous city with culture at the heart. Our residents are increasingly diverse but share a common passion, resilience and pride in the city and a commitment to community cohesion and fairness. The city has seen considerable economic and population growth over the past twenty years and this trend is set to continue. Liverpool's population profile is comparatively youthful compared with the rest of the UK and other cities due to its large student population. However, Liverpool's decline during the latter part of the twentieth century is well-documented and the legacy of that decline can be seen in numerous vacant sites, an ageing housing stock and infrastructure in need of regeneration. The social and economic consequences of this are at the root of the city's challenges, but there are huge opportunities too.

Liverpool: demographics and health outcomes

Liverpool is a growing city:

- Liverpool is currently home to **503,740** residents,[3] this is **54,910** more people than in 2001. Population projections suggest the increase will continue in the coming years, with the number of residents rising to **541,000** (+44,200) by 2034.
- Compared to other core cities, Liverpool has the 4th lowest overall population.
- Between 2013 and 2023 the Liverpool population increase by 8.1% compared to 13.5 in Manchester (highest increase) and 3.2% in Sheffield (smallest increase).
- While the city currently has a relatively young population, particularly in the 20 to 29 age group (Figure 3.16), the Office for National Statistics project a substantial increase in the number of children and older people in Liverpool over the coming decade.

Figure 3.16: Age profile of Liverpool compared to England, ONS 2023

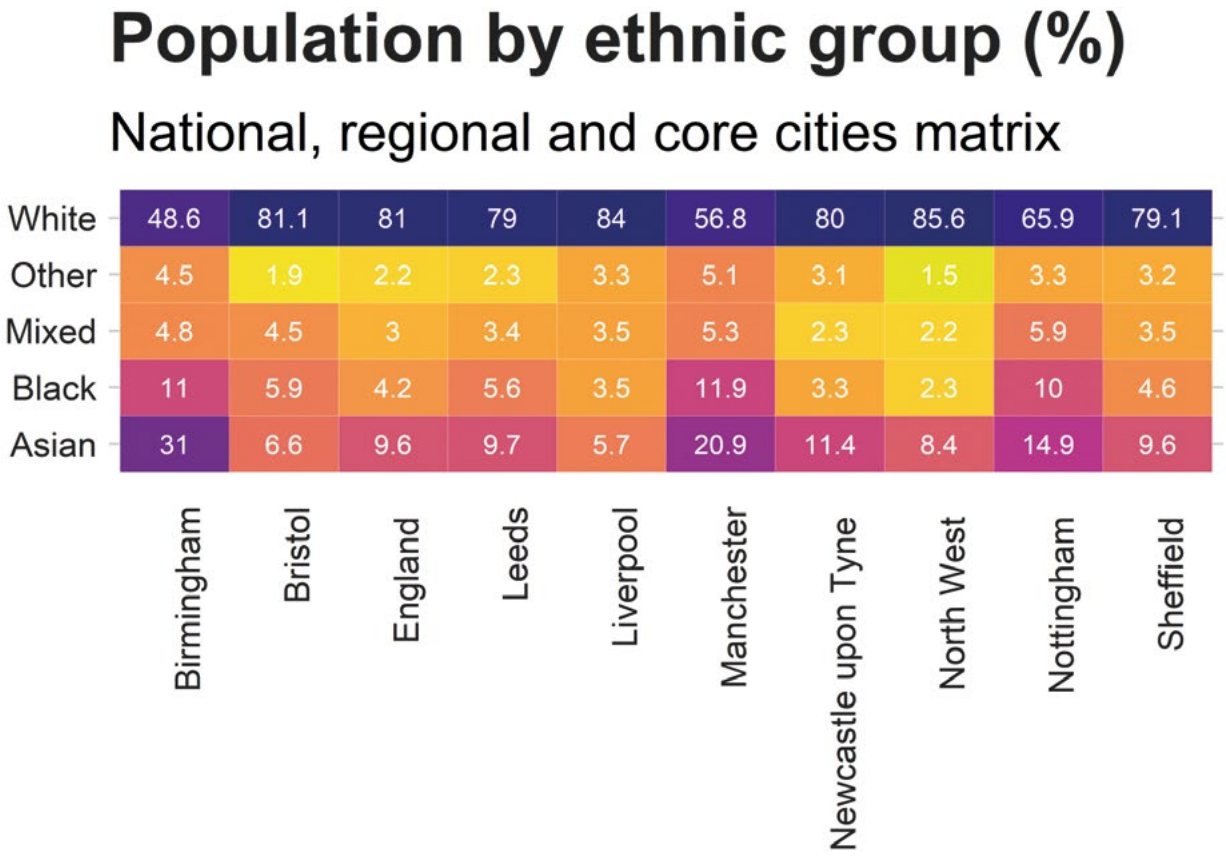


Source: Office for National Statistics, 2023

Liverpool is becoming a more diverse city:

- According to the 2021 Census[4] Liverpool **22.7%** of our resident's class themselves as part of an ethnic minority group, equating to **112,800** residents. This is still lower than other core cities (Figure 3.17).
- **47,700** Liverpool residents report their main language is not English **(9.6%).**

Figure 3.17: Liverpool population by ethnic group compared with other core cities

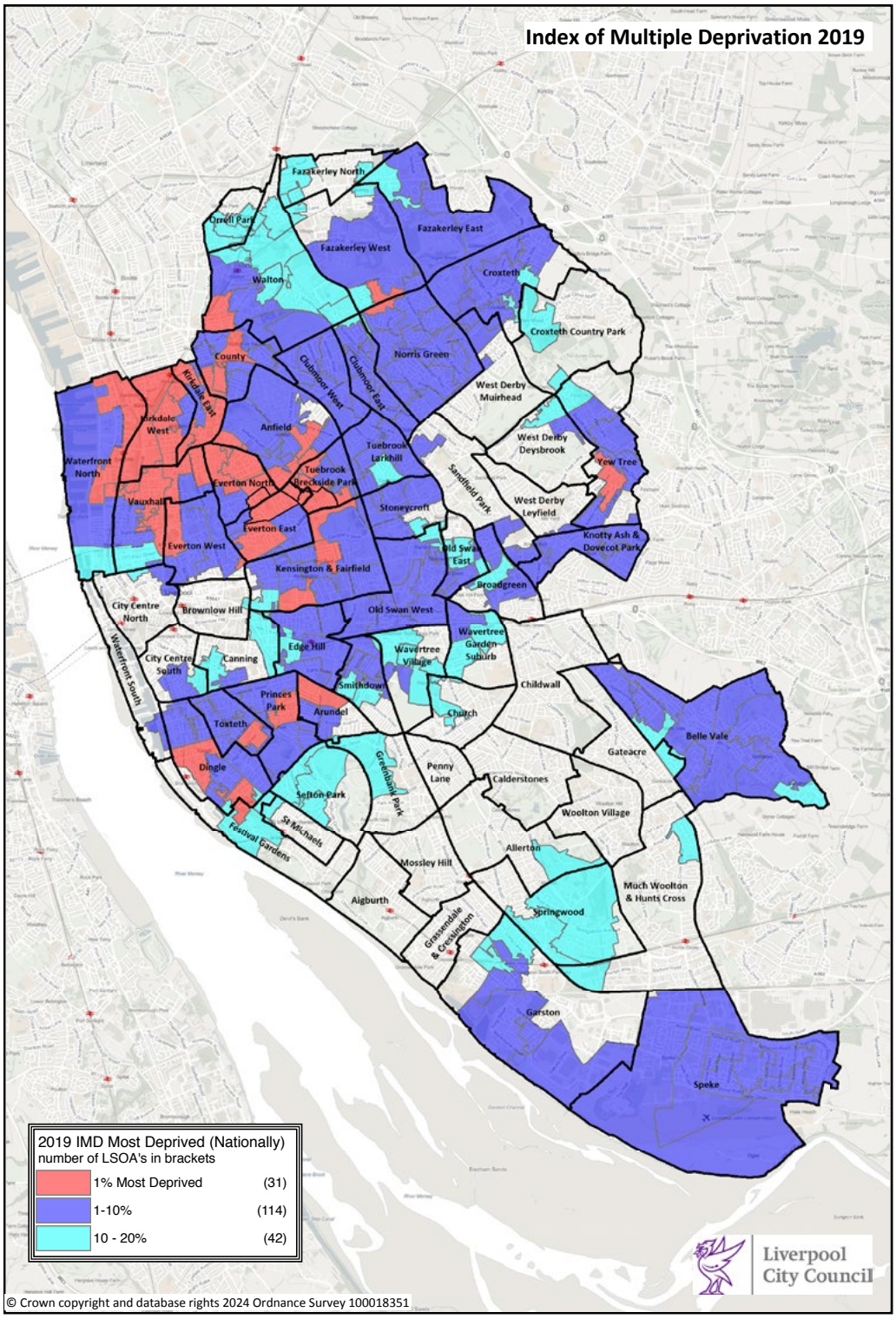


Source: Census 2021

There is a strong link between deprivation and poor health within the city:

Liverpool is the **3rd** most deprived local authority in the country. **63%** of residents live in areas ranked among the most deprived quintile in England while **10%** of areas are among the most deprived one percent. 3 in 10 children aged under 16 live in poverty. Deprivation is more concentrated in the north of the city, where most areas are ranked in the most deprived one or ten percent nationally (Figure 3.18).

Figure 3.18: Deprivation map of Liverpool



Source: Liverpool City Council

Poor living environments, lower employment rates and lower income are the main drivers of poor health locally with many public health outcomes for Liverpool being significantly worse than for England (Figure 3.19).

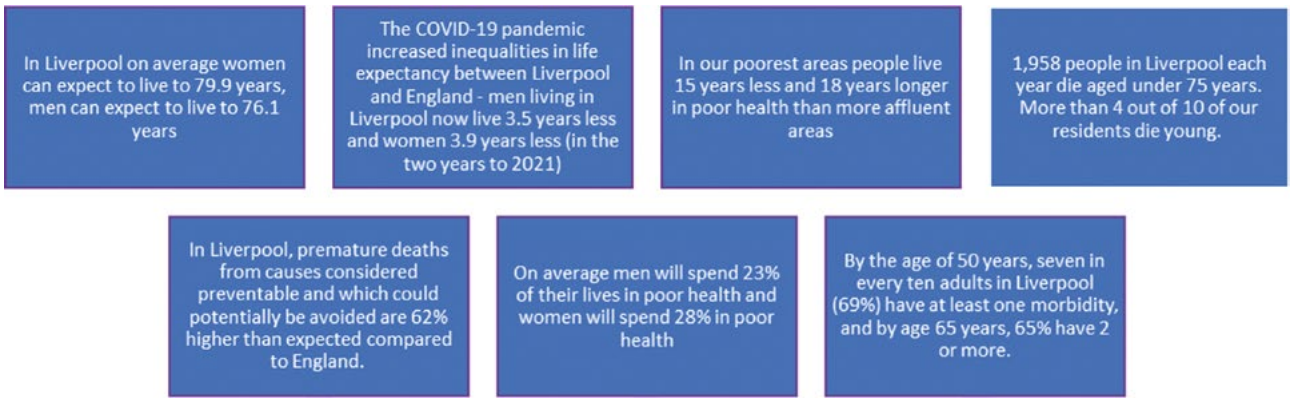
Figure 3.19: Life course statistics for Liverpool 2024

Source: Liverpool City Council

Liverpool is a city with significant health inequalities and preventable ill health

People in Liverpool are living longer than previously, but progress has stalled over the last decade. When compared to England people in Liverpool live shorter lives and more of their lives in poor health. There is also significant variation within the city by deprivation levels with high levels of preventable ill health (Figure 3.20).

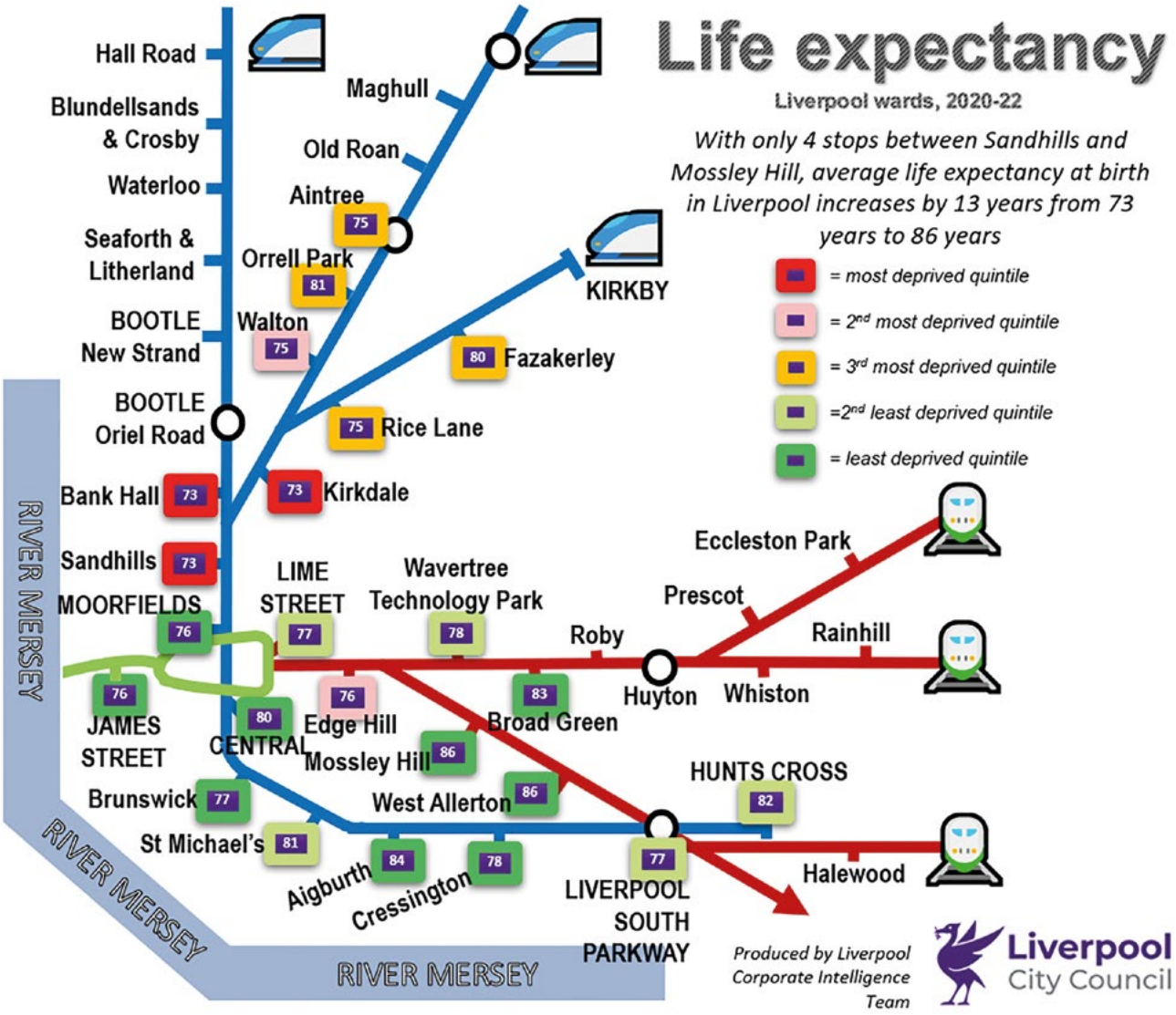
Figure 3.20: Key statistics on inequalities and preventable ill health in Liverpool



Source: Liverpool JSNA

Figure 3.21 shows how in just a short train ride across the city, the average length of time a person lives decreases.

Figure 3.21: Life Expectancy in Liverpool by Mersey Rail train stations



Source: Liverpool City Council

Looking forward to 2040: The State of Health in the City Liverpool 2040 Report

Liverpool City Council (LCC) passed a motion expressing concern over "the significant Health Inequalities faced by residents across the city often marked by deprivation". As a result, in January 2024 the State of health in the city: Liverpool 2040[5] was published.

The findings of the report make stark reading, outlining current health challenges and those that the city's residents could be facing by 2040, unless changes are made:

- spending **more than a quarter** of their life (26.1%) in ill health, with people living in the most deprived areas likely to live even longer in ill health.

- a **fall in women's life expectancy** by one year and a **fall in women's healthy life expectancy** by 4 years.
- an increase of up to **38,000 more people living with major illness**, defined as at least 2 long-term conditions such as high blood pressure, cancer, diabetes, asthma and chronic kidney disease.
- **double** the number of adults experiencing **depression.**
- the health issues most common in **children** will be related to **mental health, obesity and child poverty.**

Health 2040 is a call for action for collective action to improve health outcomes and reduce health inequalities, focusing local partners on evidence-based tools and interventions. There is also an ask for national government action to enable scale and pace of change. To deliver the objectives set out in the Health 2040 report we will build on the existing national and international frameworks to promote and protect the health of our city and residents.

Building a healthier city

Taking a Health in All Policies approach

Liverpool's ambition to be a healthier, happier, fairer city for all is set out in the Council Plan (2023 to 2027)[6] and One Liverpool Plan (2019 to 2024).[7] Liverpool aims to tackle the social determinants of health through their Marmot Communities approach as outlined in the 2022 Merseyside and Cheshire All Together Fairer report[8] and by using international frameworks to promote and protect the health of our city and residents. Liverpool will use Healthy Cities (WHO), UN sustainability goals, Age Friendly Cities Network and Child Friendly Cities (UNICEF) to describe their ambitions and how they will achieve these. Liverpool is also widening their use of a Health in All Policies approach across the Council, for example around planning, housing, regeneration and how we use our resources.

Ensuring all children and young people have the best start in life

In Liverpool 24,000 children are living in relative poverty, which is almost one child in every three. (Compared to 1 in 5 nationally). Whilst the risk factors for key health and developmental outcomes are complex and, in some types, not fully understood, there are key factors which may be associated (for example, premature birth, low birth weight, breastfeeding initiation, school readiness). These factors are also socially patterned and associated with a child's socio-economic circumstances.

A new 0 to 19 (25) public health service model will soon be rolled out for Liverpool which will ensure every family will be offered the Healthy Child Programme[9] of screening tests, immunisations, developmental reviews, and information and guidance to support parenting and healthy choices. The model will focus on those vulnerable or at risk of poor outcomes. There will be an integrated approach to working with families and partners which will reflect specific

local neighbourhood needs in delivery and will be built around the Family Hub network model to ensure closer integration of support services and co-delivery where appropriate.

As part of the new model there will also be a stronger offer for mental health and wellbeing. This is projected to be the biggest health issue for children, young people and families by 2040.

Thriving communities

Following the adoption of the new Neighbourhood Model, the Council is fundamentally changing how it works with local communities. Covering 13 neighbourhoods, it seeks to improve service delivery through local Neighbourhood teams across the city. This will impact on every part of the Council as we look to gain a better understanding of need and improve how we work with residents, communities, our own colleagues and partners to improve outcomes.

Liverpool is a city with a strong cultural heritage. The Eurovision Song Contest 2023 hosted by Liverpool was one high-profile event showing the importance of close working between Public Health and Culture. The 2023 Public Health Annual report[10] provides more details of work ongoing between Public Health and Culture across our community.

Building healthy places

Joint working is already underway between LCC Public Health and LCC Planning and Policy teams to support improvement in the health and wellbeing of the communities we serve. The aim of this work is to place health at the centre of all future planning decisions by embedding the Marmot principles within key planning documents including the Housing strategy, Local plan, and interior design plan. For this we are taking a cross-sector approach to improving health, wellbeing and health equity by focusing on joined-up decision-making across multiple services, programmes and policy areas.

Improving health through housing

A new housing strategy for Liverpool is now out for consultation which aims to improve the city's housing offer by 2030. This includes a commitment to support 2,000 new homes a year, reduce the number of empty properties and tackle homelessness. The Council has also made a commitment to double the number of affordable homes to ensure the housing market works for first-time buyers. Of the 10,700 new homes built in the past five years, just 11% are classed as affordable homes. The draft strategy, which highlights that 20% (44,000) of properties in the city do not meet the "decent homes" definition, will be underpinned by four key themes designed to improve people's health and support the Council's net-zero ambitions:

1. **Delivering quality homes that support needs and aspirations**
Key aim: enabling partners to build at least 8,000 new homes by 2027 and 20% affordable housing.

2. **Improving homes and neighbourhoods**
Key aim: improve quality of rented homes and bring empty homes back into use.

3. **Promoting healthier lives and sustainable homes**
Key aim: retrofit homes, prioritising those on low incomes in the worst-rated properties.

4. **Enabling access to a suitable home**
Key aim: tackle homelessness and rough sleeping by providing more housing for vulnerable groups and those with support needs.

A strong and fair local economy for all

Liverpool is a nationally significant economy, with 279,000 jobs (12th highest by local authority in the UK). However, the city has an economic growth of 3% (2011 to 2021) which is lowest of all core cities and a third of national average (13%). Health, education, and accommodation, and food services dominate the labour market. Visitor economy contributes £3.5bn to the local economy and 39,000 jobs. Liverpool's employment rate of 68% is below the national rate (76%). 8.5% of 16-to-17-year-olds are not in education, employment, or training, higher than national average (4.8%). Just under 64,000 university students, of which 9,560 are international students.

To help meet these challenges an inclusive growth strategy is currently being developed for Liverpool. This plan is inherently about supporting people in Liverpool to thrive which begins with access to a good education. It is about the opportunity they are included in, options available to them and the chances they have to leverage better outcomes. This plan aims to be a driver for investment in Liverpool and ensure people stay, return and choose to live in Liverpool and build a strong and fair economy for all.

Next steps: building and maintaining momentum

There is a challenging road ahead for Liverpool. Despite a lot of work, many of the indicators are not improving. We need to work smarter not harder and come together around the common themes to embed cohesive approaches.

Developing the evidence base: Health Determinants Research Collaboration (HDRC)

Liverpool City Council, working in tandem with partners including the University of Liverpool and Liverpool John Moores University has been funded by the National Institute for Health and Care Research (NIHR) for the next five years to establish a Health Determinants Research Collaboration (HDRC) Liverpool. The HDRC Liverpool programme will build research capacity and capability. With a focus on improving the wider determinants of health it will ensure evidence informed decision making by the City Council and its partners. Where research does not exist, HDRC Liverpool will support the development of new research evidence. This will be shared across other cities facing similar issues. This will be done with our local communities. The approach will also build on existing local community assets such as Liverpool specific data, the experience of our residents and our research and innovation skills.

Healthier, happier, fairer Liverpool – A Marmot City

As part of our aim to be a Marmot city, Liverpool is focusing on improving wellbeing by addressing social determinants of health and embedding a health in all policies focus in everything we do. The Fairer, Healthier Liverpool Partnership group is a subgroup of the Health and Wellbeing Board with representation from Partners across the City. With an action focus this group is important in ensuring everyone plays their part through collaborative action.

Our new City Plan will place health at its heart and provides the opportunity to deliver significant impact for the next generation of children and young people – to be more joined up and focused on prevention. Finally, as a city we are committed to embedding residents' voices in decision making and engaging and empowering our local communities.

We will produce annual Health 2040 progress reports to report progress and maintain momentum, in what is an incredibly important large scale change programme in the city.

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3.5 Navigating complexity: urban health challenges and solutions in London

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Introduction

London, a quintessential global city, is a complex and dynamic region of the United Kingdom characterised by rapid change, economic vitality, and cultural diversity. Global cities are typically defined by their economic influence, cultural impact and ability to attract talent and investment.[1] London excels in all these domains. Its position as a leading financial centre,[2] coupled with its rich history, diverse population, and world-renowned institutions, has solidified its status as a global hub.[3]

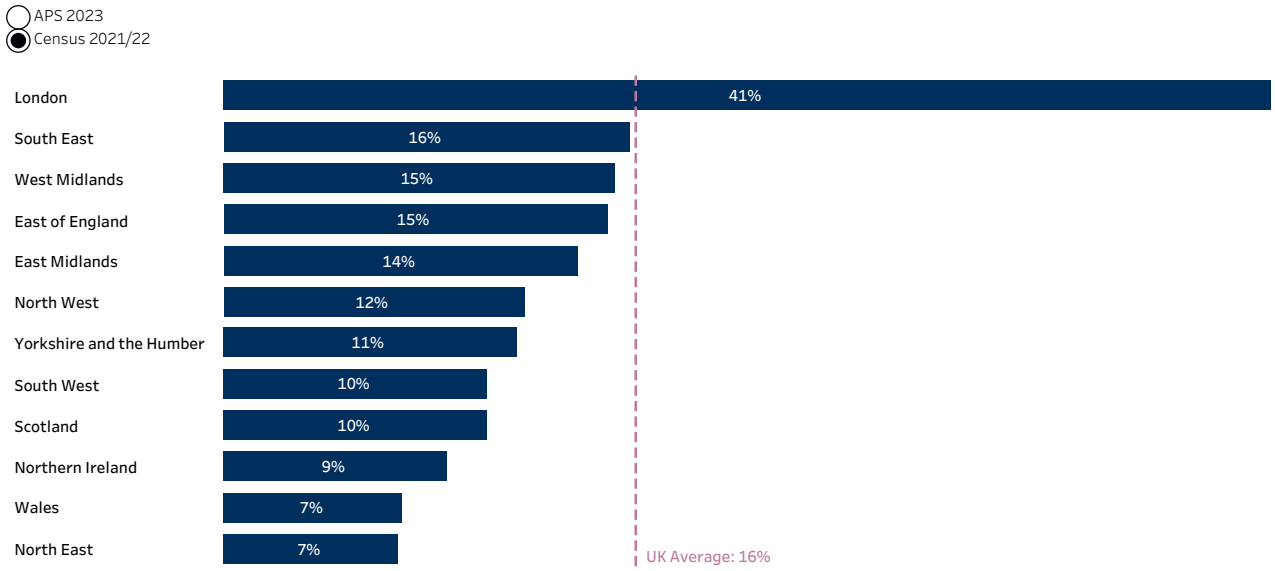
London's geographic location as a major European port and capital city has profoundly shaped its development. Its historical role in trade and empire building has left an enduring legacy on its economic, social, and cultural fabric. In part, this explains the city's rich cultural diversity with both well-established minority ethnic communities alongside a growing and changing population of newly arrived migrants.[4] The city's proximity to the continent has facilitated the exchange of ideas, people and goods, contributing to its cosmopolitan character. The city's position as a global hub of higher education and research is undeniable. The city hosts world-renowned universities and culture, cutting-edge research institutions, and a dynamic technology sector. This concentration of intellectual and cultural capital is a significant driver of economic growth, innovation and improved public health. The city's ability to attract and retain top talent from around the world contributes to its status as a global leader in various fields, from finance to the creative industries.[5]

However, the unique characteristics of London also present significant challenges. The city has experienced many periods of growth over the centuries, leading to increased population density, straining infrastructure and exacerbating socioeconomic disparities. The city's global interconnectedness has also made it vulnerable to external shocks and stressors, including economic crises and global health threats such as pandemics, emerging infectious diseases, anti-microbial resistance (AMR) and climate change. In this chapter, we explore London's continued evolution as a global centre and the region's approach to leadership and governance for improved health outcomes and equity.

London's people: Demographic change, evolving communities

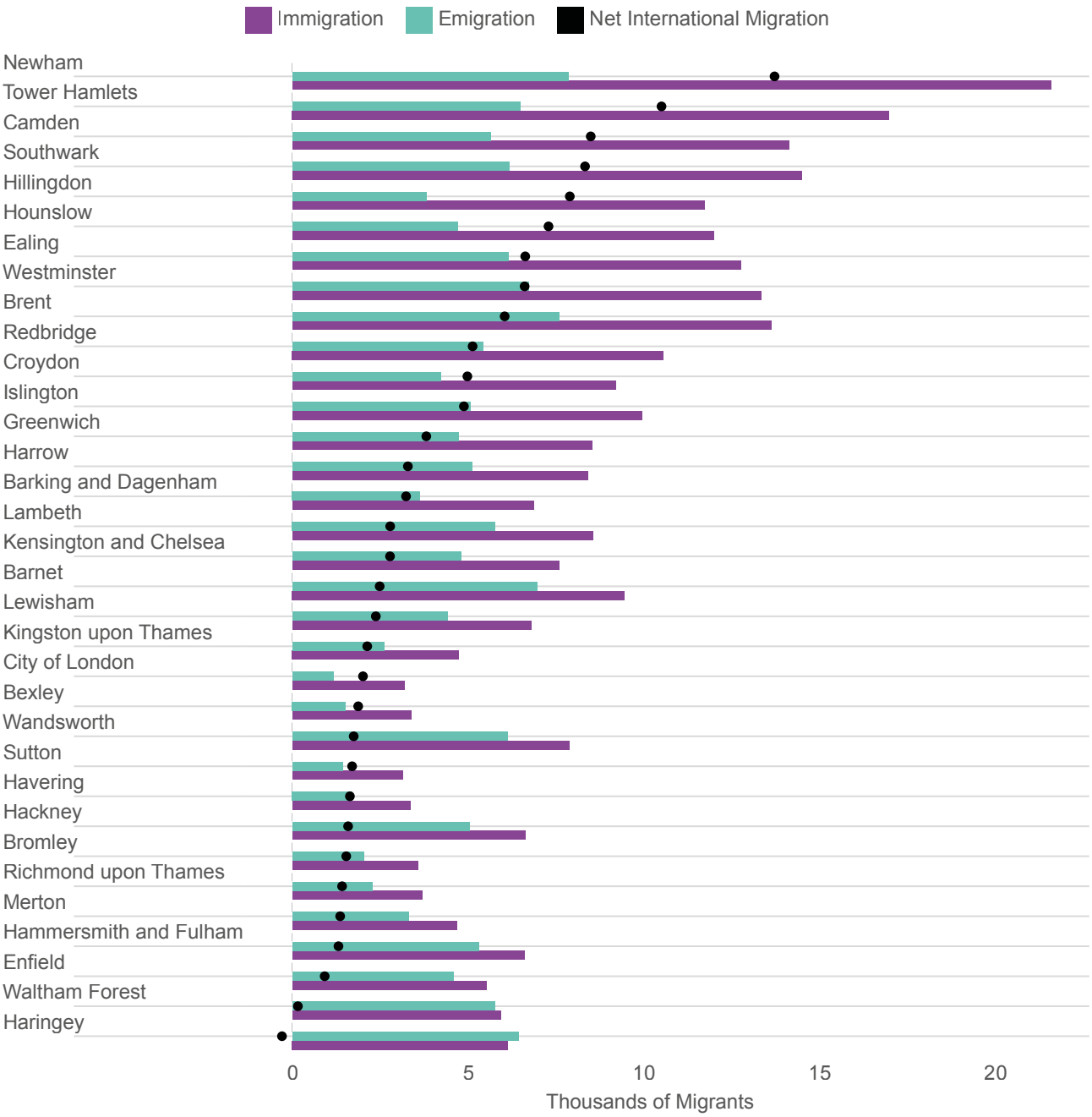
London is the youngest and most ethnically diverse region of the UK and is home to nearly one in six people in England. The 2021 Census[6] suggests 41% of London residents were born outside the UK – up from 37% in 2011 and 27% in 2001. It revealed 5.22 million UK-born residents in London in 2021, 48,000 more than in 2011 and 8,000 fewer than in 2001. In contrast, the population born outside the UK has increased by 85% over the same period with 3.58 million non-UK born residents in London in 2021, 580,000 more than in 2011 and 1.64 million more than in 2001.

Figure 3.22: Percentage of foreign-born residents, by region, Census 2021/22 and APS 2023



Source: The Migration Observatory. (2024). Migrants in the UK: An Overview. Analysis of the Annual Population Survey 2023, England and Wales Census 2021, Northern Ireland Census 2021 and Scotland Census 2022. Available at: https://migrationobservatory.ox.ac.uk/resources/briefings/migrants-in-the-uk-an-overview/

Figure 3.23: Annual international migration flows by London Borough, estimates for the year ending June 2022



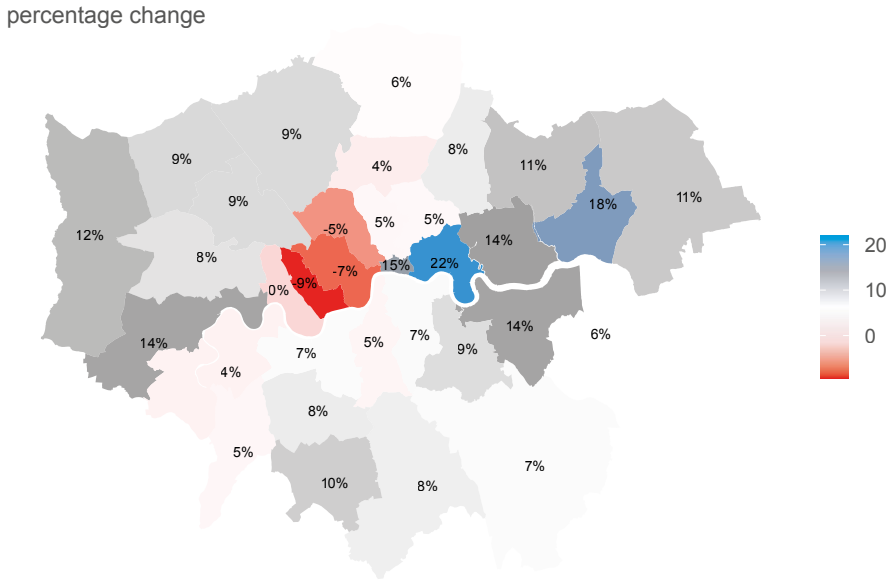
Source: Office for National Statistics (2022). Long-term international migration, provisional: year ending June 2022. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/bulletins/longterminternationalmigrationprovisional/yearendingjune2022

After the 2008 financial crisis, annual net outflow from London to the rest of the UK increased. By 2020, the net outflow had stabilised; it then increased temporarily due to the COVID-19 pandemic. London's population fell in both the years to mid-2020 and mid-2021 and increased in the year to mid-2022. Figure 3.24 shows the population change between 2011 to 2021 by borough. While the cultural and economic impact of the UK's exit from the EU in 2016 remains to be seen, early indications are that the impact on the region has been significant in reducing

in-migration from migrants, students and families from Europe, while migrants from other global centres have increased.[7]

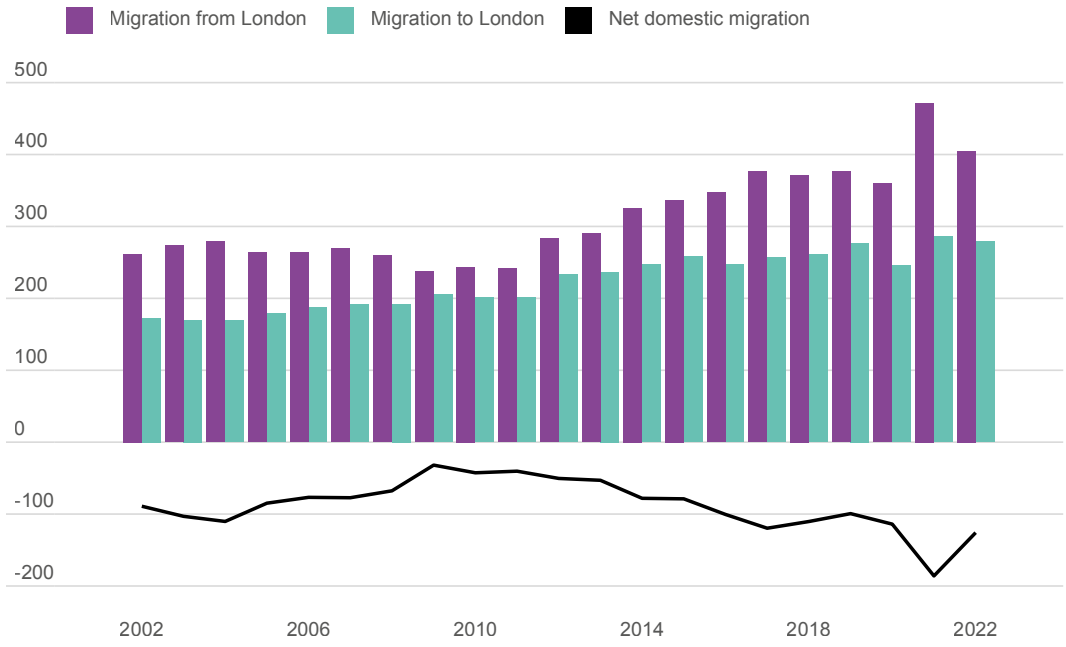
Over the past two decades, there has been a consistent positive net inflow to London for those aged 18-24.[8] However, the net flow from London for those aged 25-44 (the group most likely to be parents of young children) has been consistently negative since 2000. The net outflow of children aged 0-10 from Outer London to the rest of the UK has more than doubled since 2010.

Figure 3.24: London Borough population change 2011-2021



Source: Office for National Statistics. Census 2021 and Census 2011.
Chart: GLA intelligence, unpublished

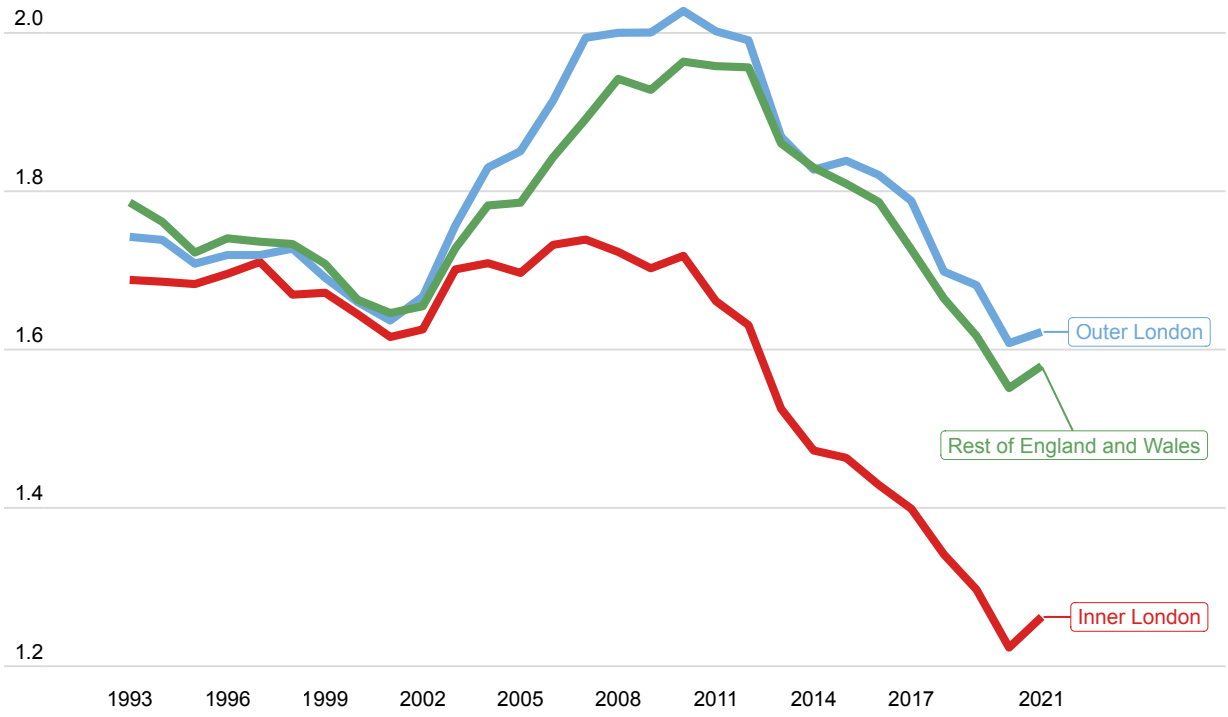
Figure 3.25: Domestic inflows, outflows and net migration, London 2002-2022



Source: Office for National Statistics. Migration within the UK
Chart: Greater London Authority. The State of London – A review of London's economy and society June 2024.[13]

The current situation in London is one of declining births due to declining fertility in women under the age of 35 years (UK-born and overseas-born). The decline started earlier and has been far steeper in inner London. This pattern is consistent with most OECD countries, since declining levels of fertility has become a widespread phenomenon (Figure 3.26).[9] Fertility decline is attributed, in the literature, to influences including socio-economic and educational factors; environmental and lifestyle factors; and economic factors. The result of this demographic shift also has notable implications for the housing, employment and education sectors as well as health and care strategies across the life course.[10]

Figure 3.26: Total fertility rate, London and Rest of England and Wales, 1993-2021

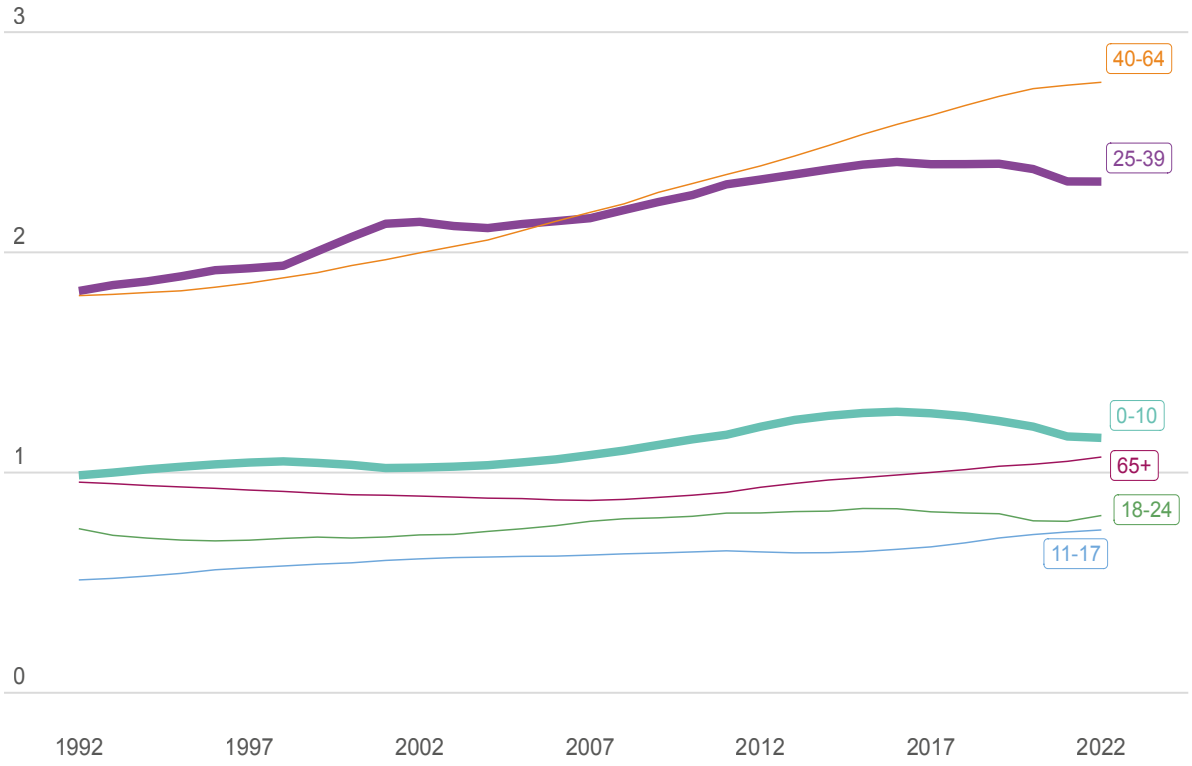


Source: Office for National Statistics: Births in England and Wales

Chart: London datastore (2024). London's population of young children – current and future[11]

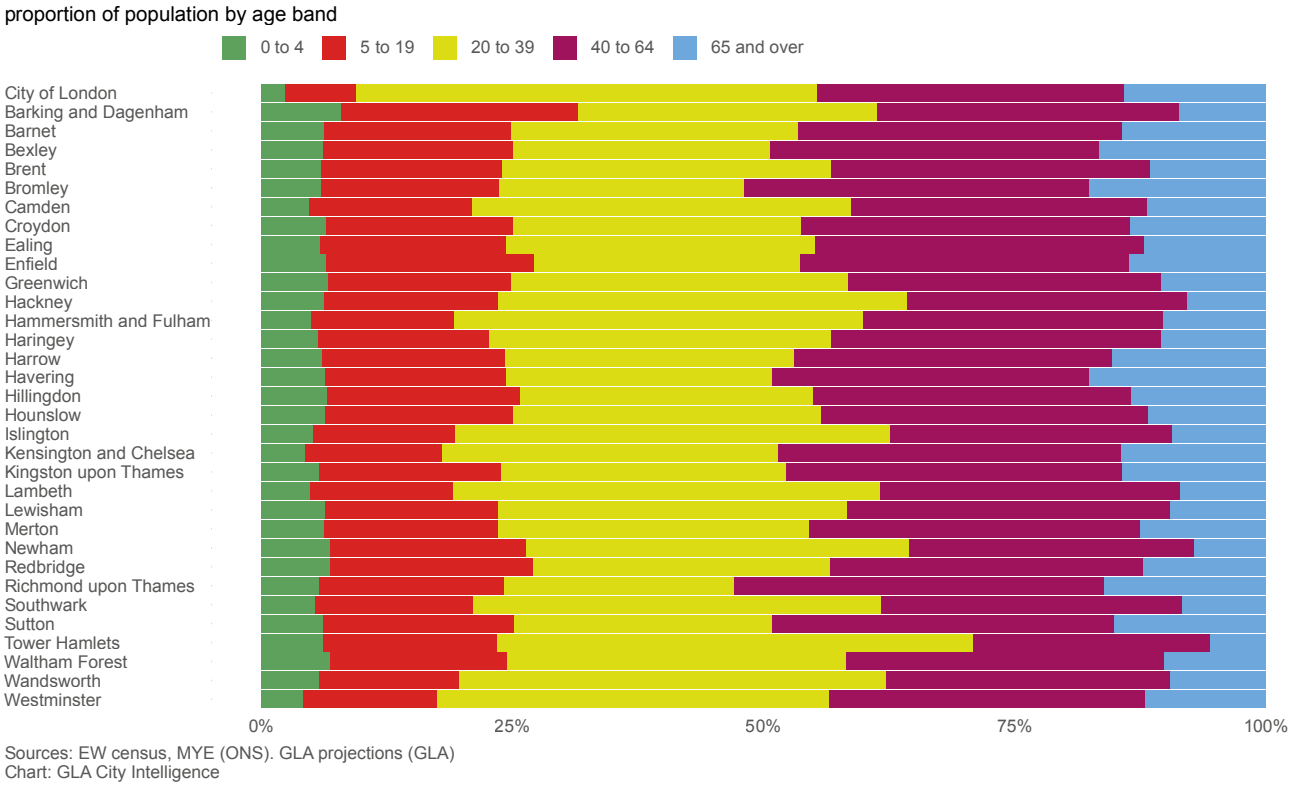
London boasts a remarkably large and diverse student population, contributing significantly to its vibrant and dynamic character, injecting substantial economic activity into the city, supporting businesses, research and innovation, and creative industries.[12] Concurrently, the city's age structure is evolving with a growing proportion of older adults necessitating a corresponding adaptation of healthcare services and social care provision to meet the needs of an ageing population.[13,14] The structure varies by London borough (Figures 3.27 and 3.28), and the COVID-19 pandemic also accelerated certain demographic and trends, such as remote working, which led to shifts in residential and commuting patterns often termed the "urban exodus".[15]

Figure 3.27: Population of London by Age Group, 1993-2022



Source: Office for National Statistics. Mid-year population estimates.

Figure 3.28: London borough age structure 2021

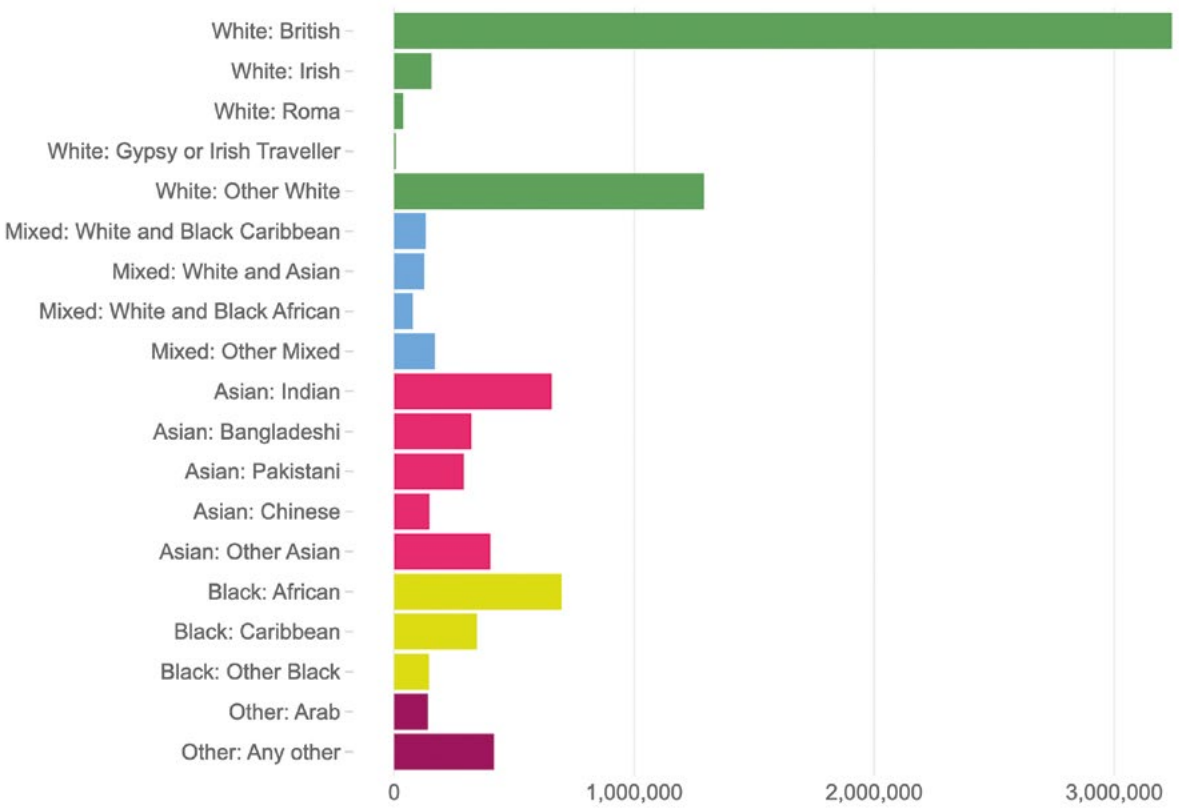


Sources: EW census, MYE (ONS). GLA projections (GLA)
Chart: GLA City Intelligence

Source: Office for National Statistics. Census 2021

Census 2021 showed 4.73 million London residents, some 54% of the London total, identified with White ethnic groups. Of the remaining 46%, Asian groups made up 21% (1.82 million people), Black groups 14% (1.19 million), Mixed groups 6% (0.51 million) and Other ethnic groups 6% (0.57 million).

Figure 3.29: Population by 19 ethnic groups, London, 2021



Source: Office for National Statistics. Census 2021
Graph: Available at: https://apps.london.gov.uk/census-2021-reports/#/ethnic-group

A global city

London's profile mirrors many of the health challenges and opportunities faced by other major global urban centres grappling with the complexities of rapid urbanisation, socioeconomic inequality and a growing burden of chronic disease and multi-morbidity. These shared challenges are shaped by globalisation, technological advancements and changing lifestyles. Yet London also has distinct characteristics reflecting its unique historical, geographic and socio-cultural context and status as a major global transportation hub, shaping its specific health needs and priorities.

Table 3.2: London vs New York, Paris and Tokyo[16]

	London	New York	Paris	Tokyo
Total surface area (km²)	1,572	2,973[1] (metropolitan area excluding inland water)	2,854[2] (Île de France region)	2,190[3] (Tokyo Metropolis)
Percent green space[4]	33%	27%	10%	7.5%
City resilience ranking (2023)[5]	3	1	5	8
Population (million)[6]	8.8	City: 8.8 Greater New York: 20.0	13.3	37.0
Median age	35.9	37.5[7] (2024)	36[8] (2024)	49.5[9] (2024)
Foreign-born population (%)[10]	38.5	36.4	19.8	4.1
Gross domestic product ($bn; 2023)[11]	909	1,826	853	814
Unemployment rate (latest available; %)	4.6	4.8[12] Apr 2024	7.2[13] Mar 2024	4.6[14] 2024
Property Price Index (2024)[15]	16.1	11.0	17.4	11.9
City Happiness Index ranking (2020)[16]	36	30	43	79

Notes

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Entrenched inequalities

London's recognition of structural racism as a determinant of health and commitment to anti-racism is crucial in addressing health inequalities. Systemic racism has a profound impact on health outcomes, and addressing this issue is essential for creating a fairer and healthier city. With structural racism embedded in systems and institutions, making a difference requires commitment from statutory organisations and real collaboration between them and the communities they serve. Public commitments to anti-racist approaches have been made by the London Partnership Board (as part of their approach to tackling structural inequalities), the London Health Board, the Mayor of London and London's five Integrated Care Systems (ICSs) among others.[17]

As with other UK and global urban centres, housing, access to green spaces, employment opportunities, education, and exposure to environmental hazards all contribute to health and health inequalities.[18] Insufficient affordable, decent quality housing and higher costs of living relative to the rest of the UK are critical challenges facing London and are key factors shaping health and contributing to health inequalities in the city.[19,20]

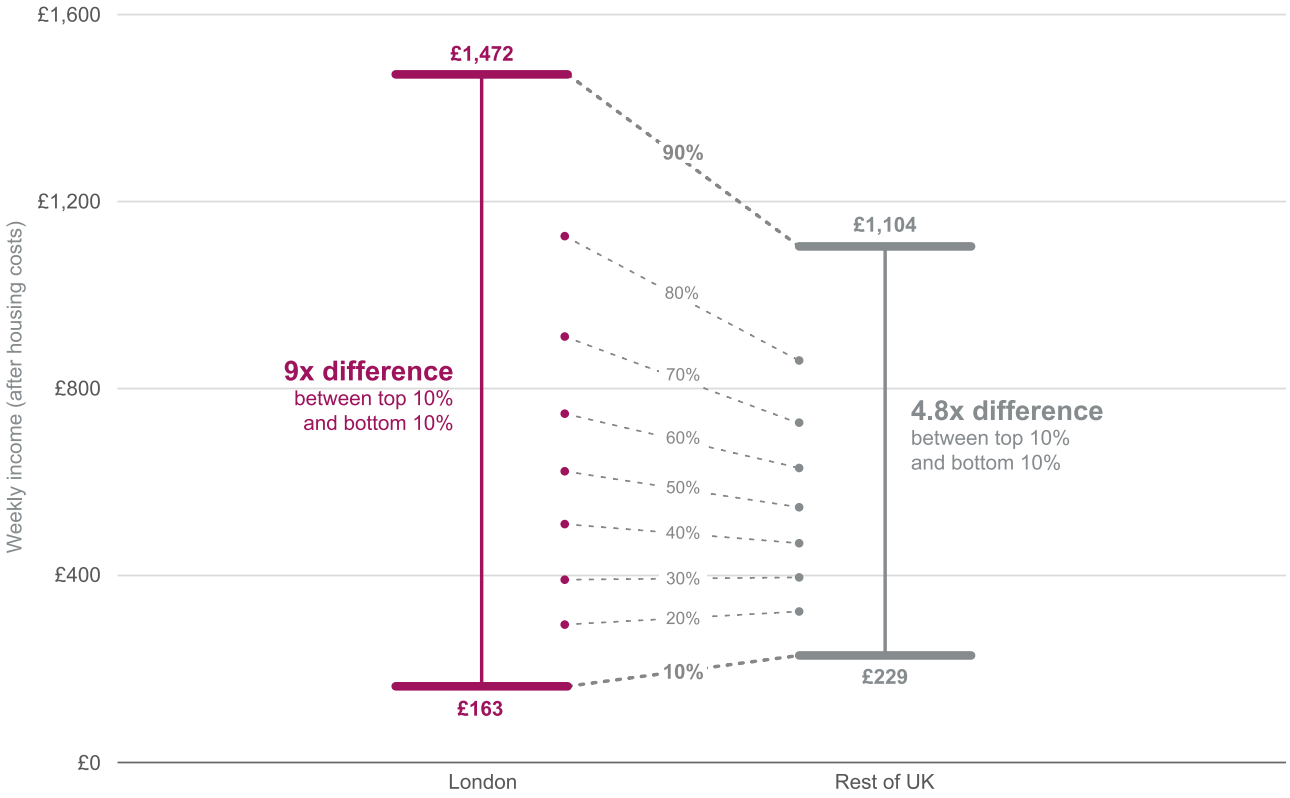
At its core, London is a city of stark contrasts with many "entrenched structural inequalities"[21] and extremes of wealth and poverty. Of the regions, London has both of the following:

1. The highest average gross disposable income: in 2021 gross household disposable income was highest in London at £31,000 compared to the UK average of £22,000. The value in Westminster was £67,000.[22]

2. The highest rates of poverty, after housing costs are taken into account: nearly a quarter (24%) of Londoners were living in relative poverty after housing costs in 2020/21-2022/23, compared to the UK rate of 22%.[23]

Figure 3.30: Income inequality, London and Rest of UK 2020/21-2022/23*

Difference in weekly income (after housing costs) between top 10% and bottom 10%.



Note: *Data not available for 2020/21, so the figures are an average of the two remining time points

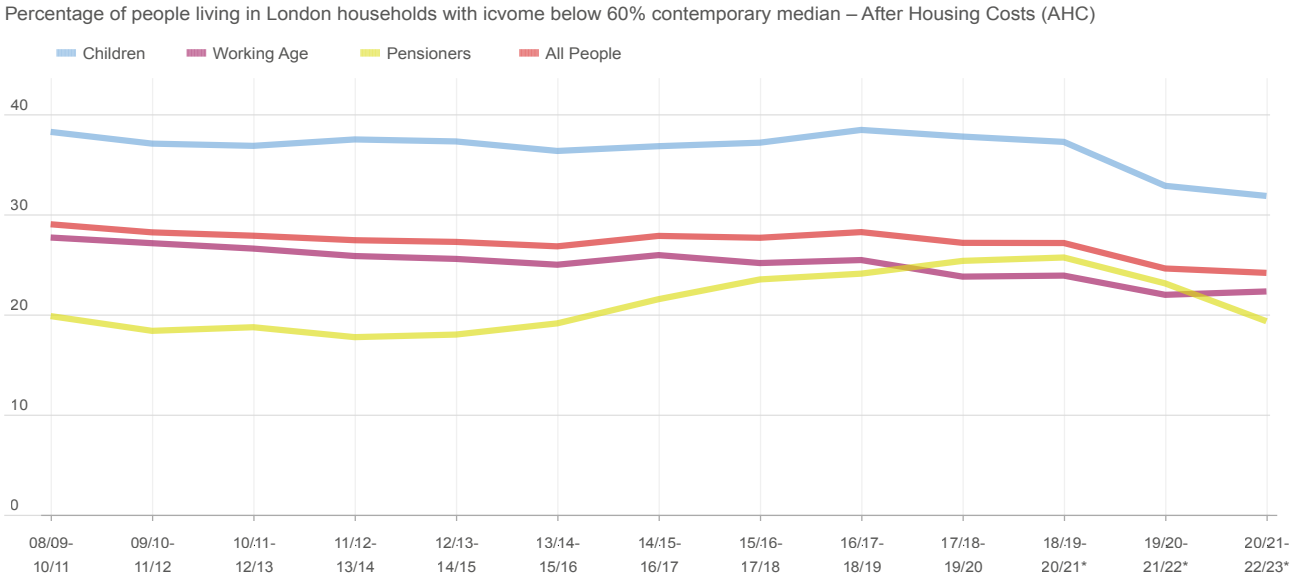
Source: Households below average income (HBAI) statistics. Available at: https://www.gov.uk/government/collections/households-below-average-income-hbai--2

Chart: GLA Intelligence. Available at: https://data.london.gov.uk/economic-fairness/equal-opportunities/income-inequality/

Poverty is experienced by many different populations in London, however the burden falls heavily on children (Figure 3.31).[24] Furthermore, whilst pensioners represent the smallest group to experience poverty relative to other groups in London, material deprivation in this group is consistently more prevalent when compared to elsewhere in the UK (Figure 3.32).[25]

Children are more likely to be living in poverty than adults overall, with the latest estimate of 32% of London's children living in relative poverty for 2020/21 to 2022/23 after housing costs.[26] The reduction in the number of Universal Credit (UC) claimants in London seen to mid-2022 has reversed, climbing back to over one million in April 2024 and is now higher than during the pandemic.[27]

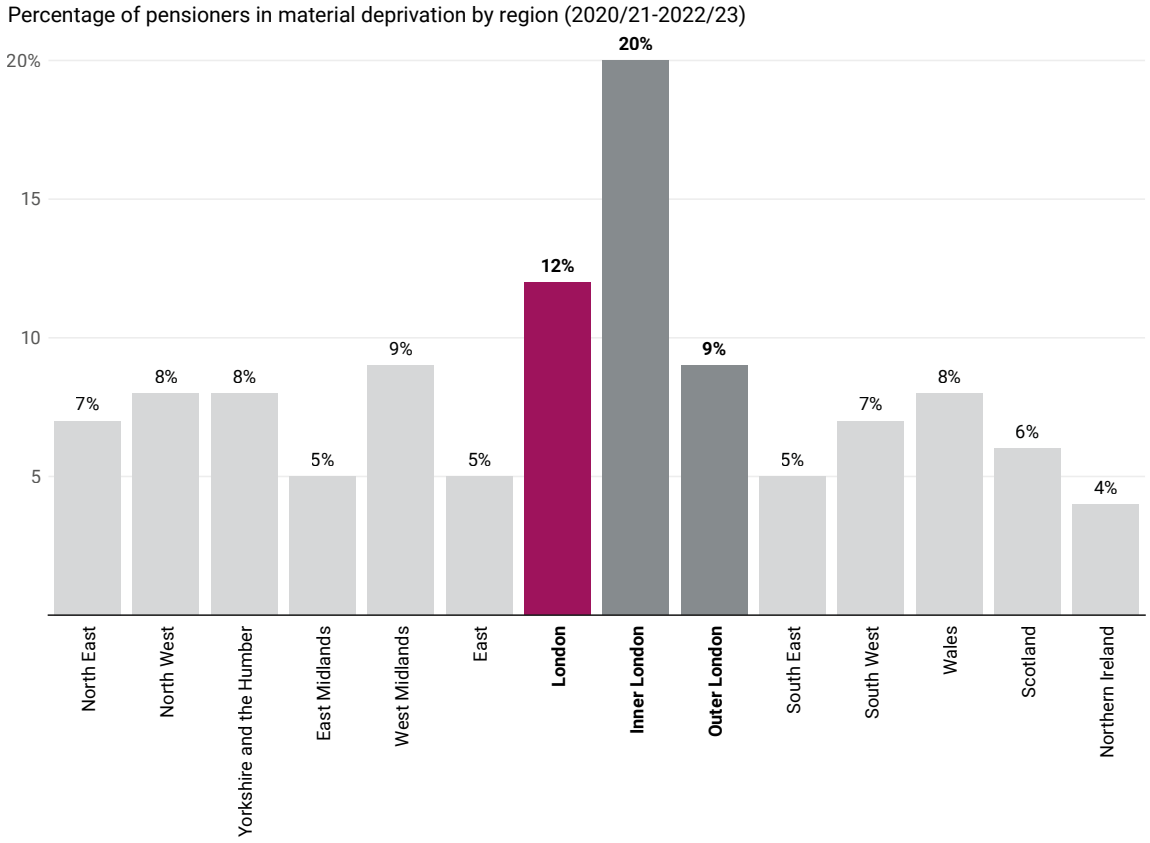
Figure 3.31: Relative poverty in London



Source: Department for Work and Pensions. Households below average income (HBAI) statistics

Chart: Greater London Authority. The State of London – A review of London's economy and society June 2024[28]

Figure 3.32: Material Deprivation among pensioners



Source: Department for Work and Pensions. Households below average income (HBAI) statistics

Chart: Greater London Authority. The State of London – A review of London's economy and society June 2024.[29]

London has a larger private rental sector than other UK regions and Londoners are the least likely to own their home in the UK (homeowners make up less than half of households, compared to around two-thirds in all other UK regions).[30] Rental costs in London are much higher than in all other regions. London is the least affordable region for private rented accommodation; and was the only region above a 30% affordability threshold for the financial year 2021 to 2022.[31] Also, there is an acute shortage of social housing in London.[32] Over 300,000 households were on the waiting list for social housing in 2022, and councils often struggle to find suitable accommodation for people with high levels of need.[33]

London also has large populations in inclusion health groups, such as people experiencing domestic abuse, asylum seekers and Gypsy, Roma and Travellers.[34] These groups have unique health challenges and particularly poor health outcomes. London also has significant numbers of people who are homeless, and a high concentration of people experiencing rough sleeping.[35] More than half of all temporary accommodation (TA) placements nationally are made by London boroughs. At the end of March 2024, there were 65,280 homeless households (approximately 170,000 people) in temporary accommodation arranged by London boroughs; 44,070 of these households included children, with a total of 86,810 children between them.[36] Rough sleeping numbers continue to rise, driven by the cost of living and asylum changes. 29% of people sleeping rough in England on a single night in autumn 2023 were in London,[37] and a total of 11,993 people were seen rough sleeping in London in 2023/24.[38]

The health and wellbeing of Londoners

Historically, life expectancy at birth in London has (on both a three-year and single-year basis) been consistently higher than the England average. In 2022, life expectancy at birth for males and females in London stood at 80.3 and 84.4 years respectively.[39]

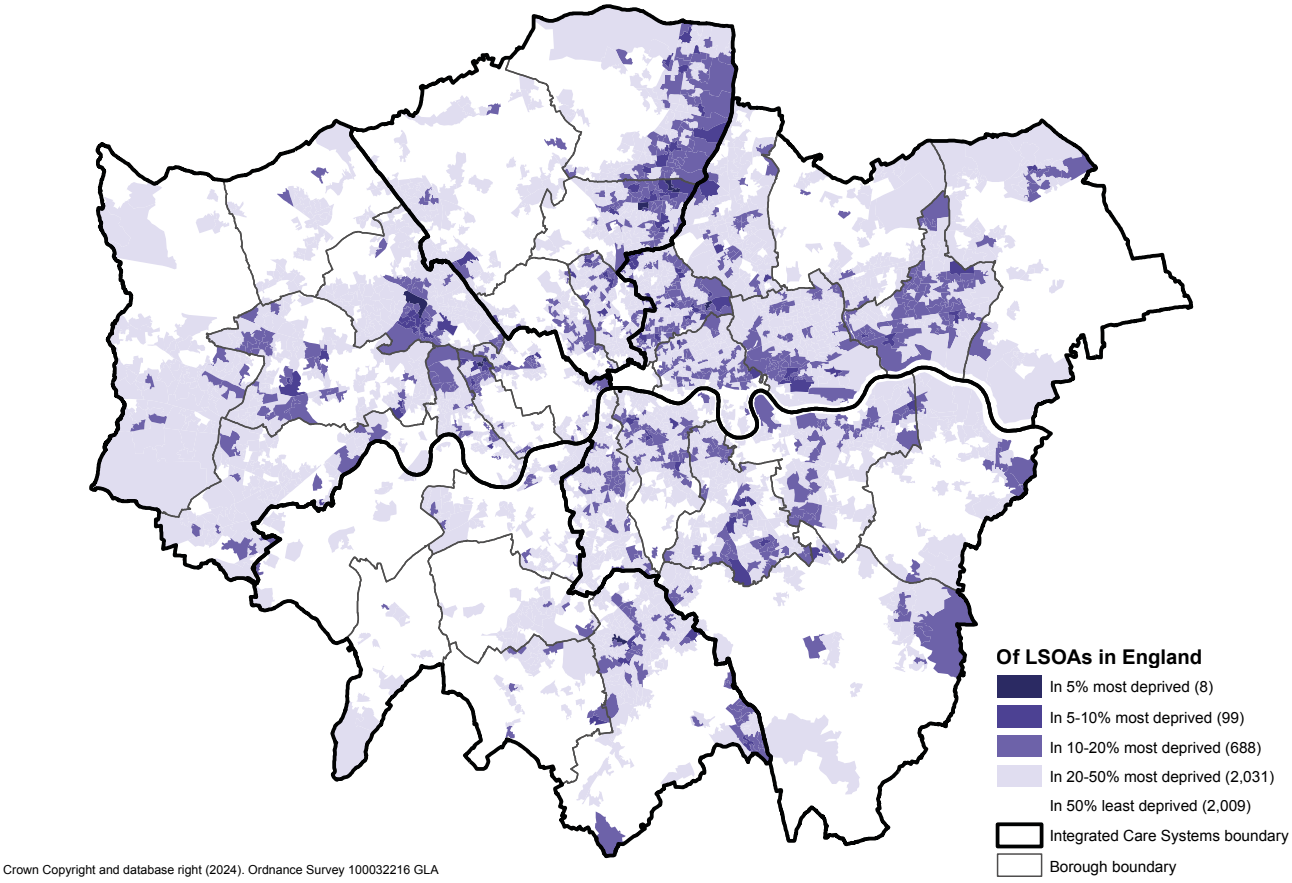
However, these averages mask persistent and significant inequalities both between and within London boroughs. Health and wellbeing in London are characterised by stark inequalities in physical and mental health status, health behavioural risk factors, access to and experience of health and care services, and in health outcomes. While a boy born in Barking and Dagenham can expect to enjoy 58.1 years in good health, in Richmond-upon-Thames that figure rises to 70.2 years (2018 to 2020) – a staggering difference of over 12 years.[40] Ethnic and socioeconomic inequalities across a breadth of social, environmental and economic factors drive these health inequalities in London, compounded by the steep rise in cost of living and escalating climate risks.

Given this complexity, policy and programmes are increasingly seeking approaches which maximise health and wellbeing considerations and co-benefits across different sectors.

Deprivation drives many of the inequalities we see in London. For common diseases such as diabetes, lung disease and depression we see significantly higher rates among the most deprived. Ethnicity also plays a role; for example, 57% of the Asian population and 56% of the Black population have diagnosed hypertension (high blood pressure), compared with 42% of the White population for those aged 65 to 84 years.[41] Similar patterns are seen for diabetes. A range of structural factors contribute to these poorer health outcomes. Lower trust and

confidence in statutory services also leads to inequalities in access, experience and outcomes, and has continued to underpin some of the marked ethnic inequalities in health observed across the city including those observed during the COVID-19 pandemic.[42]

Figure 3.33: Index of Multiple Deprivation 2019, LSOAs in London



Source: Indices of Deprivation 2019, MHCLG

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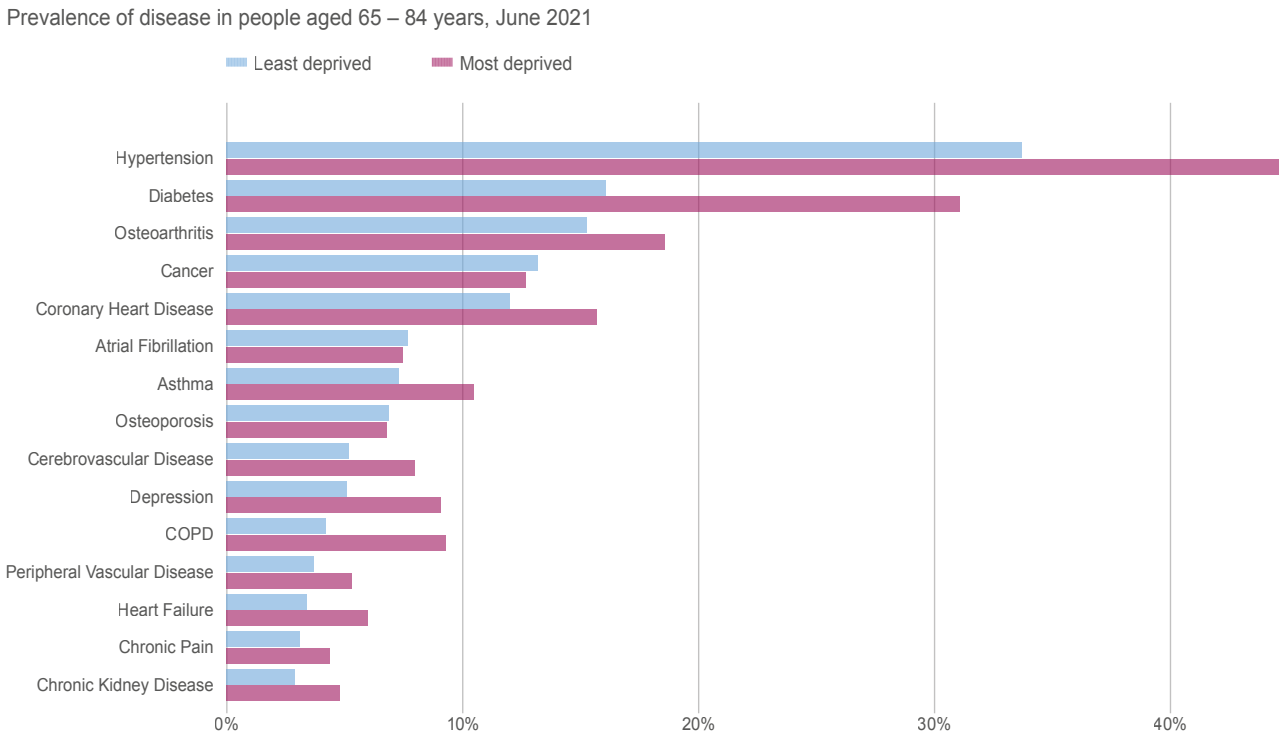
Figure 3.34: Prevalence of common diseases in older adults in London, by most and least deprived quintiles



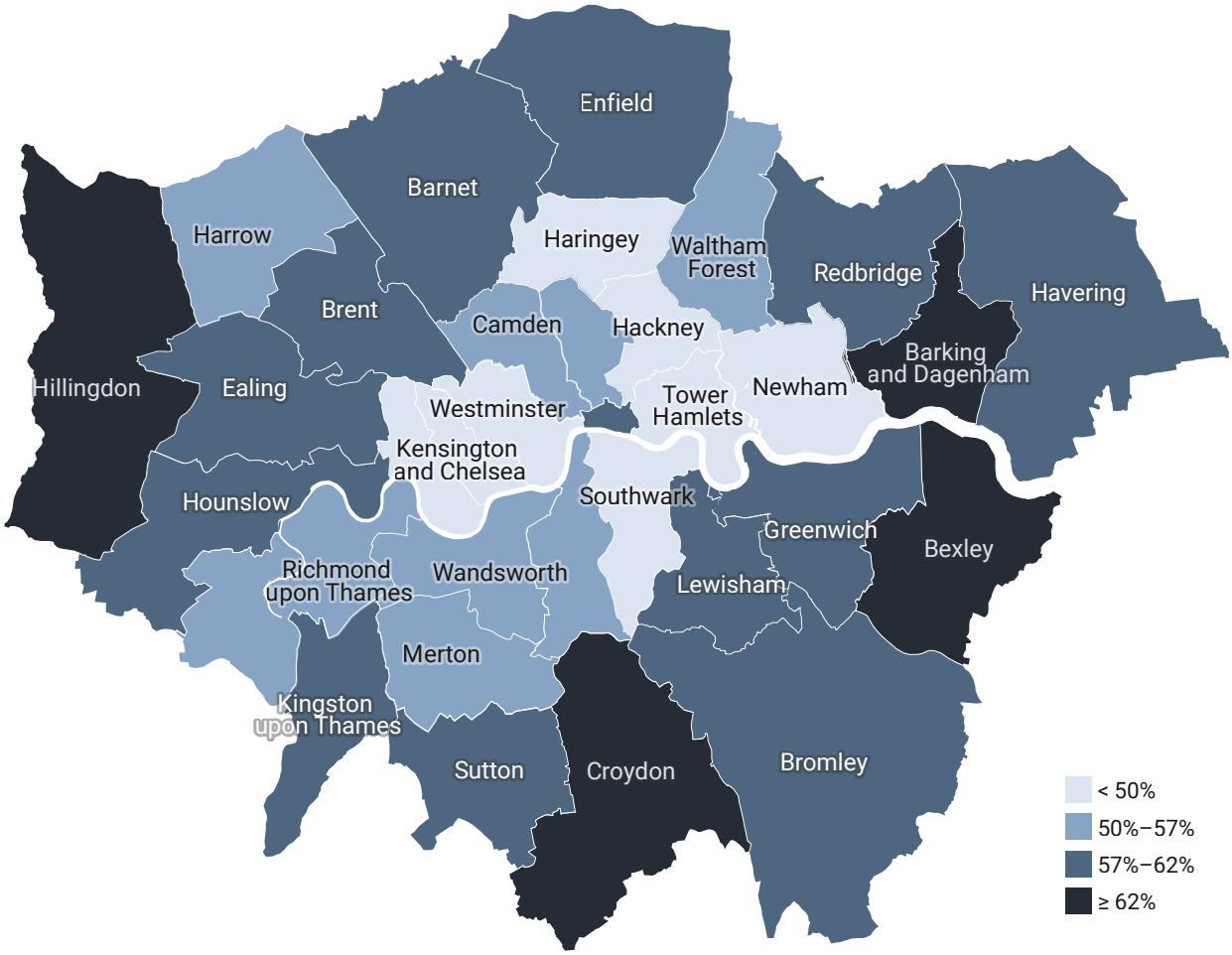
Source: NHS Segmentation Model

Chart: Greater London Authority. The State of London – A review of London's economy and society June 2024[44]

Across London in 2021/22, more than half (57%) of adults were overweight or obese. Figure 3.35 shows that the highest adult obesity rates are concentrated in Outer London boroughs, with Barking and Dagenham having the highest percentage (70%) and Southwark the lowest (44%).[45]

Figure 3.35: Percentage of adults classified as overweight/obese by London borough

% adults (aged 18+) with body mass index greater or equal to 25 kg/m2 , 2021/22



Source: OHID Public Health Outcomes Framework

Chart: Greater London Authority. The State of London – A review of London's economy and society June 2024[46]

Childhood obesity rates are also alarmingly high. In 2022/23, nearly 2 in 5 children in London were overweight or obese by year 6, greater than the national average.[47]

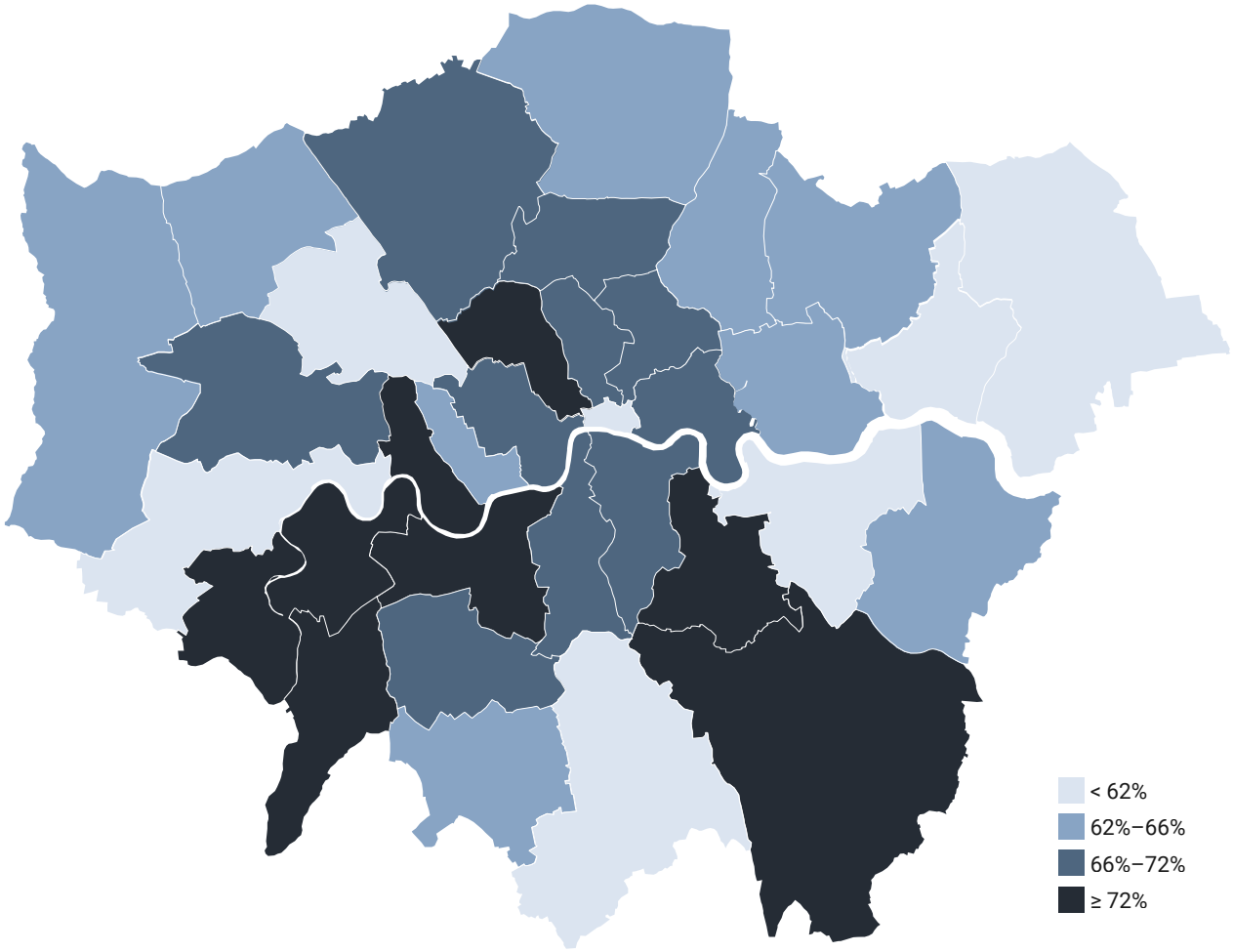
Again, we see significant inequalities between groups. Children in the most deprived areas are more than twice as likely as children in the least deprived to be obese, with the highest prevalence seen in Black African ethnic groups.[48]

Smoking is the most important cause of preventable ill health and premature mortality in the UK, and diverse communities in London use a range of different tobacco products.[49] Smoking prevalence in London has decreased by about a third since 2011 but significant inequalities remain, with rates being higher in deprived areas, for those in routine and manual occupations, and for those living with mental illness.

London residents are less likely than other regions in the UK to meet recommended physical activity guidelines.[50,51] Just over a third of adult Londoners (35.8%) are not reaching World Health Organisation's (WHO) recommended 150 minutes of exercise per week, meaning that they are not reaping the mental, physical and social benefits of an active life, risking long term health conditions and even early mortality.[52]

Figure 3.36: Percentage of physically active adults by London borough

% adults (aged 19+ years) doing 150 minutes/week moderate intensity activity in bouts of 10+ minutes in previous 28 days, 2021/22



Source: OHID Public Health Outcomes Framework

Chart: Greater London Authority. The State of London – A review of London's economy and society June 2024[53]

Physical activity levels vary by borough and we also see inequalities along gender, ethnicity and socio-economic lines. These differences reflect reduced opportunities for outdoor activities (in school, home or local neighbourhoods), limited utilisation of green spaces and a car-dependent culture. London's historic built environment often presents barriers to active travel, including traffic congestion, lack of safe cycling infrastructure and poor air quality, justifying recent major investments in the city's pedestrian and cycling infrastructure, as well as implementing policies to reduce car use.[54]

London's distinctive demographic, social, economic and environmental landscape presents a complex array of health challenges, similar to, but distinct from other global urban centres. The city's status as a major international travel hub increases the need for risk management against imported infectious diseases, such as malaria, tuberculosis and emerging pathogens like Mpox. Additionally, London's diverse population includes communities from countries with different vaccination programmes, health care systems, and sometimes high burdens of certain diseases, highlighting the need for culturally competent healthcare services and effective surveillance systems.

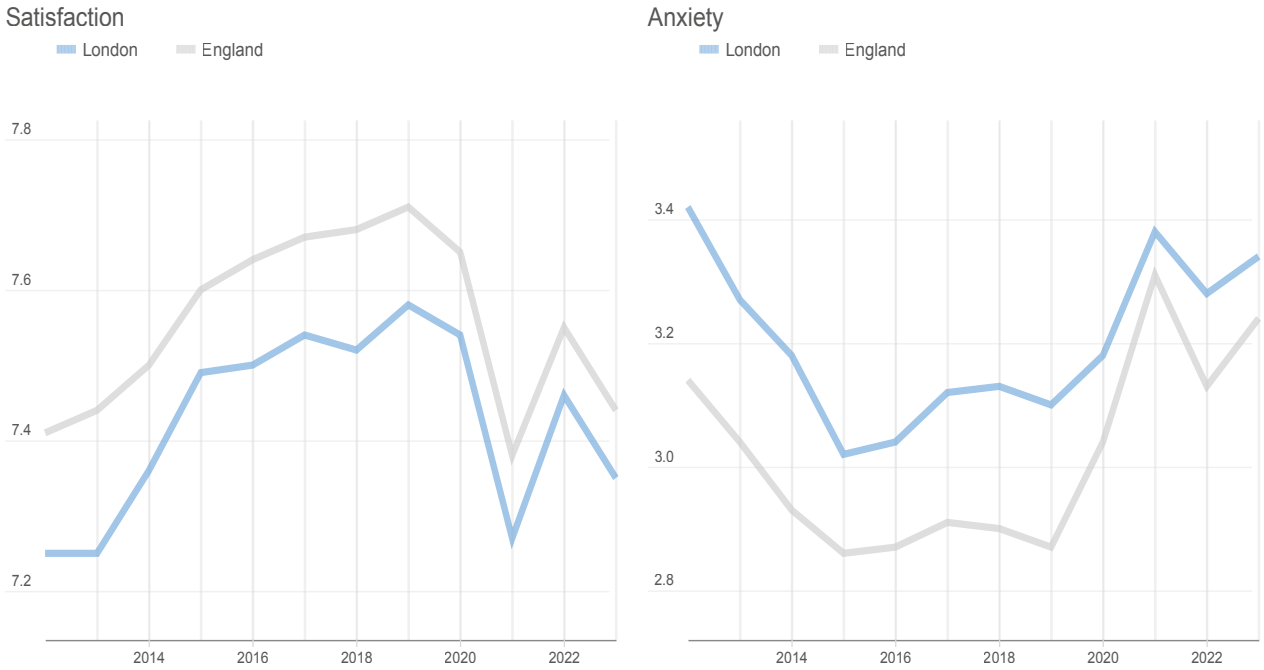
The city bears a disproportionately high burden of sexually transmitted infections (STIs), including HIV,[55] compared to the rest of England. This reflects its higher concentration of key populations at increased risk, including young people, gay and bisexual men, and some minority ethnic populations. The city remains at the frontline of new and emerging STI threats including Mpox,[56] HIV in migrant populations and antimicrobial resistant gonorrhoea, as well as being at the forefront of innovations in service response including digital solutions for HIV, sexual and reproductive health service provision.

Mental health is a critical issue in London, with the fast-paced urban environment and socioeconomic disparities contributing to increased rates of anxiety, depression and other mental health conditions.[57,58] Although indicators of poor mental health remain slightly lower for London than national figures, we have seen a deterioration in mental health in the last 10 years perpetuated by the pandemic. While 8% of Londoners aged 10 to 15 years had a probable mental disorder in 2009, this more than doubled to 19% in 2021 to 2022. Additionally, in 2021/22, nearly 1 in 4 Londoners (23%) aged 16 years and over reported signs of poor mental health.[59]

Wellbeing indices in London consistently fall below the national average. These are self-reported measures out of 10. Despite significant improvements early in the decade, anxiety levels have continued to rise since the pandemic, increasing from 3.28 to 3.34 in London and from 3.13 to 3.24 in England between 2022 and 2023.[60] Meanwhile, life satisfaction in London has been declining. Although it initially rose from 7.27 to 7.46 between 2021 and 2022, it dropped again between 2022 and 2023, falling from 7.46 to 7.35 in London and from 7.55 to 7.44 in England. Life satisfaction for the year ending March 2022 showed some recovery, but it has not yet returned to pre-pandemic levels.

Figure 3.37: Anxiety and life satisfaction for adults in London

Mean responses on a scale from 0-10 to "Overall, how anxious did you feel yesterday", and "Overall, how satisfied are you with life noawadays?", 2011-12 to 2022-23



Source: Office for National Statistics

Chart: Greater London Authority. The State of London – A review of London's economy and society June 2024[61]

London's air quality has improved significantly since 2016, however, it remains a significant public health concern. Through strong partnerships, ambitious policies, and a 'health in all policies' approach, London has made progress in reducing pollution and addressing health inequalities. London's bold initiatives have helped cut harmful roadside nitrogen dioxide (NO_2) levels by nearly half since 2016. These include: introducing the world's first 24-hour Ultra Low Emission Zone (ULEZ) in 2019 and expanding it London-wide in 2023; cleaning up London's bus and taxi fleets; enabling more people to travel actively through quadrupling the size of the London-wide cycle network; launching the Breathe London air quality monitoring network; and funding local authority projects through the Mayor's Air Quality Fund. However, the latest modelling shows that without additional action, all Londoners will still be living in areas exceeding the WHO guidelines for both NO_2 and particulate matter less than 2.5 micrometres in diameter ($PM_{2.5}$) in 2030.[62]

Moreover, climate change presents growing risks to London's health, disproportionately affecting vulnerable groups such as older adults, young children, and those with existing health conditions.[63] To address these challenges, the Mayor of London commissioned the London Climate Resilience Review (LCRR) to assess the city's preparedness.[64] The review offers recommendations to bring partners together and guide London's response to more frequent and severe climate hazards, including heatwaves, flooding, and emerging threats such as vector-borne diseases.

London: Leading and coordinating for health and equity

In 2023, London's health and care partners published a Strategic Framework to Tackling Ethnic Health Inequalities through an Anti-Racist approach.[65] Shortly after, partners launched The London Anti-Racism Collaboration for Health (Case Study 5) to build on, support and accelerate action across the London system.[66] To support a wider public health approach to addressing structural racism, the Institute for Health Equity was supported to apply their framework to the evidence on structural racism, ethnicity and health inequalities. Their recent report sets out the evidence, reflects on the work that is already happening in London and makes high level recommendations for further action.[67] To ensure that the reality of London and the experience of our communities is at the centre of our actions, the Greater London Authority (GLA) commissioned a co-production process to reflect on the evidence and draw out a set of London focused recommendations. This recent work on structural racism has been underpinned by the pan-London health and care partnership structures.

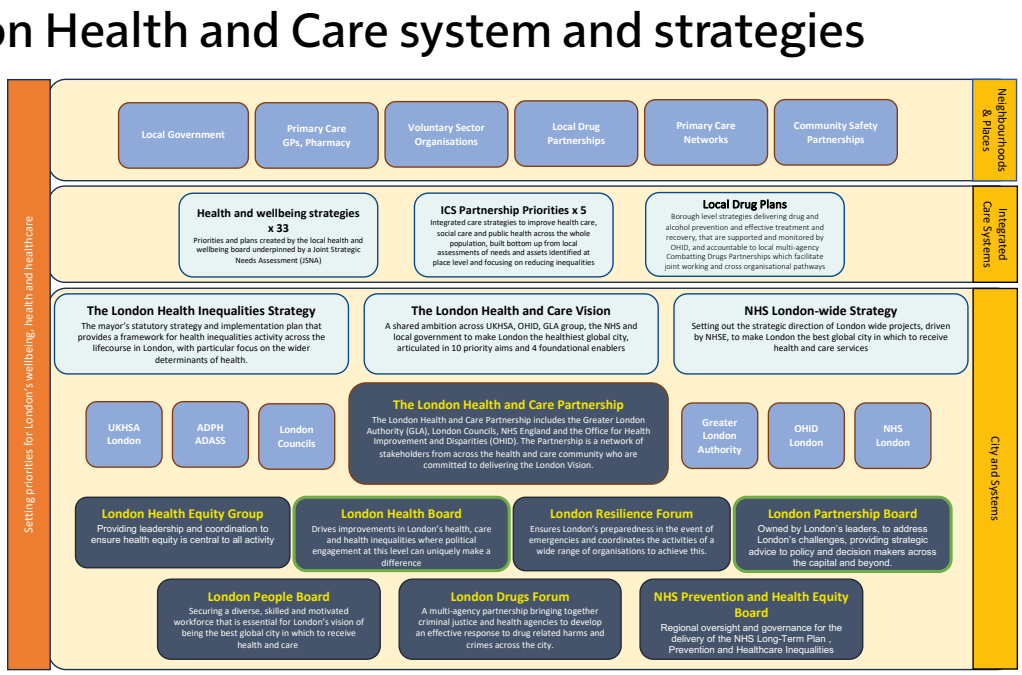
For over fifty years London has been organised around thirty-two unitary local authorities and the City of London Corporation. Each of these appoints a Director of Public Health for their population. Londoners also elect a local Member of Parliament (73 London constituencies). The regional GLA was established in 2000,[68] and Londoners elect a Mayor and Assembly providing regional direction for a range of functions including planning, transport, housing and environment. Devolution has continued, with the Mayor's office for police and crime, and skills. Unlike other English regions, the Mayor of London is required to produce a strategy to reduce health inequalities in London and is designated a category one responder in major incidents under the Civil Contingencies Act 2004.[69] The Mayor has made a manifesto commitment to continue tackling health inequities through his Health Inequalities Strategy and to ensure that City Hall considers the health impacts of all its policies, programmes and strategies.[70] The devolution of wider powers to London has provided opportunities for stronger local leadership and decision-making, which can be leveraged to improve health outcomes through the 5 ICS.[71,72]

A London Partnership Board meets regularly, co-chaired by the Mayor and Chair of London Councils. Their work is underpinned by the publication of a 'state of London' report.[73] Building on strong working relationships forged during the COVID-19 pandemic and the work of its predecessor, the London Recovery Board, the London Partnership Board brings together business, unions, transport, police, culture, the NHS, local government, education and the voluntary and community sector, using convening powers to tackle shared priorities and secure focus and investment. This London partnership approach is essential for addressing the complex challenges facing London, as it leverages the strengths and expertise of diverse stakeholders.[74,75] Effective collaboration between these organisations is also essential for addressing the city's health challenges, whether ensuring that the health and care system is there when Londoners need it or shaping a city that supports Londoners' physical and mental health.

London's health and care system is organised around 5 ICS, each radiating out reflecting patient flows into larger and specialist teaching hospitals in central London. This health geography does not always align with other sub-regional boundaries, such as those for policing, housing, or the

economy, requiring alternative approaches to facilitate strategic collaboration. The 5 Integrated Care Partnerships include the NHS, local government and their commissioned services, research and academia, voluntary sector organisations and community groups. The London Association of Directors of Public Health brings together local authority and GLA Directors and their teams to foster leadership and delivery across the City.

Figure 3.38: Overview of London health and care system governance and strategies as of spring 2024



London's Health and Care partners have a shared ambition to become the world's healthiest global city.

This ambition will be delivered through new and developing health, care and public health system structures, nested within the existing structures of local and regional government and the NHS.

Health and care services must be aligned with the needs of the people they serve, and fragmentation can lead to inefficiencies in cost, quality and outcomes while also hampering efforts to reduce health inequalities. Understanding responsibilities across the integrated care landscape can be complex, and political dynamics often come into play. The scale and diversity of London's health and care system, which serves nearly 1 in 6 people in England, further complicates efforts to deliver cohesive care. Coordinated action is essential to address the multifaceted health challenges London faces and has driven the need for strengthened regional collaborative governance. This approach aims to promote efficiency, scalability and co-benefits, while focusing on the wider determinants of health.

The regional ecosystem for heath has been iterated over several years and continues to do so, including a London health and care devolution agreement in 2017,[76] the London Health Board, and a new sense of common purpose coming through COVID-19 pandemic response and recovery and the impacts of escalating costs of living.

The London Health Board (LHB)[77] serves to bring together political and senior health and care leadership in London. Chaired by the Mayor, the LHB provides a forum to discuss shared challenges and opportunities. The Board sponsored the development of the 2019 Health and Care Vision for London,[78] a strategic framework outlining a shared collaborative ambition for London to be the world's healthiest global city, and the best global city in which to receive

health and care services. It emphasises the importance of collective action, subsidiarity and distributed leadership, health equity and the social determinants of health across all sectors and communities. It identified 10 priority areas of focus, chosen because they require a different type of collective action given the cross-cutting nature of the issue or response. Key enablers like workforce, estates and digital innovation are also included. By bringing together key stakeholders, the LHB can identify shared priorities, allocate resources effectively and measure progress towards common goals. This collaborative approach is crucial for addressing the complex and interconnected issues that impact the health and wellbeing of Londoners.

Building on the Mayor of London's London Health Inequalities Strategy 2018 to 2028 and London's Health and Care Vision, a London Health Equity Group (HEG) was established in 2020 – in the midst of the COVID-19 pandemic – to ensure a focus on identifying and responding to health inequalities. It set out to support work at the regional, sub-regional and local levels, and to facilitate a collective, cross-sectoral response to current and emerging health inequalities priorities in London. It champions data and intelligence to enable partnership working, exemplified by the Snapshot of Health Inequalities in London – a high-level overview of major inequalities issues affecting Londoners produced collaboratively with key stakeholders.[79] It also promotes a 'health in all policies' approach, bringing together partners and resources from outside the health and care system in recognition that improving health outcomes requires action across multiple sectors including housing, education, employment and the environment. By fostering a culture of shared responsibility, collaborative leadership forums like the LHB and HEG aim to create a health and care system that is responsive to the needs of London's diverse communities and ensure that there is focussed action on addressing the causes of health inequalities.

London's healthcare system relies on a skilled, resilient and adaptable workforce to meet the complex needs of its diverse and ageing population, rising levels of chronic disease, and health inequalities. The London People Board plays a crucial role in coordinating these efforts and ensuring that the workforce is fit for purpose.[80] This includes supporting the development of clinical skills, leadership competencies, digital literacy, workforce wellbeing and retention. NHS London plays a pivotal role in ensuring the city possesses the necessary workforce capacity and capabilities and oversees education, training and workforce development, contributing significantly to the delivery of high-quality healthcare services. This is achieved by working with a range of partners, including NHS Trusts, universities and local authorities, to develop workforce strategies aligned with local needs.

NHS London is a core founding member of the London Anchor Institutions network[81] bringing together some of the capital's biggest organisations, who are working collaboratively to address long-standing social and economic inequalities and the growing climate emergency. The NHS is one of the largest owners of land and buildings in London, and the London Estates Board[82] provides a single place for London-level discussions about NHS estate, supported by a London Estates Delivery Unit hosted by the GLA.[83]

A city for the future – Innovation, Impact, Inclusion

London has emerged as a global leader in addressing complex health challenges, demonstrating a commitment to innovation and equity. The city's capacity to tackle issues such as climate change, antimicrobial resistance and mental health at scale is underpinned by its ability to enable enduring partnerships, foster innovation and implement novel approaches. Multi-sectoral partnership working is supported at each level – from Mayoral and GLA coordination for planning, resilience, policing and transport and commitment to taking a 'health in all policies' approach; NHS London's partnership with subregional Integrated Care Boards; to London Councils work to support intra-borough collaborative executive and political leadership working.

Pan-London commissioning and delivery initiatives such as the Healthy London Partnership (now Transformation Partners in Health and Care), and a London Health and Care Leaders Group have created vehicles that bring together diverse stakeholders focused on improving health and tackling health inequalities. Together these structures facilitate more focused collaboration on a range of disease specific challenges to the city – from HIV to mental health, inclusion health to CVD prevention.

Digital health technologies have been at the forefront of London's health transformation. The adoption of electronic health records (EHRs), telemedicine, and data analytics has the potential to significantly enhance efficiency, access and quality of care. The London Care Record,[84] a pioneering initiative, has facilitated the integration of health data across providers, enabling improved patient care and population health management. Additionally, the use of wearable devices and mobile health applications has empowered individuals to monitor their health and engage in self-management.

Engaging Londoners in shaping their health is paramount. Community-centred approaches have proven effective in empowering individuals and communities to take control of their wellbeing. Working with voluntary sector organisations, social enterprises and community groups, London has fostered a vibrant ecosystem of community-led health improvement initiatives. This came to light in the city's response to the COVID-19 pandemic, where the resolute focus on health equity and building a strong community-centred response saw significant expansion in community outreach and mobilisation, innovative partnerships with the voluntary sector, community participatory action research and the expansion of community health workers including peer navigators and community champions.[85] The GLA's investment in community-led projects exemplifies the city's commitment to grassroots engagement.

Addressing health inequalities remains a paramount challenge for London. The Mayor of London's Health Inequalities Strategy provides an evidence-based framework for emphasizing investment in early years services, education, employment and addressing the wider determinants of health. The Mayor has committed to City Hall taking a 'health in all policies' approach which aims to maximise health and wellbeing considerations and co-benefits across GLA Group policies and programmes to reduce health inequalities, prevent ill-health and protect and improve the health and wellbeing of all Londoners.

The London Vaccine and Health Equity Partnership (LHEP)[86] exemplifies a successful initiative focused on reducing health inequalities through vaccination uptake. By targeting specific communities and building trust, LHEP has made significant strides towards improving vaccination rates among marginalised groups. Similarly, initiatives like Thrive London,[87] London HIV Fast Track Cities[88] and London Inspire[89] have demonstrated the power of community-led approaches to addressing health inequalities. London Inspire, for example has fostered a culture of self-determination and resilience by empowering local communities to identify and address their specific needs.

Looking to the future – Resilience, Responsiveness, Recovery

London's capacity to withstand, adapt to and recover from health shocks and stressors, such as the COVID-19 pandemic, underscores its resilience. This resilience is critical for navigating future challenges, including climate change, economic downturns and public health crises. Building upon this foundation is essential for creating a sustainable and equitable city.

Lessons learned from the COVID-19 pandemic highlight the importance of cross-sectoral and international collaboration, surveillance and early warning systems, and rapid response capabilities. These insights are crucial for preparing for future health shocks and stressors, such as climate change, which is expected to exacerbate existing vulnerabilities and create new challenges.

Community networks are instrumental in enhancing urban resilience. By fostering distributed leadership, social cohesion, supporting vulnerable populations and promoting health and wellbeing, these networks can foster preparedness and mitigate impacts. The London Community Response Fund,[90] established during the COVID-19 pandemic, exemplifies the power of community-led initiatives in supporting vulnerable residents. Such efforts are essential for building social capital and enhancing a city's ability to respond to crises.

London's experiences offer valuable lessons for other global cities. By sharing knowledge and best practices through platforms like Partnership for Healthy Cities[91] and WHO European Healthy Cities,[92] cities can collectively enhance their resilience. A citywide, cross-sectoral approach that addresses the social, economic and environmental determinants of health is essential. Investing in prevention, promoting health equity and strengthening community networks will not only improve public health but also bolster London's capacity to withstand future shocks and stressors.

Conclusions

London, a global metropolis characterised by rapid change and socioeconomic disparities, presents a complex challenge for public health. This chapter has explored the intricate interplay of factors influencing the city's health trajectory, from demographic shifts and social, economic, environmental challenges to governance and community engagement. Despite these challenges, London can harness huge opportunity and possesses the potential to become a

global exemplar of urban health. Building upon the strengths of the health and care system and collaborative partnerships between authorities and communities, London can leverage its innovation, research, and diversity to address the unique health needs of its population. A collaborative approach[93] involving local and regional government, the NHS, academia, businesses and communities is essential to achieve this vision.

Prioritising health equity[94] is paramount for the city's economic prosperity and continued global competitiveness as an economic powerhouse. Even within the current national focus of promoting economic growth, the city must continue its focus on investment in prevention, addressing the underlying determinants of health, improving access to and uptake of quality healthcare and creating supportive environments that promote physical and mental wellbeing. Bold action, supported through leadership and partnerships, enables London to innovate and take a 'health in all policies' approach. London continues to seize opportunities to put health at the heart of a wide range of initiatives to positively shape the environment in which Londoners grow, live and age. London's journey towards becoming the healthiest of global cities will also require ongoing evaluation, learning and adaptation, sharing our knowledge and experiences with other global cities and regions, and contributing to a broader understanding of urban health challenges and solutions.

Case studies

London's journey towards becoming the healthiest global city requires continuous evaluation, learning, and adaptation. By sharing our knowledge and experiences with other global cities and regions, we can contribute to a broader understanding of urban health challenges and solutions. In this section, we present five case studies that highlight innovative approaches to improving urban health in the London region.

Case Study 1: The Greater London Authority (GLA) Group Public Health Shared Service

The Greater London Authority (GLA) is London' strategic authority, created after a referendum in 1998. Londoners voted in favour of a directly elected Mayor to represent London's interests, and a London Assembly to scrutinise their work. The GLA is responsible for a wide range of strategic issues affecting London, including transport, policing, fire safety, economic development and environmental protection. The GLA's powers have grown over time, with additional responsibilities granted through various pieces of legislation. It is funded through a combination of sources, including Council Tax, business rates, transport fares and government grants. It has the power to set priorities and policies for the city and works closely with other organisations in London government, which form the GLA Group.

The GLA Group contributes to the health and wellbeing of Londoners, either directly, or through shaping their social, economic, commercial and environmental conditions; these are the wider determinants of health. The GLA Group Public Health Unit is a shared service which was established by the Mayor of London in 2022, to help the GLA Group play its part in full in making London the healthiest global city, and best place in the world to access care. The Unit provides specialist public health skills and expertise to help the GLA Group embed a 'health in all policies' approach and health resilience, strengthening capacity and collaboration on public health. The Unit is a dedicated and innovative resource which aims to put health considerations at the heart of policy design and find opportunities for co-benefits in all strategies, not just those focused on health.

Key areas of work include supporting the London-wide expansion of the Ultra-Low Emission Zone (ULEZ) to improve air quality and respiratory health, providing expert input to the Mayor's independent London Climate Resilience Review, reviewing guidance for rough sleepers during extreme hot weather, and supporting with the establishment and ongoing convening of the London Drugs Forum. The Unit serves The Mayor, London Assembly, Greater London Authority and GLA Group Organisations:

- Transport for London
- Mayor's Office for Policing and Crime
- Violence Reduction Unit
- Old Oak and Park Royal Development Corporation

- London Fire Commissioner

The Unit operates collaboratively as part of the wider Public Health System in London and nationally, working with United Kingdom Health Security Agency (UKHSA) and Office for Health Improvement and Disparities (OHID), NHS England, London Councils, local authority public health teams, and the network of Directors of Public Health in London.

Case Study 2: The London Air Quality and Health Programme

The London Air Quality and Health Programme Office (AQHPO) was established in 2022 to consolidate and coordinate pan-London joint work on air quality across the health and care system following the *Prevention of Future Deaths* report published after the inquest into the tragic death of 9-year old Ella Adoo-Kissi-Debrah, the first person in the UK to have air pollution listed as a cause of death on her death certificate.[95,96] Supported by the Mayor of London, the AQHPO is a collaboration between the UK Health Security Agency (UKHSA), Office for Health Improvements and Disparities (London), Greater London Authority (GLA) and NHS England (London), and is funded by the London Health and Care Partnership and UKHSA.

Key focus areas include:

- Developing targeted air quality alerts for healthcare professionals to provide timely, evidence-based guidance and support patient-centred conversations. In February 2024, the London Air Quality and Health Programme Office launched the UK's first air quality alerts for healthcare professionals, aimed at General Practices (GPs) and Emergency Departments (EDs) across London. These alerts are being expanded to a wider range of healthcare professionals.[97,98]
- Mapping and curating education and training resources for health and care professionals on air quality and health. This involves identifying key gaps in knowledge and skills and collaborating with system partners and organisations to address these gaps.
- Raising professional awareness of the impact of air pollution on health by delivering and amplifying clear, tailored and evidence-based health messaging and communications across the health and care system.

The success of the London AQHPO lies in its partnership-driven approach, fostering collaboration across the health and care system. This includes working with the Mayor, NHS Trusts, Integrated Care Boards, Royal Colleges, academic institutions, and the voluntary and community sector. This coordinated effort promotes innovation and aligns air quality initiatives with broader health priorities, such as delivering a net zero NHS.

Case Study 3: The London HIV Fast Track Cities Programme

In January 2018, London's representatives signed the Paris Declaration on Fast-Track Cities, committing to work towards ending the HIV epidemic by 2030. Worldwide over 200 cities are now signed up to this ambition.[99] London's Fast Track Cities Initiative (FTCI) seeks to achieve zero new HIV infections, zero preventable HIV related deaths, and zero HIV associated stigma and discrimination by 2030 and ensure the best quality of life for Londoners living with HIV. London's participation was driven by a persistent HIV epidemic, which the city's leadership recognised required focussed and decisive action to address, as well as to align with the global commitment to end AIDS.

London has been a trailblazer in this work. In 2022, London became the first global city to meet and exceed the 2025 the United Nations' targets of 95:95:95, with 96% of people living with HIV infection diagnosed; 98% of people diagnosed receiving treatment, and 97% of people receiving treatment achieving viral suppression.[100]

Partnership working, co-production and collaboration have been central to the success of the London Fast-Track Cities programme. The leadership group guiding this programme brings together representatives from the GLA, NHS England, the Office for Health Improvement and Disparities, London Councils and people living with HIV, alongside healthcare providers, community organisations and research institutions.

The FTCI London Partnership funds the 'Getting to Zero' collaborative, which consist of partnerships between third sector organisations, working with the NHS and local authorities to deliver key initiatives across London in line with the strategic aims of the London Fast-Track Cities programme and the national HIV Action Plan, building an improvement community using quality improvement methodology.

These are innovative projects that improve HIV testing, enable people living with HIV to successfully engage with lifelong treatment and to support people living with HIV to live well. These projects particularly support more complex, vulnerable and marginalised communities in London. Additionally, the programme actively combats stigma and discrimination through its HIV ambassadors, who deliver educational sessions to health, care and public sector staff; and the HIV Confident Charter Mark, which tackles discrimination in workplaces and care settings. FTCI has worked with over 100 grass-roots organisations in London to tackle HIV stigma.

The London Fast-Track Cities programme has achieved significant results, consistently meeting and exceeding Joint United Nations Programme on HIV/AID (UNAIDS) targets for HIV diagnosis, treatment and viral suppression. It has also contributed to a decline in new HIV diagnoses in London, particularly among gay and bisexual men who have sex with men. While challenges remain, the programme exemplifies how collaboration, innovation and a commitment to equity can accelerate progress towards ending the HIV epidemic.

Case Study 4: The London Homeless Health Partnership (LHHP)

The London Homeless Health Partnership (LHHP), established in 2010, is a collaborative effort by the NHS, local authorities and the voluntary sector.[101] It addresses the stark health inequalities faced by London's homeless population. People who are homeless are estimated to die at an average age of 44 years and have higher rates of chronic illnesses compared to the general population.[102] Thirty percent of these early deaths are due to preventable illness.[103] The LHHP's mission is to improve access to healthcare, the experience of care and health outcomes for those experiencing or at risk of homelessness.

The partnership operates through four key components. Firstly, it improves the identification of homeless individuals within the healthcare system, including training healthcare professionals to recognise and respond to their needs. Secondly, the LHHP facilitates smoother transitions between healthcare settings and homelessness services, ensuring continuity of care. Thirdly, it advocates for service improvement and promotes best practices across the homeless health sector. Lastly, the LHHP is crucial in commissioning and funding services tailored to the specific needs of London's homeless population.

The partnership's collaborative approach has significantly increased the number of homeless individuals registered with a GP. Initiatives like the "My Right to Healthcare" campaign, which provides information and support for GP registration, have contributed to this success.[104] The partnership has also worked together closely to ensure that there is no discharge to the streets after a stay in hospital for those who are homeless. The LHHP also played a critical role in the COVID-19 pandemic response by working with partners to provide access to safe accommodation, healthcare services and testing, mitigating the pandemic's impact on the homeless.[105] Moving forward, partners in London remain committed to improving the lives of London's homeless population by working together to develop integrated solutions and building and mainstreaming learning to date.

Case Study 5: The London approach to racism and health

The London Anti-Racism Collaborative for Health (LARCH) is a collaborative programme and framework launched in 2023 to address the disproportionate impact of racism on the health of Londoners.[106] It was created in response to growing evidence of the detrimental effects of racism on physical and mental wellbeing, and the recognition that traditional approaches to tackling health inequalities were insufficient. The collaboration recognises, supports and builds on the extensive work already undertaken by partners across London – providing opportunities for cross-sector learning, reflection and improvement, with community voice at its core. It will drive our shared London commitment to tackling racism. The work of the collaboration will support health and care organisations across London to tackle ethnic health inequalities by implementing an anti-racist approach in support and service provision across the communities we serve.

The recently published Institute of Health Equity report, Structural Racism, Ethnicity and Health Inequalities in London, has added to that growing evidence.[107] LARCH's mission is to embed anti-racism across all levels of the health and care system, ensuring that everyone, regardless of their ethnicity, has an equal opportunity to enjoy good health.

Key components of LARCH include data collection and analysis to identify racial disparities in health outcomes, education and training for healthcare professionals to increase awareness of racism and its impact, and the development of culturally competent services. LARCH has also fostered partnerships between health and care organisations, community groups, and other stakeholders to co-produce anti-racism strategies. Through its implementation, LARCH has contributed to increased awareness of racism as a public health issue, improved data collection on racial disparities, and the development of anti-racist policies and practices within the London health and care system.

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3.5.1 Haringey: an example of a borough in a major city

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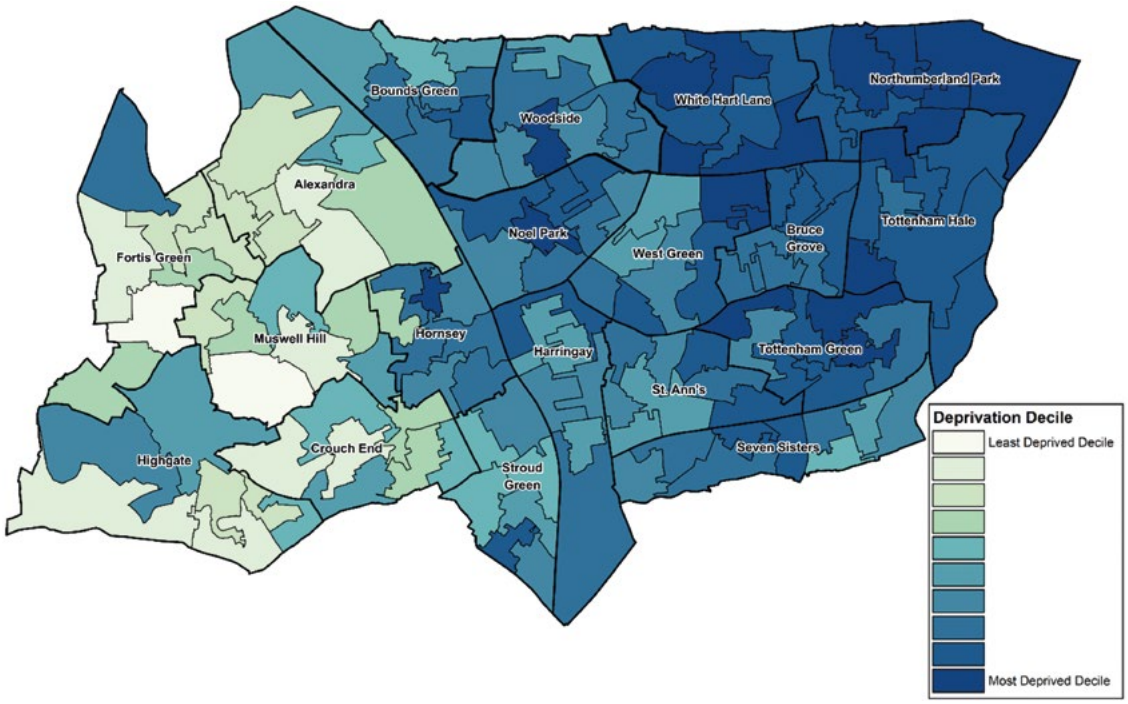
Background to Haringey

Haringey is a local authority situated in North London. Like many other London boroughs, Haringey has a diverse multi-ethnic population with areas of affluence alongside areas experiencing high levels of poverty. In Haringey there is a stark divide in levels of deprivation between the East of the borough and generally more affluent West of the borough, as shown in the map of deprivation at neighbourhood level below.

Figure 3.39: Map of Haringey showing deprivation levels at neighbourhood level

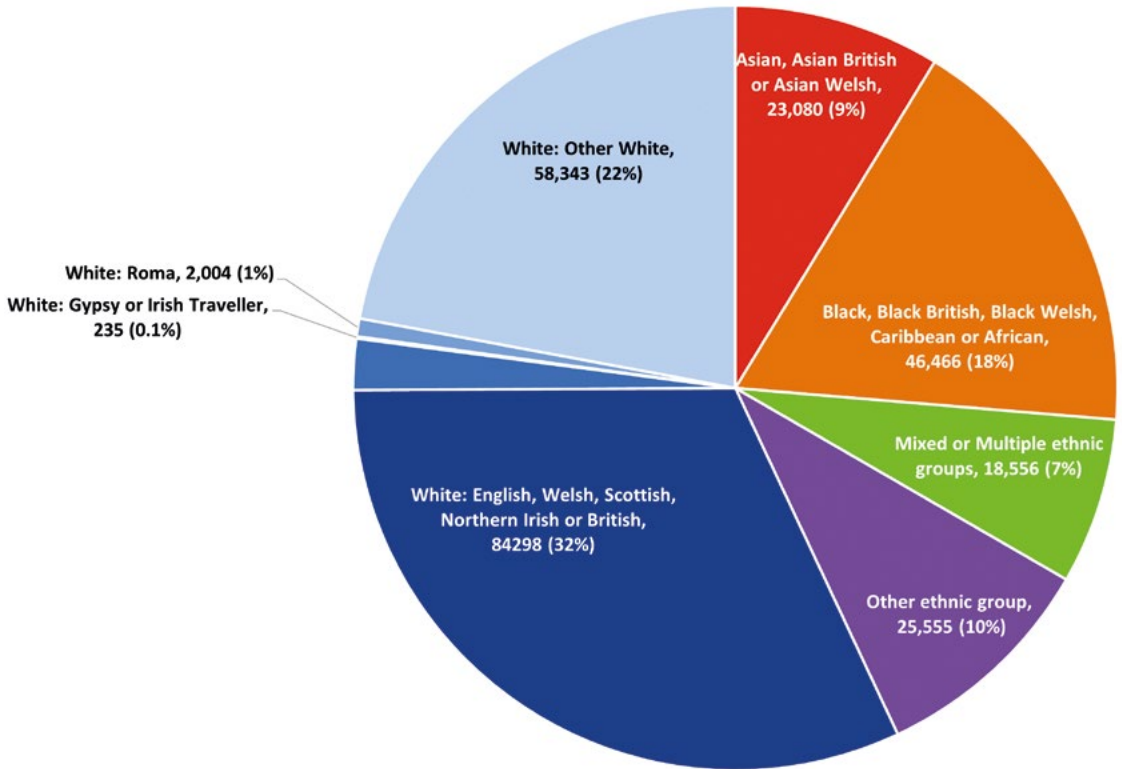


Source: Local analysis of English indices of deprivation 2019. Ministry of Housing. Published: 26 September 2019.

Our population

Haringey is home to 270,000 people.[1] Our population is highly diverse, as can be seen in Figure 3.40, with over 180 different languages spoken by residents.[2]

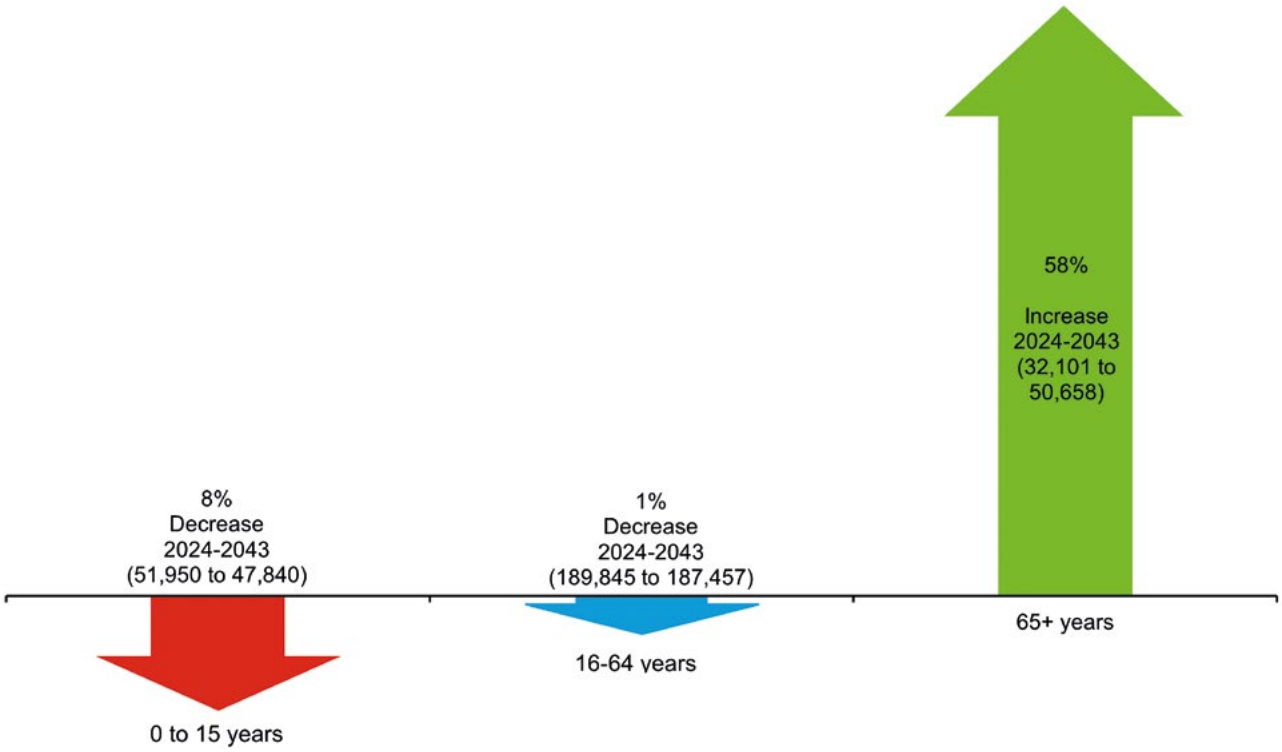
Figure 3.40: Haringey population by ethnic category, ONS Census 2021



Source: ONS Census 2011

While our population, like many cities, is relatively young compared to the national average, we are currently seeing a significant fall in the birth rate and significant ageing of our population (Figure 3.41).

Figure 3.41: Percentage change in Haringey population by age, between 2024 and 2043



Source: Office of National Statistics, Population Projections ONS Office for National Statistics, 2018

Haringey's strengths and challenges

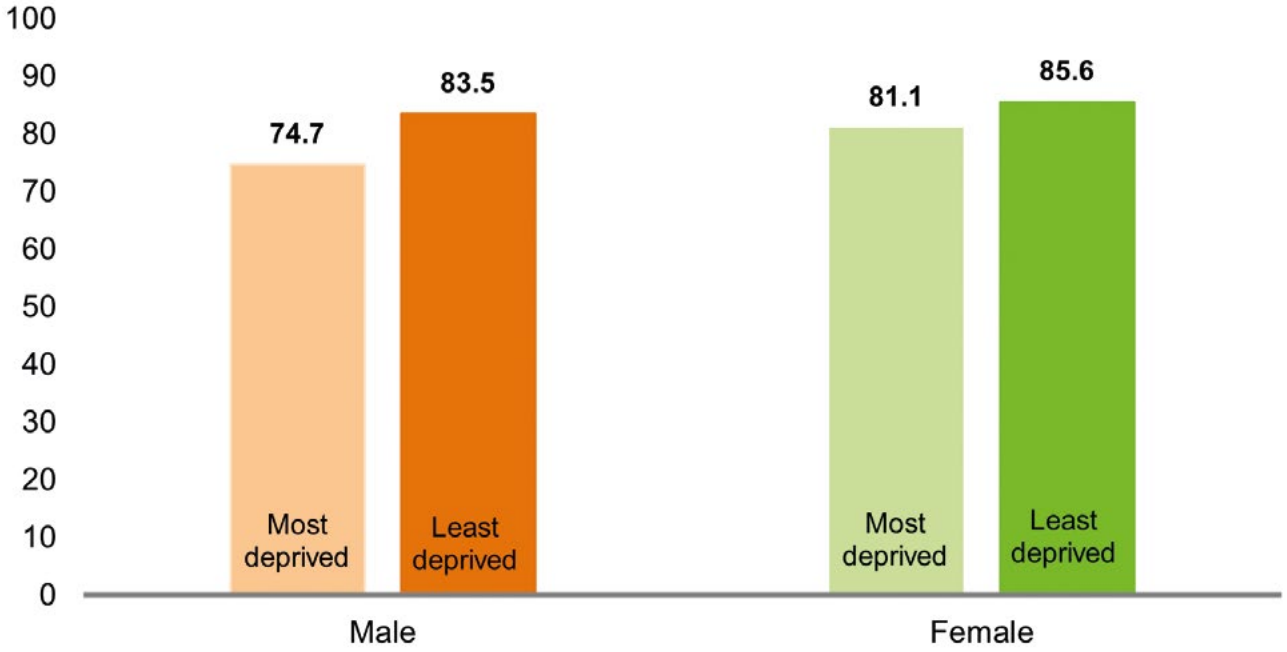
Haringey has many strengths and assets including, good primary and secondary schools, good public transport links into Central London, high-quality green spaces and cultural venues, as well as an active community and voluntary sector.

As with many parts of London, one of our main challenges is availability, quality and affordability of housing. Around one in 50 Londoners are without stable accommodation (mainly living in temporary accommodation), and in Haringey we have over 2,700 families in temporary accommodation.[3] We also have high levels of economic inactivity in the more deprived East of the borough. This combination creates significant pressure for many of our residents, which is a barrier to living a healthy and fulfilling life.

Health challenges

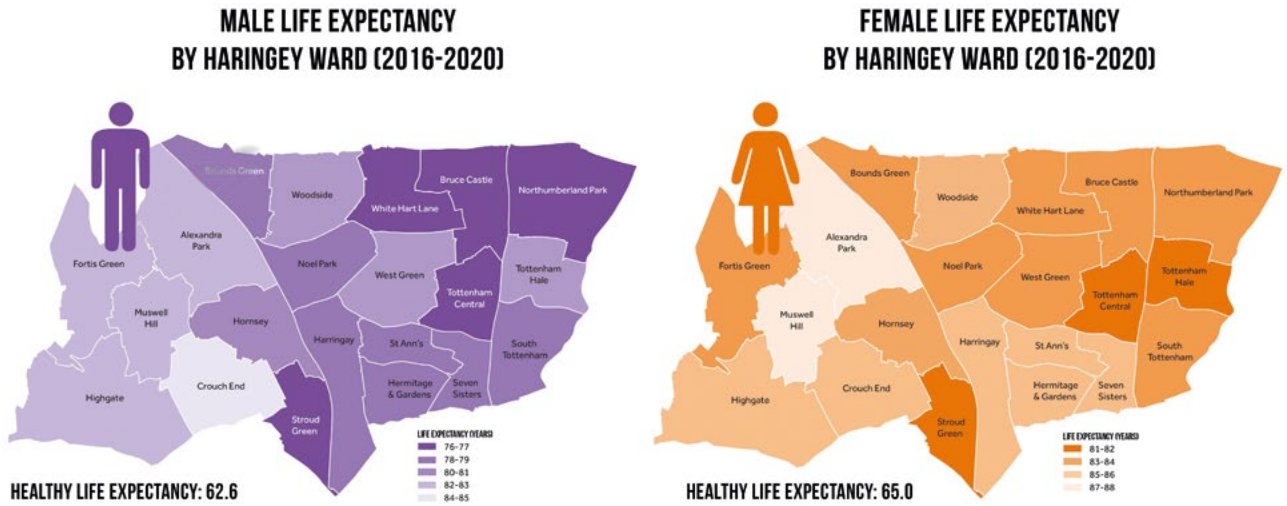
While overall levels of life expectancy for men are comparable to the national averages and for women higher than the national average, this masks deep levels of inequality in life expectancy and healthy life expectancy between the East of the borough and more affluent West of the borough (Figure 3.42; Figure 3.43).

Figure 3.42: Life expectancy by deprivation and sex, Haringey



Source: PHE Fingertips. Inequality tools: Segment tool. Office for Health and Improvement Disparities

Figure 3.43: Male and female life expectancy by Haringey ward (2016-2020)



Source: Fingertips. Local health, public health data for small geographic areas. https://fingertips.phe.org.uk/profile/local-health

As well as inequality linked to geography and poverty within the borough, there are also inequalities experienced by population groups including people from black and other minoritised groups, people with English as a second language, people experiencing rough sleeping, people with serious mental illness and disabled people.

In terms of particular health issues, the main causes of death (cancer and cardiovascular diseases) are similar to those seen nationally. Examples of areas where we have specific challenges include high rates of serious mental illness in Haringey. Prevalence of severe mental illness is 1.3% compared to 1.0% nationally. We also have challenges, which we see across London in vaccination and cancer screening rates. For example, uptake of at least one dose of MMR (measles, mumps and rubella) vaccination at age 5 is 81.2% in Haringey compared to the England average of 92.5%[4] and uptake of bowel cancer screening is 60.5% in Haringey compared to the England average of 72.0%.[5] There are some areas where we have good outcomes compared to national averages. These include low suicide rates (5.2 suicides per year per 100,000 people in Haringey, compared to the England average of 10.3),[6] and lower levels of overweight and obesity in adults (48.5% in Haringey compared to the England average of 64.0%).[7]

How we are tackling our health challenges in Haringey

We work collectively and in partnership with our diverse communities to tackle the health challenges in Haringey, as part of an approach called The Haringey Deal. Because of the high levels of health inequalities in the borough we need to understand and work with our many different communities in order to make improvements. Our vision is that all people in Haringey should have the opportunity to be happy and healthy, regardless of their wealth, ethnicity, religion, gender, sexuality or whether they are disabled.

We work together through an active Health and Wellbeing Board comprising of elected councillors, senior council leads, our local hospital trusts and NHS leads, as well as community and voluntary sector representatives. Haringey is part of the North Central London integrated care system with four other boroughs, where we work closely to improve population health for our residents. We also work at London level in partnership with other councils, the London Mayor's Team (Greater London Authority), the Office for Health Improvement and Disparities (OHID) and the UK Health Security Agency (UKHSA).

A new Health and Wellbeing Strategy

We are currently developing a new Health and Wellbeing Strategy to set out our collective priorities for improving health and tackling health inequalities in the next 5 years in Haringey. The priorities of the strategy were identified by speaking to residents and community groups about the issues that mattered most to them relating to their health as well as looking at data on some of the key issues in Haringey.

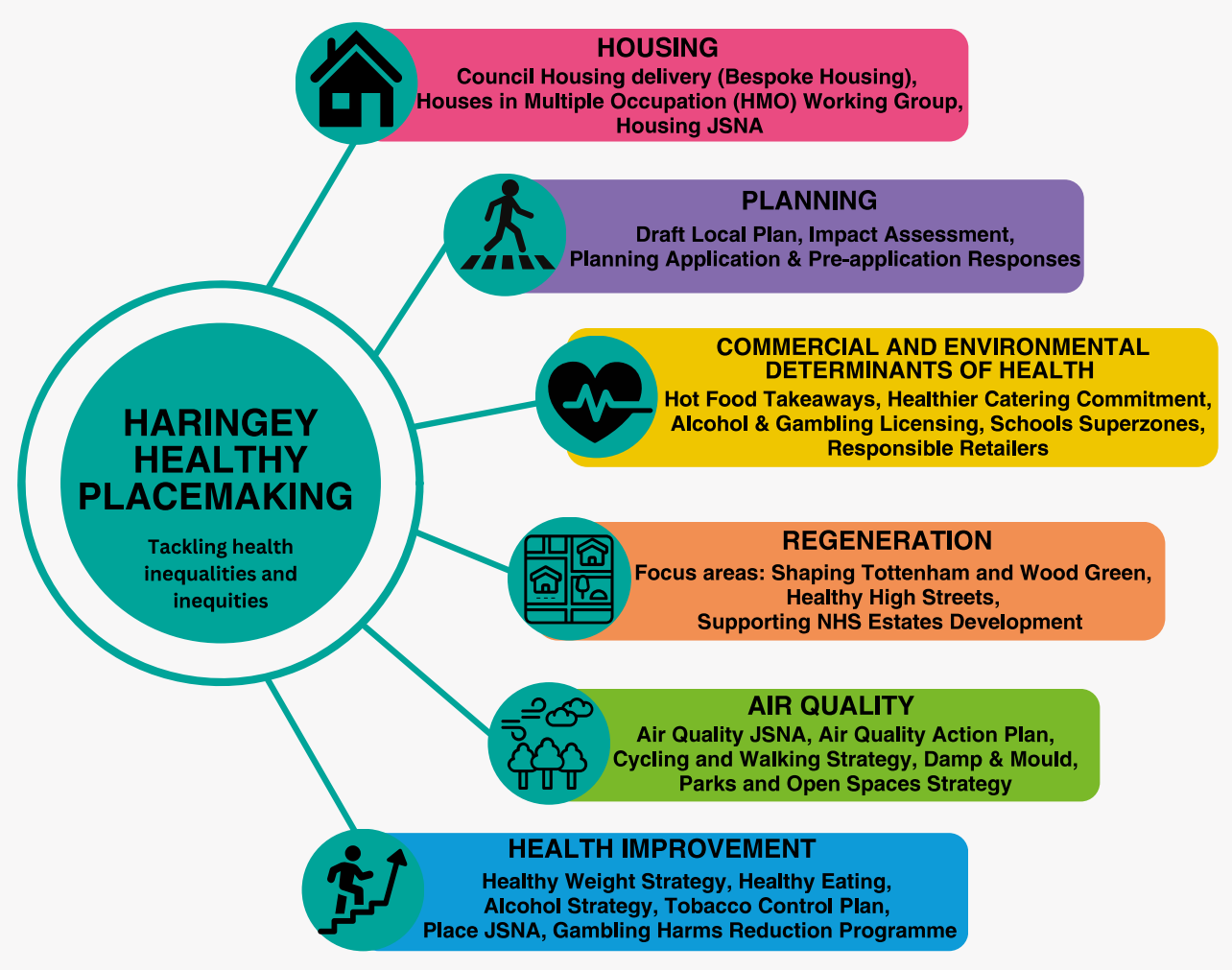
The overarching aim of the new Health and Wellbeing Strategy is to work with our communities to improve health and reduce health inequalities. The strategy is then split out into themes as set out below.

Figure 3.44: Themes of the new Haringey Health and Wellbeing Strategy

Taking a Health in All Policies approach

To support delivery of our health and wellbeing aims, Haringey Council has been committed to a Health in All Polices (HiAP) approach since 2017. This is a collaborative approach focused on improving health and health equity by incorporating health considerations into policy and service areas. We work across the council with planning, housing, regeneration and environmental health (and many more teams), as well as with the NHS, community sector and other partners.

Figure 3.45: Taking a Health in All Policies approach



We have described the strengths of the borough and the challenges we face and our overall approach to tackling these challenges in the sections above. In order to illustrate some specific areas of work, the following sections explore some case studies and examples of the range of programmes we have in place, aligned to the themes of our new Health and Wellbeing Strategy.

Housing and health

Case Study 1: Mulberry Junction

Mulberry Junction is Haringey's resource centre designed to address the diverse needs of individuals who are homeless or at risk of homelessness.

- Located in Tottenham, the centre serves those aged 18+ who may be rough sleeping, sofa surfing or facing eviction. Residents can access services directly without a referral.
- What sets Mulberry Junction apart is its comprehensive service model and its commitment to accessibility and immediate support with as few barriers as possible.

Mulberry Junction offers a range of services tailored to different times of the day. In the morning (9am-12pm), guests can use the facilities – laundry, showers and computers, while also receiving essentials like food, hot drinks and period products.

During this time, the team is available to discuss and address housing, health, benefits and wellbeing issues, connecting guests with necessary support.

The service works in partnership with the GP Federation Homeless Health Inclusion Team, Barnet, Enfield and Haringey NHS Mental Health Trust and a wide range of Council and VCS services.

In the last 3 years, over 1500 people have attended Mulberry Junction.

During this time, we have learnt that delivering health services on site and in a flexible way enables people to engage and improves health outcomes.

Streets Fest, a support festival for people experiencing street homelessness in Haringey or Islington

Case Study 2: Haringey Council homebuilding programme

- To tackle the challenging housing situation the new Housing Strategy for Haringey (2024 to 2029) focuses on delivering new, better, and healthier homes, places and services.
- As part of this, we are building **3,000** new high quality council homes by 2031. This programme hopes to alleviate the health implications of housing insecurity such as increased risk of poor mental health and cardiovascular disease.
- 32% of those in the most urgent need on the housing register in Haringey have a disability, so **300** of the new homes will be bespoke for residents that have the greatest need. This needs-led approach involves a team of experts co-designing with residents to ensure their new home is fit for purpose and can support more independent living.

(Left) Walter Tull Housing with 130 Council homes in Tottenham Hale. On the ground floor there is the new Welbourne Health Centre, benefitting 25,000+ residents. (Right) shows the play-space and some of the new homes at St William in Wood Green.

Preventative health and care

Case Study 3: ABC Parents

ABC parents: Postnatal fitness sessions to improve wellbeing, encourage healthy habits and use of free parks

ABC Parents, "Achieving a Better Community" are a team of children's doctors, nurses, healthcare assistants and resuscitation officers from North Middlesex Hospital who provide courses, resources and enable peer support for Enfield and Haringey parents and carers.

- ABC Parents aim to increase parental knowledge, build confidence and encourage appropriate utilisation of healthcare resources, particularly, reducing unnecessary A&E attendances.
- ABC Parents address shared public health priorities including poor rates of sustained breastfeeding, vaccination, vitamin D uptake, poor oral health, inadequate housing and even unemployment.
- The clinical and community workforce advocates for local families providing real-time help and interventions through regular outreach, workshops, and peer support.
- Each week, the project delivers free Child Health & Lifesaving courses, online health workshops (topics chosen by parents), breastfeeding drop-in groups, neonatal unit support groups, postnatal fitness sessions and champions-led WhatsApp groups.

- Focusing the outreach and programme delivery in the most deprived areas increased accessibility, reduced stigma and established advocacy for the most vulnerable families in Haringey and Enfield.
- ABC Parents have successfully delivered first aid courses in Albanian, Turkish, Polish and Arabic.
- These targeted provisions, alongside our free childminding facilities, epitomise ABC Parents' commitment to coproduction, accessible parent education, tackling social inequalities and partnership working.

"It takes a village to raise a child", ABC parents Child Health & Lifesaving Course delivered in Albanian

The Haringey Multi-Agency Care and Coordination Team (MACCT)

Haringey's over age 65 population is projected to increase by almost 60% over the next two decades (Figure 3.41). In the context of an ageing, diverse population, integrated approaches to meet the needs of older adults with frailty and/or multiple long-term conditions are vitally important.

- In the MACC Team, professionals from Primary Care, Adult Social Care, Adult Community Services, Voluntary Sector and Secondary Care Mental Health work together to jointly identify, plan, coordinate and support the needs of predominantly older people with frailty.
- The team provides a range of innovative interventions, from the multi-disciplinary team, which supports and works with each other until the client's health and social care needs are identified and met.
- The MACC Team has had a significant impact, supporting over 2000 older adults in 2023/24 and reducing Emergency Department and hospital admissions by an impressive 40%. This equates to £1+m cost mitigation in acute activity alone.
- This success is a direct result of the programme's focus on reducing health inequalities, with over 30% of clients from high-deprivation wards.
- MACCT is a trusted service by clients, their support networks, professionals and community groups across the borough.

- This level of trust and impact is reflected in client-reported feedback: 94% of patients felt support was well-coordinated, 91% felt they received the support they felt they needed, 62% felt their health had improved or was better managed and 71% felt better able to manage daily living.

Healthy place shaping

Case Study 4: Gambling Harms Reduction Programme

- In 2022, it was estimated that the cost of harmful gambling in Haringey was £8.6 million pounds (includes social care, criminal justice system and the NHS).[8]
- People who gamble are twice as likely to die by suicide.
- The Haringey Gambling Harms Reduction Programme was started in response to these challenges and the proliferation of premises on high streets in vulnerable areas of the borough.
- The programme aims to prevent, reduce and mitigate the negative consequences associated with gambling activities on individuals, families and communities.
- We are delivering this via six core elements, shown in the figure below, with four cross-cutting themes: partnership (a focus on co-production with residents and people with Lived Experience), improving data and evidence, strategic work and policy change.

Figure 3.46: Haringey gambling harms reduction programme

The School Superzones Project

- The School Superzones Initiative supported by the Mayor of London aims to protect children's health and enable healthy behaviours, using local authority levers and place-shaping opportunities to implement actions to tackle health determinants in the areas surrounding schools.
- Work in Haringey has included: improving the quality and accessibility of an underutilised green space for all to enjoy; delivering cycle training and maintenance classes to encourage more active travel to school; and developing guidance and raising awareness on the harms to young people of vaping, working with range of a partners including Trading Standards.
- One of our major achievements has been implementing a healthy advertising, promotions and sponsorship policy to restrict foods with high fat, sugar and salt (HFSS) content amongst other issues, the first council in the country to do so.

Summary of key points for wider learning

Haringey is a highly diverse borough within the diverse city of London. Understanding who our communities are at a very local level allows us to develop services that address the significant health inequalities that exist within the borough.

We have designed local programmes of work alongside particular communities such as the examples here for people experiencing homelessness, frail older people and new mothers in deprived neighbourhoods. These programmes direct resources to these communities and meet their health and wider wellbeing needs.

When tackling the wider issues that impact health such as housing and air quality it is important to understand and use the local policy levers we have at Haringey level. We also need to work with regional (London level) and national government to influence the policy levers that are held at these levels. This is taking a Health in All Policies approach and requires strong local and regional multi-agency and multi-professional partnerships.

Housing and homelessness are particular issues across London where we have to work within a challenging context in Haringey. We have brought health and housing partners together locally to put interventions in place, including a significant programme of work to build high quality social housing and improve the quality of existing homes, as well as programmes to support residents who are homeless.

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3 Kenyon M. Temporary housing: The human cost of a 'broken' system. [online]. Local Government Chronicle: Croydon; 2023 [Accessed 4 November 2024]

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5 Office for Health Improvement and Disparities (OHID). Public Health Outcomes framework tool. [online]. OHID; 2023 [Accessed 4 November 2024]. Available from: https://fingertips.phe.org.uk/profile/public-health-outcomes-framework.

6 Office for Health Improvement and Disparities (OHID). Suicide Prevention tool. [online]. OHID; 2020/22 [Accessed 4 November 2024]. Available from: https://fingertips.phe.org.uk/profile-group/mental-health/profile/suicide.

7 Office for Health Improvement and Disparities (OHID). Public Health Outcomes framework tool. [online]. OHID; 2022/23 [Accessed 4 November 2024]. Available from: https://fingertips.phe.org.uk/profile/public-health-outcomes-framework.

8 Annual Great Britain Treatment and Support Survey. Gambling Prevalence, Harm and Support Map. [online]. Gamble Aware; 2022 [Accessed 4 Novmber 2024]. Available from: https://www.gambleaware.org/gambleaware-gb-maps-local-authorities

3.6 Manchester City

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Thanks for the support of the communications team: Yvonne George, Mike Carter and Craig Green, Manchester City Council.

Ensuring everyone benefits from the city's success


Withy Grove, Manchester (left); New Bailey, Manchester (centre); Rochdale Canal, Manchester city centre (right)

The city of Manchester is known for excellence in culture, sport, music and academia and for the rise of its infrastructure and economy after decades of post-industrial decline. It has developed an international reputation as a desirable place to live, work, study and visit. Cities are often a destination for people seeking opportunities, and Manchester has a long history of welcoming migrant communities.

Like those of many cities around the world, the strengths and attractions of Manchester bring with them their challenges and the potential for health inequalities, the most marginalised residents and communities being the hardest hit. Population health challenges are complex. Residents can experience multiple disadvantages due to homelessness, substance misuse, trauma and mental ill health, exacerbated by the added complexity of systemic discrimination and the challenges they face navigating the array of services in a big city.

The nature of the city also defines the approach needed to improve health equity. This approach includes:

(i) inclusive **community** engagement and involvement that recognises the cultural diversity of the population, from the breadth of ethnicities to LGBTQ+ communities.

(ii) focus on **place** and ensuring the built environment and regeneration programmes are developed to maximise health benefits, such as social contact, green space, physical activity, and clean air.

(iii) strong multi-sectoral and multi-agency **partnerships** enabling local residents to get the most out of the city's assets that are the foundations for good health – warm, dry, safe homes; good education, training and income; and accessible services that are culturally competent and trauma responsive.

Figure 3.47: Health inequalities in Manchester

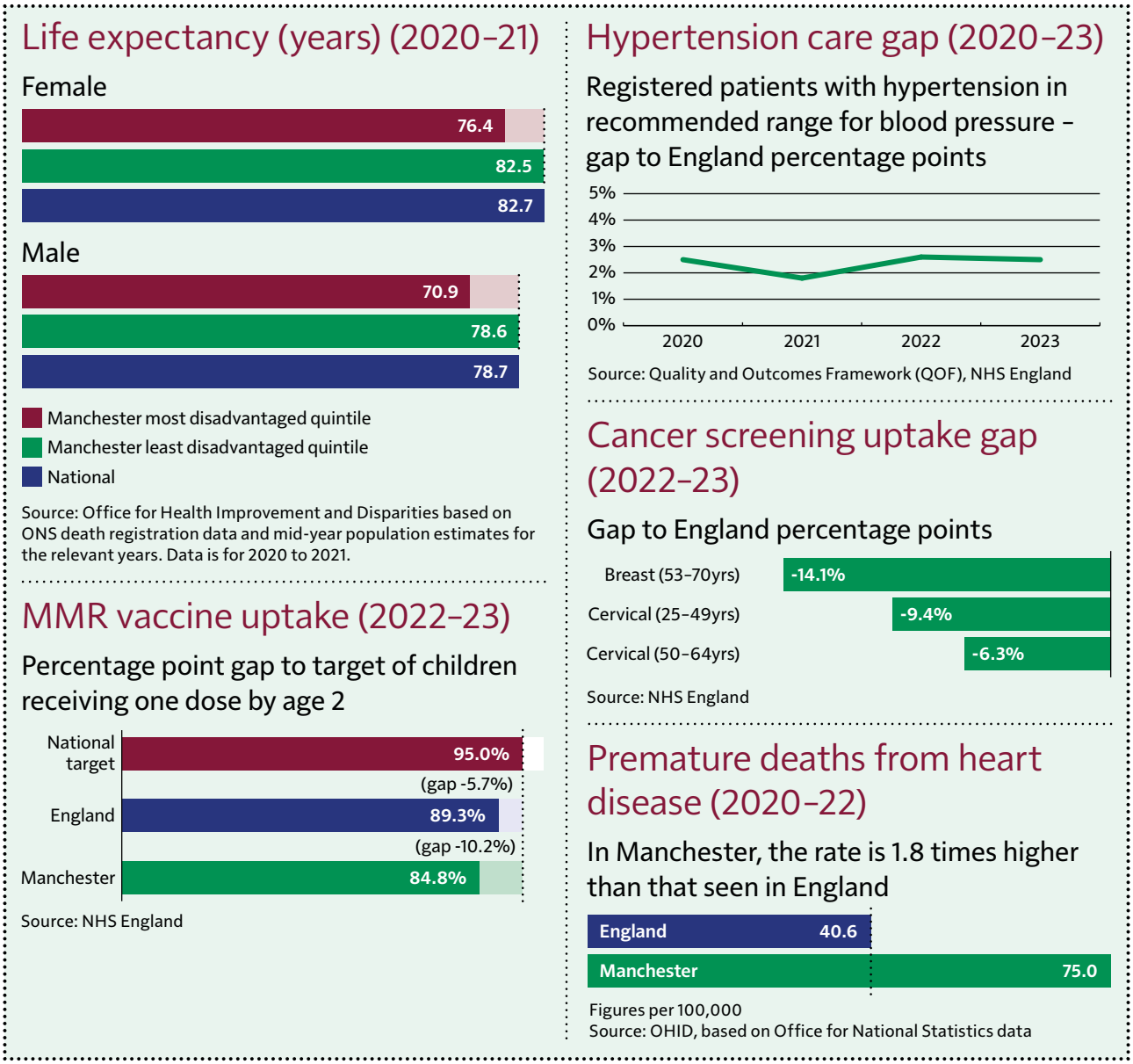
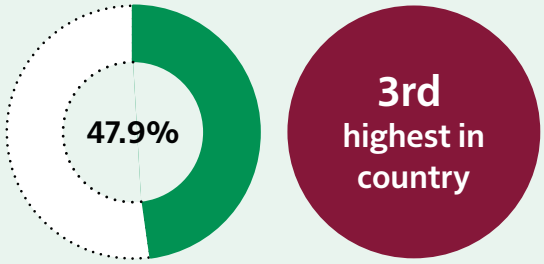


Figure 3.48: Child poverty, homeless children and income gap in Manchester

Children in poverty (2022–23)

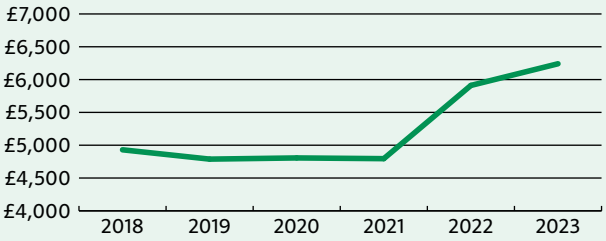
Defined as below 60% of the average (median) income after housing costs.



Source: Greater Manchester Poverty Action (GMPA)

Income gap (2018–23)

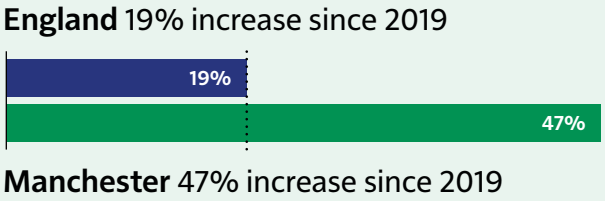
Difference in median income between city residents and city workforce



Source: Annual Survey of Hours and Earnings (ASHE), Office for National Statistics

Number of homeless children in temporary accommodation (2024)

Source: Department for Levelling Up, Housing and Communities (August 2024)



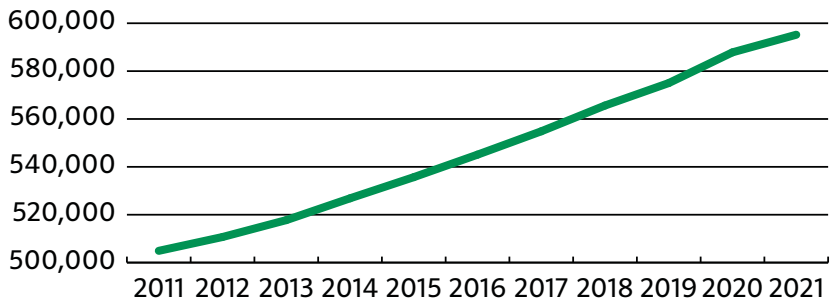
The city's recovery from COVID-19 is embodied in the 'Our Manchester Strategy'[1] (a strategy for success owned by the whole city) and the dynamic 'Making Manchester Fairer' programme[2] (a plan to improve health equity, which combines the city's anti-poverty strategy and focuses on the social and economic determinants of health). There is a strong commitment to improve mental and physical health outcomes and life chances, and include all communities justly in the life of the city.

Manchester's characteristics as a city

A young, growing and diverse population

As the world's first industrial city,[3] Manchester has two major universities that have their origins in the industrial revolution. Many of the universities' students decide to remain in the area, contributing to the relatively young population of the city. Around 30% of the population are aged between 20 and 34 (Manchester City Council Forecasting Model (MCCFM) W2023), significantly higher than the England figure of just under 20%. It is estimated that by 2031 there will be an additional 19,000 people in this age group living in the city (MCCFM W2023), which has implications for both the types of public services required and how these services are delivered.

Figure 3.49: Graph showing the population growth of Manchester. This is twice the national average and is driven in part by a significant rise in net international migration, a strong labour market and continued growth in city centre accommodation.



Source: MCCFM W2023 (provisional) Shared Intelligence, PRI, Manchester City Council, 2024. These data are experimental statistics used for illustration and may not accord with officially published estimates.

Manchester's diversity is reflected in the 2021 Census. Over half of the population (51.3%) are from Black, Asian and other minoritised ethnic groups. Nearly a third (31%) of the population were born outside the UK. At least 94 languages are reported as being spoken as a main language, and over the past ten years there has been a significant increase in main language speakers of Urdu, Arabic, Spanish, Portuguese, Italian and Romanian. 61.6% of respondents had a religious affiliation including Christian (36.2%), Muslim (22.3%) and 34.5% reported having no religion. As part of the LGBTQ community in Manchester 3.7% identify as gay or lesbian, 1.4% bisexual and 0.2% as Trans.[4]

A rapidly developing economy and built environment

Economic development has been a constant fixture, as industries and services have continued to develop and change. The city is working towards a zero-carbon future through its increasing recycling rates, protected parks and multi-agency action against the city's carbon reduction and climate-change plans.

Economically, large parts of the city have been transformed in recent years, resulting in new housing, businesses that create good jobs, better transport and a varied culture and leisure scene.

The North Manchester Strategy[5] is a current example. Its goal is to stimulate prosperity and civic regeneration through a placemaking approach to healthcare and housing investment that embeds health promotion in urban design, drives the social determinants of health and improves population health outcomes at scale.

At North Manchester General Hospital, the masterplan for a new sustainable health campus includes:

- A new best-in-class acute hospital, modern mental health inpatient unit and community-based health and wellbeing services, all embracing integration, innovation and technology
- Training and employment opportunities for staff and the community
- A new residential community focused on keeping people well at home

- Commercial space focusing on healthy ageing, research and business development
- Good-quality outdoor space, encouraging healthy activity and connection to the local neighbourhood.

Other developments in the North Manchester Strategy include Victoria North, where seven neighbourhoods – equivalent to the size of a new town – will provide 15,000 good quality homes at a social, affordable and market rate. There will be new health and education facilities, transport improvements and new public spaces – including a 46-hectare city river park ideal for recreation and active travel.

The city's approach to improving health

1. Community

Meaningful community engagement and involvement with the health and care system are essential for a city determined to respond to the needs of its population.

Community Health Equity Manchester (CHEM) was set up in July 2020 in response to the disproportionate impact of COVID-19 on disabled people, communities impacted by racial inequalities and others who experience exclusion in some health settings. It has since been developed to address wider health challenges within the target communities.

CHEM has built critically important trust with communities through collaborative whole-system working, influence and advocacy. It brings together a diverse strategic leadership group that works through grassroots 'sounding boards' and engagement groups that represent the target communities.

Manchester's commitment to become a City of Sanctuary, where organisations work together to improve services for those seeking sanctuary, relies on a system-wide, collaborative approach to developing healthcare and wider support services to meet the needs of people seeking asylum.

This includes specialist provision to address the poor health, trauma and discrimination that those seeking sanctuary can experience. Gaining the trust of asylum seekers and raising awareness of symptoms are key, and this has been critical in the design and delivery of these services. A typical example sees statutory organisations partnered with a VCSE (voluntary, community and social enterprise) sector organisation to support the engagement of people at risk of tuberculosis.

Through our Patient and Public Advisory Group, we are also investing in developing and encouraging 'patient leaders' who make sure that lived experiences inform and influence our work. This group gave integral support to Manchester's successful bid for funding from the National Institute for Health and Care Research to establish a health determinants research collaboration in the city. Following a successful development year, this could bring £5 million to fund grassroots research activities that inform our decision-making and actions to improve public health.

The example below highlights the inclusive approach needed in an ethnically diverse city.

Community leadership and decision-making embedded in the Making Manchester Fairer programme: quote from board member Safina

"I came to the first of my several Making Manchester Fairer Board meetings in October 2023. I've been really struck by how hard the team are working to understand the issues faced across Manchester's global majority communities, and how they are inviting constructive dialogue to aid progress while recognising the gaps and challenges that exist.

"I'm a VCSE representative, and I applied because the recruitment process recognised that those working directly with underserved and marginalised groups (such as Bangladeshi women and their families in my case) needed the opportunity to scrutinise activity that was already happening, or being proposed. They also needed to play a role in developing meaningful solutions to decrease the inequity experienced in our city.

"I think it is particularly important to note that anti-racism has its own workstream and is also a cross-cutting theme in the Making Manchester Fairer Strategy and its implementation plan.

"I'm really looking forward to building on the foundational work to date and delivering change centred on the voices of our global majority communities across Manchester through this work."

2. Place

In the north of Manchester, beyond the city centre, people experience some of the highest socioeconomic disadvantage and poorest health and life outcomes in the country.

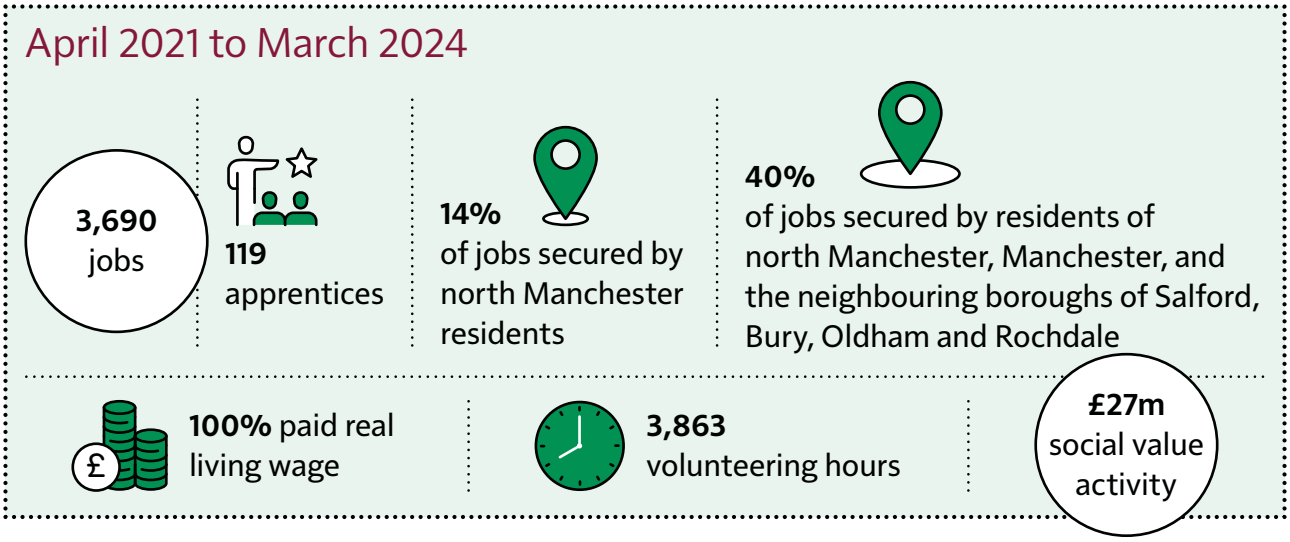
Like all cities, Manchester's areas have their own identities, communities and socioeconomic conditions. A sustained focus on **place** in the north of the city is helping partners build deep connections and operate creatively to address inequalities and maximise potential.

The Winning Hearts and Minds programme is a good example. Established to address long-standing inequalities in heart health and mental health, its fieldworkers – recruited from and embedded in local communities – are building relationships and trust and supporting community-led initiatives to improve health and wellbeing. They are also connecting communities to wider initiatives, such as Making Manchester Fairer.

In north Manchester – as part of the North Manchester Strategy – the Council and NHS organisations are mobilising Making Manchester Fairer, by acting as 'anchor institutions' utilising the city's resources through industry, academia and housing. Along with the involvement of communities, this will maximise the impact of the unique set of health and housing-led developments that are taking place within a few miles of each other.

Central to this approach is driving the social value of the developments for residents. The number and range of businesses that are based in a city create great potential for social value. The north Manchester developments have transformational potential with a value of around £4.5 billion over two decades. A North Manchester Social Benefits Framework[6] translates pledges into positive impact for the local population across five themes: education, employment and skills; health and wellbeing; community resilience; digital; and zero carbon.

Figure 3.50: Infographic showing social benefits of local developments in north Manchester



The example below highlights the impact of our approach to social value in north Manchester.

Jackson: building a better life

Jackson is getting his life back on the right track following a nine-month prison sentence. Morgan Sindall have employed Jackson as a labourer, working with social enterprise We Are Footprint, which specialises in opportunities in the construction sector for disadvantaged groups:

"I am grateful for the second chance that I have been given and the trust put in me by many. When I look how far I've come in such a short space of time I feel very rewarded. My routeway into the industry was down to my time in prison, as I had the chance to take part in a number of taster sessions in construction arranged by Footprint. I sat my CSCS (Construction Skills Certification Scheme) and passed! I was so glad. I was then introduced to Morgan Sindall, where I am now employed as a labourer, working towards becoming a banksman."

(Source: Morgan Sindall, 2024)

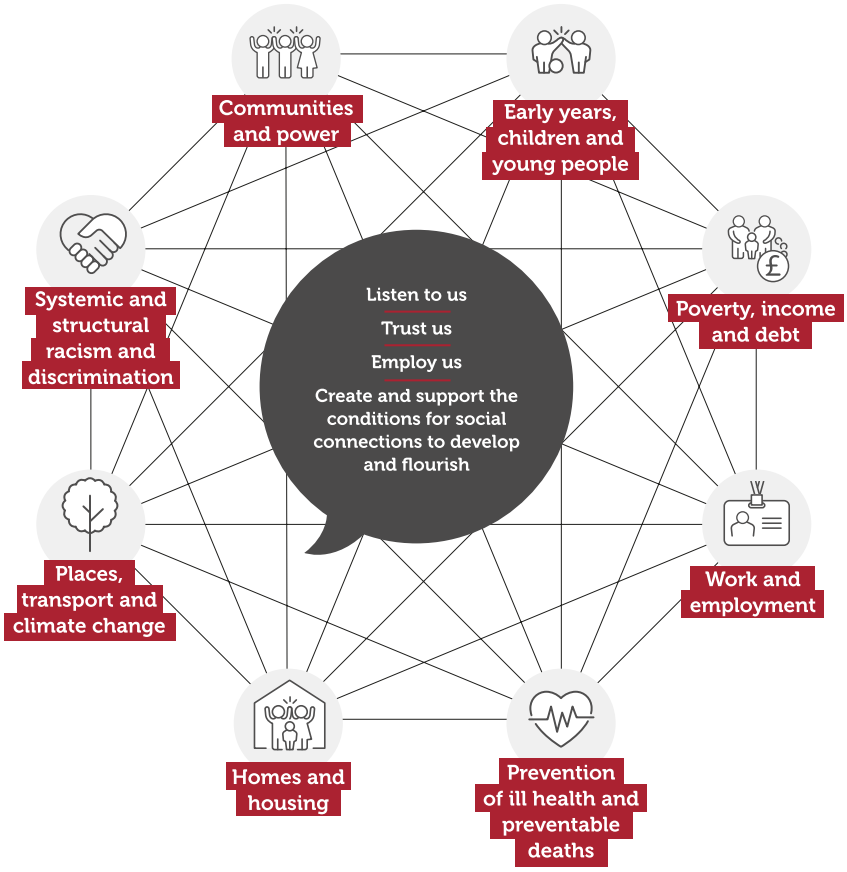
3. Partnerships

Partnership working is at the core of Manchester's approach to improving residents' health and wellbeing. The approach is influenced and strengthened by the wide range of organisations that work in proximity in and around the city.

In a dense and heavily populated city, a large variety of organisations operate across many sectors with sometimes overlapping areas of focus. Partnership working on shared goals can benefit population health, while the converse is fragmentation and the potential to widen inequalities. Many partnerships in Manchester were galvanised by the response to COVID-19 and the cost-of-living crisis. Through public sector reform, including the integration of health and social care, new infrastructures such as Integrated Neighbourhood Teams have been created that offer transparent and more resilient ways of working across organisations. By embedding partnerships at neighbourhood, city and system levels, and ensuring that VCSE partners and communities have a growing voice and influence, the conditions have been created for joined-up, co-designed and jointly commissioned activities that drive health outcomes and create health equity.

Manchester's approach is set out in its Making Manchester Fairer action plan. Focusing on the wider determinants of health, this plan was developed in collaboration with system-wide partners who share Manchester's ambition and commitment to improve health outcomes and create a fairer Manchester.

Figure 3.51: Making Manchester Fairer Framework



Source: Manchester City Council

Manchester's innovative ways of working are exemplified in the Making Manchester Fairer 'kick-starter' schemes. The Early Help for Adults kick-starter supports adults with multiple disadvantage who are below thresholds for support from statutory services. It includes place-based partnerships, known as Multi-Agency Prevention and Support forums, which bring together place-based services to provide people with support tailored to their needs, also strengthening links between them and their community. Many of these clients now have the confidence to access community-led services or have begun to volunteer or deliver local activities themselves, or both.

The Children's kick-starter scheme provides holistic support for children and families, focusing on schools and areas with poorer outcomes. The scheme provides targeted schools with additional support-worker resources and educational interventions such as speech and language therapy. It also establishes school 'taskforces' consisting of statutory, non-statutory and VCSE representatives. These taskforces identify the specific needs of the school community and collaboratively provide direct advice and support services to meet those needs.

Here's what this novel approach means to children's Kick-starter Support Worker, Alexandra:

> *"Parents were telling us in school that housing is an issue. So we arranged for a housing rep to join the taskforce. This led to housing charity Shelter coming into school along with Council homelessness services staff.*
>
> *They've been well received and helped many parents with their housing issues. Citizens Advice have also been to school events, offering budgeting and financial advice and support, which I'd say are the main repeat issues we see, given the levels of poverty in the area.*
>
> *It was a bit of a surprise when families also showed an interest in the smoke-free service, so the taskforce arranged for them to come into school. We weren't at all sure they'd be well received, but they got quite a big uptake from parents who wanted to stop smoking.*
>
> *It's a good example of the taskforce making it possible to respond to the families' asks."*

Summary

Cities face a unique combination of opportunities and challenges that can compound health inequalities but also define the approach to addressing them. Action to address this in the city of Manchester is not new, but in the wake of the COVID-19 pandemic and increasing household poverty, there is a re-energised spirit of determination to ensure that all residents benefit from the city's success and the health gap is narrowed. The shared ambition brings a glimmer of hope, but a number of things will be required locally, regionally and nationally if the ambition is to be realised.

- Sustain and strengthen the integrated neighbourhood model of care that is person centred, addresses the social determinants of health and gives parity of esteem to mental and physical health. Integrated Care Boards can enable this if they prioritise resource and delivery

at locality level, where the unique knowledge, perspectives and relationships with communities lie.

- Build trust with all communities that currently feel their voices aren't heard, by engaging, listening, respecting and responding to their views and involving them in the decisions and plans that affect them. This requires an intersectional approach that recognises the multiple forms of discrimination an individual or community can face, as well as a resourced and enabled voluntary, community, faith and social enterprise (VCFSE) sector.
- With a relatively young population, a stronger focus on the wellbeing, social and emotional development of children and young people is required, particularly as they transition into adulthood. This needs investment in evidence-based approaches, as well as the development and testing of new approaches, co-designed with young people to address the emerging impact of modern challenges such as social media.

Sustained long-term funding for the prevention of ill health, with flexibility for local determination of approach linked to the delivery of outcomes, will be critical to success. For cities, it is essential that funding regimes and policy frameworks take account of the characteristics that make them different from towns or rural places. For Manchester this means recognising the needs of its growing, multicultural and younger-than-average population; working with local leaders to take action on inequalities and to secure inclusive growth that benefits all communities; and creating services that are culturally competent and sufficiently resourced to respond to the needs of a diverse and densely populated city with complex challenges.

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3.7 Newcastle

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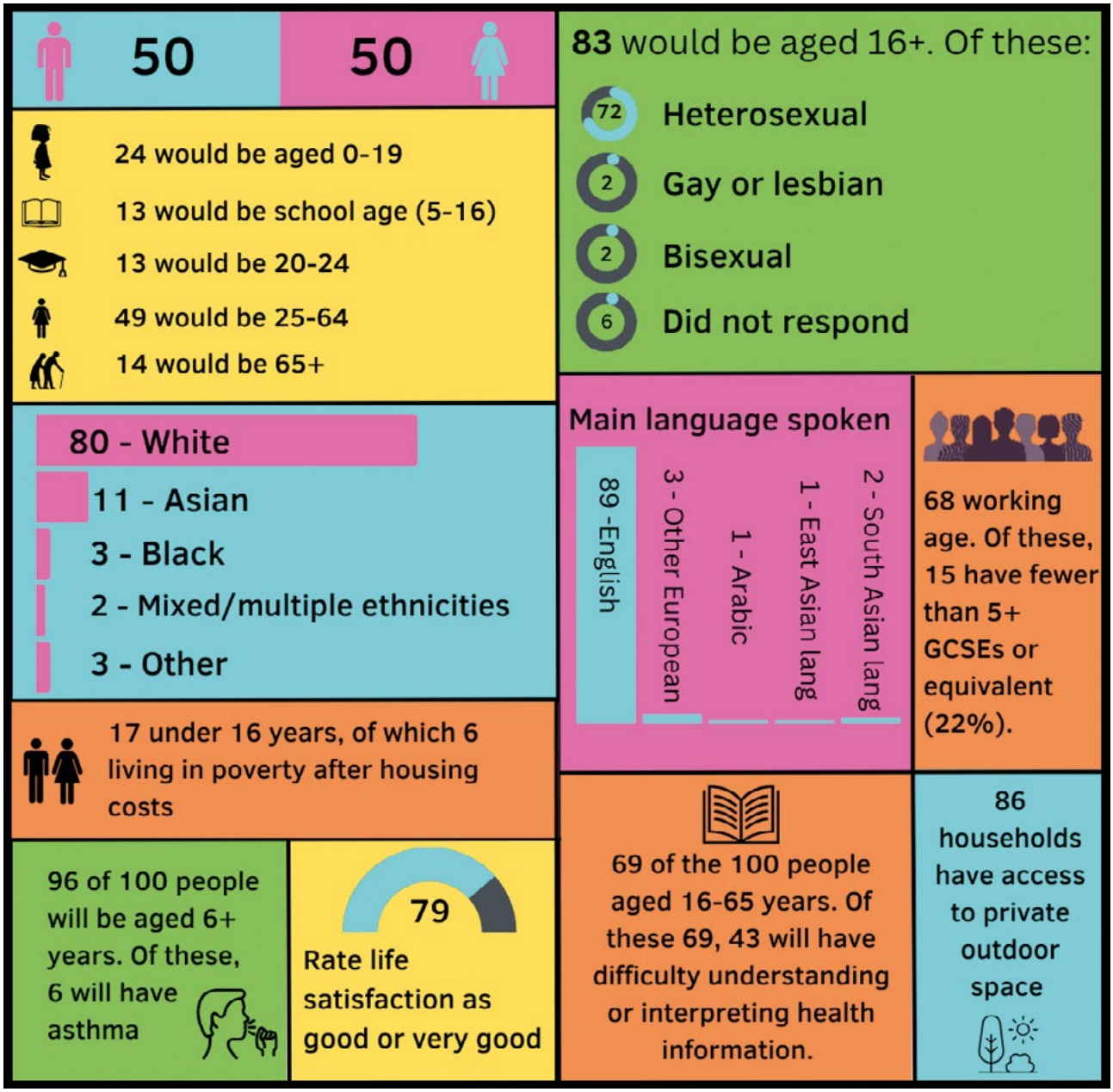
Newcastle population and health

Newcastle Upon Tyne is a growing city, with a diverse and changing population. Its strengths include the large university age population, high proportion of households with outdoor space and increasing diversity. While there are many well-established communities across the city there are also both new and transient communities which means the demographics and needs of the city are always shifting. Alongside this are challenges including high numbers of people at working age with few or no qualifications, and a large number who have difficulty understanding health information. On top of that, the city has one of the highest levels of children living in poverty nationally. Our population is depicted in the infographic the Toon of 100 (Figure 3.52) showing what Newcastle's population would look like if it was a small village of just 100 people.

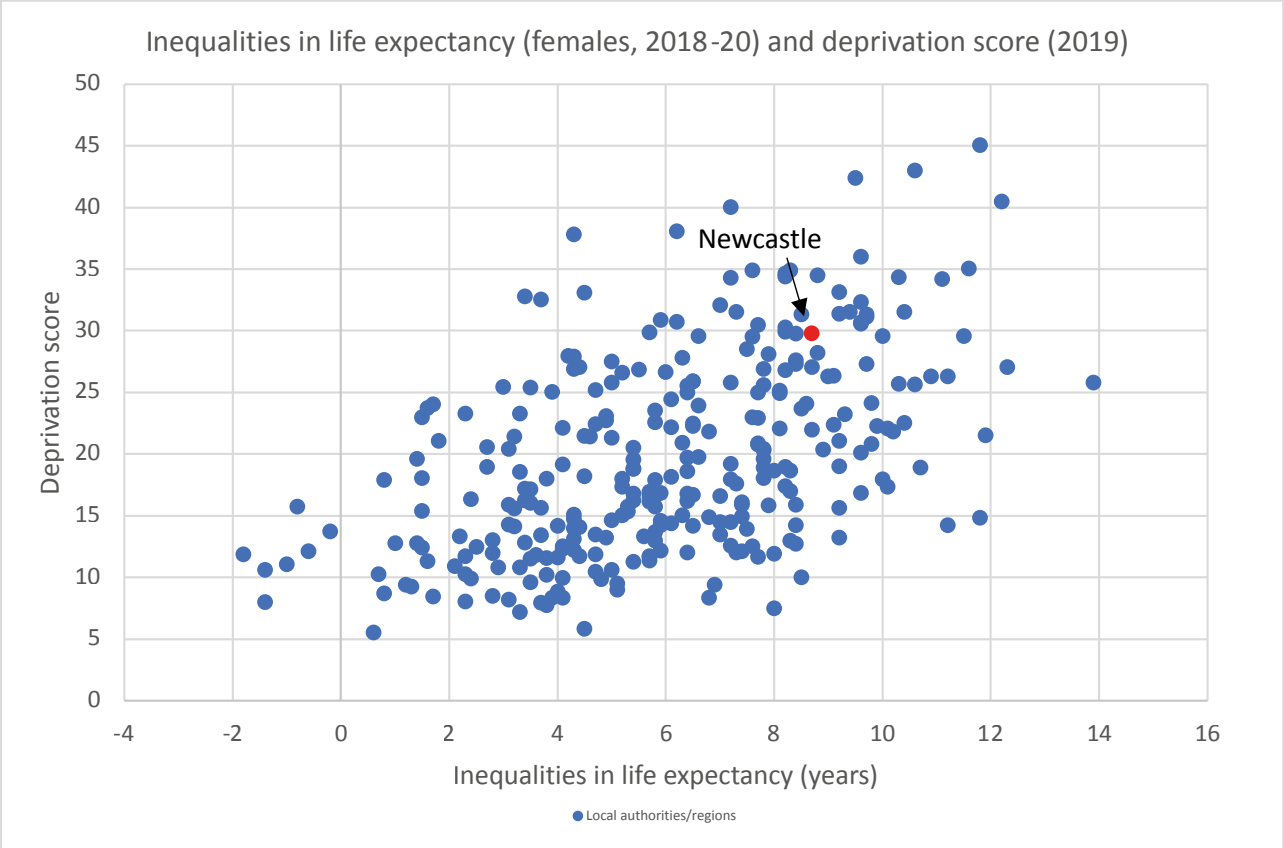
Figure 3.52: The Toon of 100



Source: Newcastle City Council, PHEI Team, 2024

Newcastle faces significant health inequalities, with lower life expectancy and higher rates of poor health compared to other regions in England. For both men and women, life expectancy in Newcastle is lower now than before the Covid-19 pandemic. Men in Newcastle have a lower life expectancy than women, but women on average spend a larger proportion of their lives in ill health. Females in Newcastle can expect to live 82.3 years but only 60.7 years of those in good health, indicating that on average, females in Newcastle will spend 21.6 years in ill health. This is a wider gap than is seen for males in Newcastle, who on average will spend 16.7 years in ill health.[1] Figure 3.53 shows the inequalities in female life expectancy between English local authority regions, Newcastle has a high inequality in life expectancy (difference in life expectancy between the least and most deprived areas) and high deprivation score (an overall measure of deprivation experienced by people living in the area).

Figure 3.53: Inequalities in life expectancy for females in 2018 to 2020 and average deprivation score in 2019 in English local authorities/regions[1]



Data source: Fingertips

Our approach to public health in Newcastle is driven by the needs of our local population combined with an understanding of the health challenges that cities face. We have a strong understanding of the wider determinants of our residents' health, recognising how the health and wellbeing of an individual can have a strong impact on their household and wider social circles. Our Newcastle City Council Roadmap (Figure 3.54) depicts the needs of some of Newcastle's residents. For example, someone in a household may have a disability, and their child may be a young carer, or an adult family member in the household may be a carer. As shown below, carers are increasingly unable to afford bills and individuals with a disability are

more likely to live in poverty than those without a disability. Children who are young carers take on responsibility at a younger age, impacting their ability to be a child themselves, and to focus on school and play.

Figure 3.54: Newcastle City Council roadmap of health needs

Source: Newcastle City Council

Council wide priorities

Newcastle City Council have committed to three overarching priorities in their 2024 to 2027 Council Plan:[2]

1) Tackling poverty
2) Creating an inclusive economy
3) Achieving Net Zero

Recognising the socioeconomic determinants of health, the Public Health team and wider directorates have been working collaboratively towards these priorities within their remit of health and reducing health inequalities. Below each theme is discussed in the Newcastle context with case studies of work towards achieving our priorities.

Priority 1: tackling poverty

Almost 2 in 5 children in the North East (38%) are living in poverty, which rises to almost half (47%) in a household with a child under 5 years old. Both are now the highest rates of any UK nation or region, with the North East experiencing by far the steepest increases in child poverty in the country in recent years. In the period between 2014/15 and 2021/22 the proportion of

Newcastle's children living in poverty (after housing costs) increased by 19.5%.[3] The proportion of children eligible for free school meals (FSM) in Newcastle is 40%, 16% higher than the national average. People living in poverty find it harder to access NHS care, live with a greater level of illness, die sooner and live less healthy lives than the rest of the population.[4] The effects of living in poverty in childhood can have detrimental effects on a person for the rest of their lives.[4]

As a city Newcastle is an attractive location for international migrants. Research suggests that worldwide, most displaced people and migrants are drawn to cities[5] and the changing profile of Newcastle's population reflects this. Over the past 10 years the population of Newcastle has increased by 7%, and the ethnic diversity has also increased, with the proportion of residents identifying as White decreasing from 85.5% in 2011, to 79.9% in 2021. Ethnicity varies by geography; understanding the population profile across the city can help us target public health programmes and resources in the areas they are most needed, and to ensure that our interventions are accessible and culturally sensitive.

Case Study 1: Byker Primary School – a School of Sanctuary

Byker Primary School

Resilient, Respectful, Curious, Communicators, Academics

Children First: Raising Standards and Transforming Lives

Head Teacher: Mrs M Donnison

Deputy Head Teacher: Mrs S Barnes

Located in the North East of England, Byker Primary School is a two-form entry for children aged 2–11, Inner City School serving a diverse community of 444 pupils speaking 28 languages. We are a School of Sanctuary vowing to offer continued support and guidance for families new to country and area, often seeking refuge.

We sit as one of the most deprived primary schools in Newcastle with a Pupil premium of 78% and Index Multiple Deprivation (IMD) of 403 and SEND population of 34%, however as leaders we have developed an ambitious curriculum with an academic focus that inspires, is active and engaging, develops character and above all offers life opportunity to the children and families in our community.

Mental health is a fundamental aspect of a child's well-being that significantly impacts their overall development and academic resilience. At Byker Primary School, relationships are pivotal to educational success and we dedicate time to ensure we understand our community and support them with compassion and open minds creating a no-judgment approach. We will never place limits on what our pupils can achieve regardless of background or circumstance. As a Relational and Restorative school, we strive to ensure all children feel safe, secure and special and we understand that pupils with behavioural or emotional difficulties are not problems to be solved-they are in fact people that need support. We do this through Thrive, a dynamic, developmental and trauma-sensitive approach designed to meet the emotional and social needs of our pupils. It develops mental health and well-being in order to build resilience, develop social skills and helps children to re-engage with life and learning.

At Byker Primary School are determined to make sure that every pupil learns to read and write, building strong foundations of learning by the end of Year 6. Reading is the key to unlocking curiosity, imagination and career pathways. We focus on Oracy as part of our daily teaching practices and methods to ensure our ultimate aim of ensuring every child finds their voice is achieved. With Communication, Language and Interaction as our core primary SEND need and Social Emotional Health as our secondary SEND need, we focus on speaking, listening, language and expression. We do this through Collaborative Learning approaches, curiosity days and dedicated time to talk session. Alongside enrichment and outdoor learning experiences, ensuring all children receive a strong educational start in a holistic and child centred focus allows us to improve academic outcomes.

Our school values are more than empty words. They drive every action, inform every decision and shape every interaction. Our focus is dedicated to our pupils, and we want to ensure that our pupils positively contribute to school life and society, leaving primary school with a thirst to continue to learn and an aspiration to achieve into adulthood.

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Priority 2: inclusive economy

Newcastle is the 'economic engine' of the North East. As the largest city it has a thriving, diverse and dynamic economy. The significant assets include two world leading universities, Newcastle College, hospitals, health trusts, businesses and a thriving community and cultural sector.[2] However, inequalities in how the benefits of our strong economy are distributed are evident. Being a northern city, with an industrial heritage, Newcastle has historically higher than average rates of inactivity due to sickness,[9] and these patterns persist. Unemployment in Newcastle is still significantly above the national average at 5.3%, and 28.6% of Newcastle residents are described as economically inactive.

Whilst employment is important due to the link between poverty and ill health, work – in itself – is a key determinant of the state of someone's health. Work gives people a social network, confidence and a sense of purpose.[10] Unemployment is associated with higher levels of chronic disease, cardiovascular disease, poor mental health, and unhealthy lifestyles.[11] Therefore, addressing persistent unemployment and equity in access to employment will address health outcomes and inequalities.

Whilst being a key link to gaining employment, education is also a key social determinant of health, with more educated individuals living longer and being less likely to suffer from long-term disease and report themselves as living in poor health.[12] The percentage of 16- to 17-year-olds not in education, employment or training (NEET) is 1.4% higher than the national average, and educational attendance for primary and secondary school pupils is an area of local research focus, mirroring national concerns.

Case Study 2: Newcastle Health Innovation Partners and the Health Innovation Neighbourhood

Newcastle Health Innovation Partners (NHIP) is an Academic Health Science Centre (AHSC)[13] established in 2020 to address health inequalities, improve population health and generate inclusive economic growth.

AHSCs are partnerships of organisations that translate research and innovation into tangible benefits for patients, the public and communities, with NHIP partner organisations including Newcastle University; Newcastle upon Tyne Hospitals NHS Foundation Trust; Cumbria, Northumberland, Tyne and Wear NHS Foundation Trust; Newcastle City Council; and Health Innovation North East and North Cumbria. Additionally, Northumbria University is a valued affiliate partner.

NHIP cultivates cross-partner collaboration in health and care research, innovation, education and training. This includes brokering new research and education activities as well as facilitating streamlined joint-working arrangements.

An example of this is the £500m development of the Health Innovation Neighbourhood (HIN), made possible by strong collaborative relationships between all NHIP partners and collaboration with the North East Mayoral Combined Authority.

Newcastle University, alongside its development partners, Genr8 Kajima, will develop the HIN on a brownfield (former hospital) site. The site comprises 29-acres located to the west of Newcastle's city centre. Its redevelopment will bring together housing (~1,200 residential units, varying tenure), green spaces, healthcare and educational facilities, alongside research and innovation that drives and informs healthier and more sustainable living.

HIN will address four key priority areas:

1. **Education for all.** Providing spaces and opportunities to equip underserved communities with skills and aspirations for the future, thereby enhancing employment prospects and lifelong access to education.

2. **Research and innovation with impact for everyone**. Providing the physical platform to involve society in research that is informed by their needs.

3. **Inclusive and sustainable development**. Enhancing community wellbeing through an environmentally and socially conscious development with people at its centre within a green, active and playful environment.

4. **Economic empowerment.** Creating a hub for innovation and enterprise, providing the necessary infrastructure to attract investment, create new opportunities and inform and facilitate healthier and more sustainable living.

NHIP's priority is to reduce health inequalities utilising HIN to investigate, identify and address the factors that affect people's health and sustainability from 'cradle to grave'. HIN will also provide an opportunity to deliver holistic and interdisciplinary care to achieve the most benefit for both the patient and society.

Newcastle University will explore different interdisciplinary models of care provided by health professional students to identify potentially more effective and or cost-effective ways of delivering care where it is needed most. This action research will occur within a purpose-built interdisciplinary care and education centre to deliver more coordinated, patient-centred care and unique opportunities for education and research in a community setting.

Priority 3: Net Zero

The UK has committed to reaching Net Zero greenhouse gas (GHG) emissions by 2050.[14] In partnership with other anchor institutions, Newcastle City Council wants to achieve this in advance of the national target.

We know that transport is currently the largest sector contributing to UK GHG emissions[15] and is therefore a key focus for decarbonisation actions. Poor air quality is the largest environmental risk to public health in Newcastle, resulting in people experiencing breathing difficulties, heart problems and contributing to lung cancer. All of these negative health conditions affect quality of life, life expectancy and increase the need for people to access health care. Short-term exposure to elevated levels of air pollution causes reduced lung function and increased problems for people with asthma.[16]

Achieving a move away from using vehicles for everyday travel and towards active travel such as walking, cycling and using public transport will have major health benefits for people and for the environment.[17] As well as reducing carbon emissions, active travel can reduce ambient air pollution and improve physical and mental health.[18] A move from fossil fuels to electric vehicles can benefit health by reducing exposure to vehicle exhaust air pollution, but we do need to remember that they will still produce some particulate matter emissions from tyre and brake wear.[19]

The UK housing stock is relatively poorly insulated compared to other countries in northern Europe, and improvements in thermal efficiency and airtightness could substantially reduce heating demand and GHG emission.[18] Newcastle is no different. Improved insulation could help reduce cold-related mortality and morbidity.[20] Insulation improvements should be accompanied by adequate ventilation to avoid increasing build-up of indoor air pollutants or summertime overheating.[18] Upgrades to housing stock that are carefully designed and implemented to integrate multiple health considerations represent one of the greatest opportunities for health co-benefits from decarbonisation.[19] Despite the increase in low-carbon forms of heating to 24% in 2021, over 75% is still generated from fossil fuel.[18] The challenge remains very significant.

Poor indoor and outdoor air quality has a greater impact on those living with long-term health conditions, or who live in poor quality housing.[21] Improving air quality will therefore not only improve the health outcomes for individuals, it will also play a part in reducing health inequalities across Newcastle.

The Health Effects of Climate Change (HECC) in the UK (2023) report[18] points to the fact that while there is a clearly established link between poor air quality and negative health effects, the lack of data associated with mitigation policies is limiting our understanding of the broader picture. It goes on to say that 'the greatest opportunity for health benefits in the context of climate change comes from the potential to align health goals with the UK's decarbonisation agenda.[22]

Case Study 3: 2020 Net Zero Action Plan

Newcastle City Council has set the progressive target to be Net Zero City. In April 2019 Newcastle City Council declared a Climate Emergency, setting up the vision for carbon neutrality.

Soon after, Newcastle Upon Tyne became the first city in the world to have all three anchor institutions – Newcastle University, Newcastle Hospitals and Newcastle City Council – committed to a priority of achieving carbon neutrality by 2040, in order to improve the health, wealth and wellbeing of our local population.

Across all three institutions the cost of climate change began to be recognised and increasingly seen as a cause for concern. This was not just the economic cost but the human one. With environmental impacts from issues such as air pollution, severe weather and flooding, climate change can have significant impacts on human health. This can lead to large pressure on health services and often affect those most vulnerable in society. Therefore, the Net Zero vision became a vital part of the Sustainable City Portfolio at the Council.

To achieve this Net Zero target, a Net Zero Action Plan was written in 2020, and is reviewed annually. The key working areas of this are decarbonising the cities energy use (residential and non-residential), decarbonising the cities transport use and various other work around waste reduction, biodiversity protection and public engagement. This together with other decarbonisation programmes has contributed to cutting Newcastle's City Council's direct emissions by over 42% from 2005 to 2022.

In November 2023, we reaffirmed our place as an International Climate Leader by receiving an 'A' grade rating from CDP[23] for our efforts towards reducing our carbon emissions. This is the fourth year in a row that we have achieved this prestigious award for our progress towards Net Zero. Newcastle has also recently been named a Tree City of the World with the planting of over 20,000 trees and hedgerows in the last year.

In other achievements, through the Public Sector Decarbonisation Scheme and the Low Carbon Skills Fund we have successfully fitted solar panels on 11 schools which will save around 382 tonnes of carbon dioxide per year. This has helped save tens of thousands of pounds on energy bills; money which has been able to go back into the schools. As we continue to expand our decarbonisation plan across the city the energy costs and carbon emissions of major buildings are expected to continue to decrease. The next phase of grant funding, £17 million, has been successfully secured by the Council through the public body Salix Finance. We are now looking to continue securing funding to decarbonise the Council's property assets.

A second large work area for the Net Zero team is focused on public engagement – particularly engaging young people on climate change in partnership with our elected Youth Council who have identified net zero and green spaces as one of their key priorities. We have successfully run an annual Youth Climate Summit for schools across the city to attend since 2021. In recognition the Council were awarded the Green Cities Initiative[24] for youth engagement by the Food and Agriculture Organization of the United Nations in July 2024. The award recognises the comprehensive actions the Council have taken to ensure that Newcastle's youth voice is placed at the heart of the Council's climate strategy.

The 2024 Youth Climate Summit will give students the opportunity to learn about climate change and 'Green Careers' in the North East. This engagement work will continue to be a priority for the Council and further projects are continuously in development.

We will continue our vital progress to reducing the city's carbon emissions by continuing to work with local partners and delivering on our key actions in our Net Zero Action Plan to reach our ambitious target of Net Zero.

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3.8 Nottingham

Source: Tracey Whitefoot

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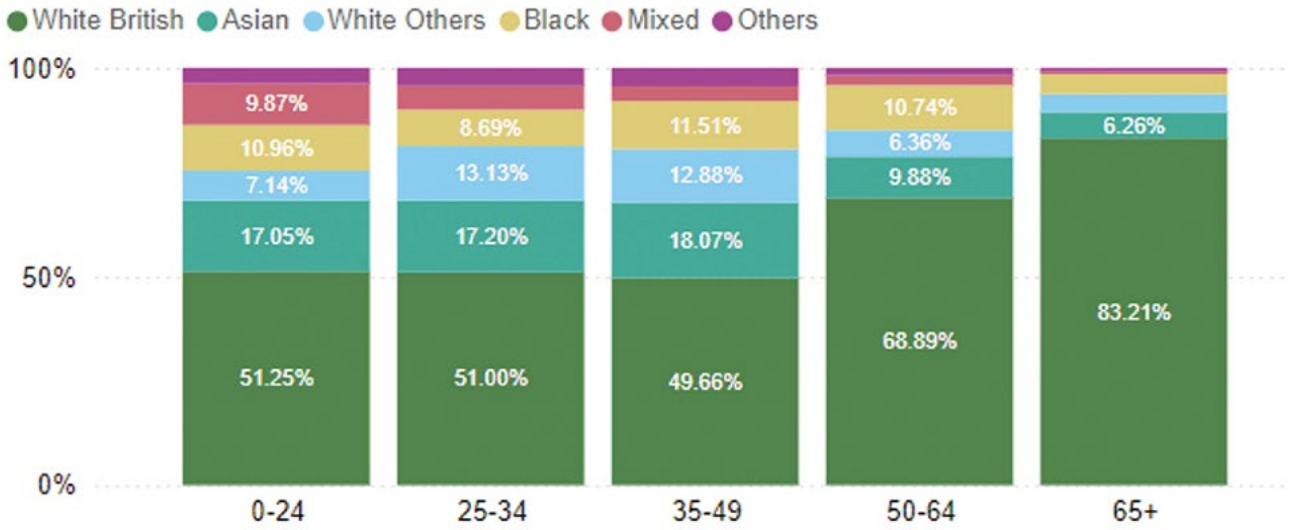
Nottingham city is a vibrant urban centre, surrounded by relatively more affluent or rural areas of Nottinghamshire. The city has a rich history of rebels (think Robin Hood or the Luddites), industry (including bicycles, tobacco and is the home of Boots) and culture, such as the first ever UK street carnival and world-famous Goose Fair. Nottingham has a castle at the centre, award-winning parks and is home to two highly respected universities. This rich tapestry of history has shaped the characteristics of today's city and the people who are proud to call it home.

Some of these characteristics are unique to the city environment. Nottingham is home to a diverse, multicultural population of 330,000 people,[1] with over 43% of the population having black, Asian or other ethnic minority heritage, compared to surrounding Nottinghamshire, which has a population 88% white British. The demography of the city is changing, with younger generations having higher levels of diversity (Figure 3.55).

Figure 3.55: Nottingham City ethnicity % by age group (2021)



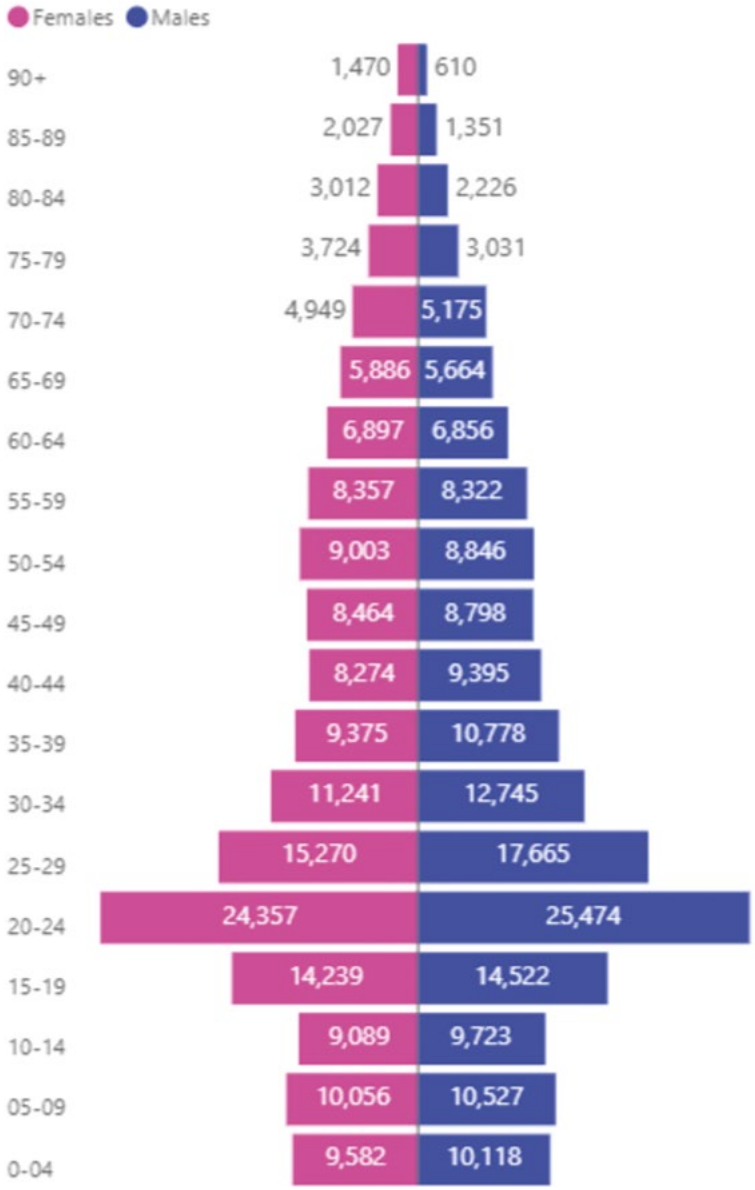
Source: Nottingham City Council Joint Strategic Needs Assessment (Based on Census 2021)

One of Nottingham's distinguishing features is its historical association with the tobacco industry. The legacy of tobacco production has left a lasting impact on public health through the generations with Nottingham still having the 2nd highest proportion of adults currently smoking in England.[2]

Nottingham city has a relatively young population, with the largest age group being 20 to 24 years, compared to 30 to 34 years nationally[3] (Figure 3.56) and 50 to 54 years across the towns and villages of Nottinghamshire. Although the overall population grew by 5.5% in the last 10 years, there were larger increases in children aged under 15 years (6.8%) and in people aged over 65 years (6.9%). In addition, Nottingham attracts a larger population who work, study, shop and socialise in the city but live elsewhere. This brings some unique benefits and challenges, such as contributing to a thriving restaurant and bar environment which attracts visitors but reduces choice and normalises behaviours for residents. For example, a third of all takeaways across the City are within 800m/10 min walks of secondary schools.

Nottingham is the second most densely populated area in the East Midlands.[4] The addition of over 43,000 students annually increases the pressure on housing. Nottingham also has a historic network of open and green spaces which alongside public blue spaces cover 38.1% of the City's area contributing to its image as a green city. As a positive consequence, Nottingham City Council boasts extensive cycling and walking infrastructure with 120km of cycle paths and partnerships between the local authority and NHS to test the role active travel and walking can play in supporting patient communities.

Figure 3.56: Nottingham city population by age and gender

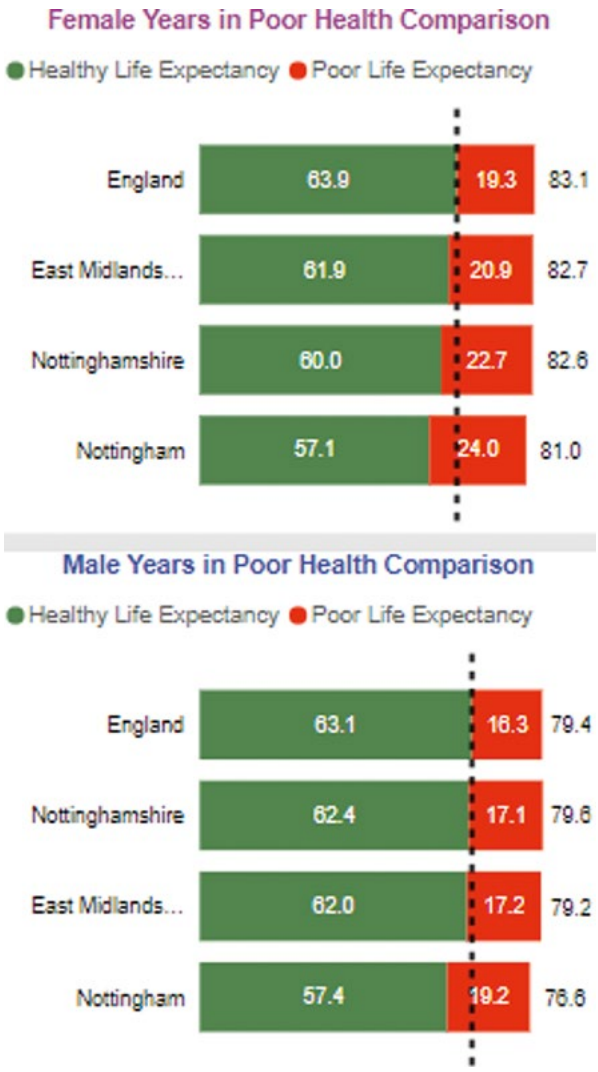


Source: Nottingham City Council Joint Strategic Needs Assessment (Based on ONS 2020)

Nottingham's population experiences high levels of deprivation and the city is the 11th most deprived area in the country.[4] These disparities are visually stark, with over half (55.2%) of Nottingham's residents living within the top 20% of the most deprived neighbourhoods nationally. Unlike many other cities or shire counties, this is not offset by wealthier suburbs with 63% of households in the lowest council tax band compared to 24% nationally.[4]

Residents have some of the lowest healthy life expectancies in England. This means that people living in Nottingham not only live shorter lives than in other similar areas but spend more of that time in poor health or living with disability (Figure 3.57).

Figure 3.57: Life expectancy and healthy life expectancy for men and women born in Nottingham (2021)



Source: Nottingham City Council Joint Strategic Needs Assessment

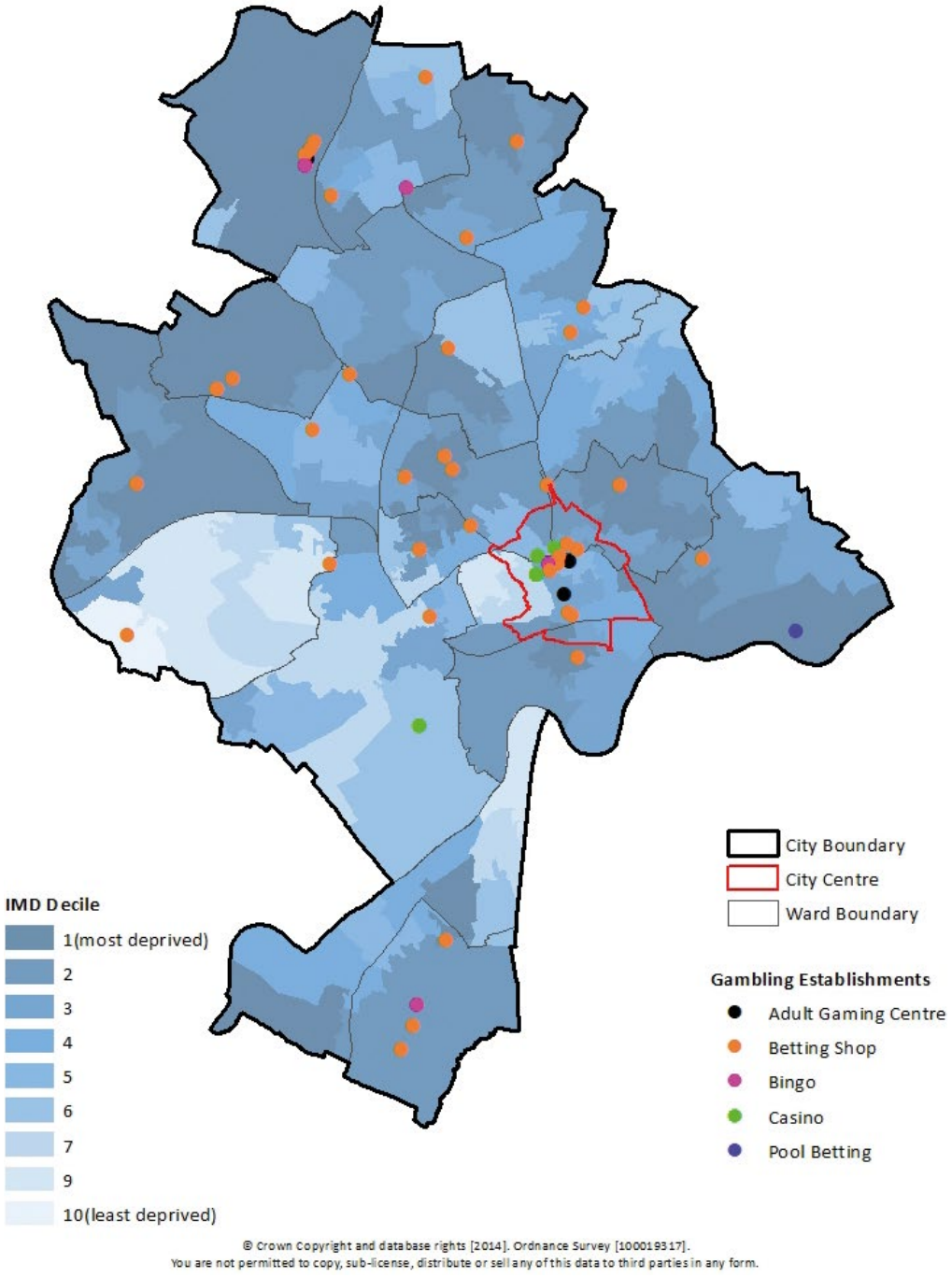
This chapter describes an emerging public health issue impacting Nottingham and many cities around the UK as well as the importance of working in partnership with communities to better the health of such a diverse city.

A focus on gambling related harm

As a city that experiences high levels of socioeconomic disadvantage, the public health issue of gambling related harm is a priority in Nottingham. The spatial distribution of gambling opportunities is influential in core cities, with clustering effects observed in more diverse and disadvantaged neighbourhoods.[5] In recent years students arriving for the Masters of Public Health programme at the University of Nottingham have completed a visual 'healthy places assessment' in the city and most of their reports note the observed promotion of betting locally.

A health needs assessment was developed in 2023.[6] Figure 3.58 shows betting shops are the most numerous type of gambling premises in Nottingham and are particularly clustered in the city centre and areas of higher deprivation.

Figure 3.58: Location of licensed gambling premises by type in Nottingham City (2022) with relative Index of Multiple Deprivation decile at lower super output area level (2019)

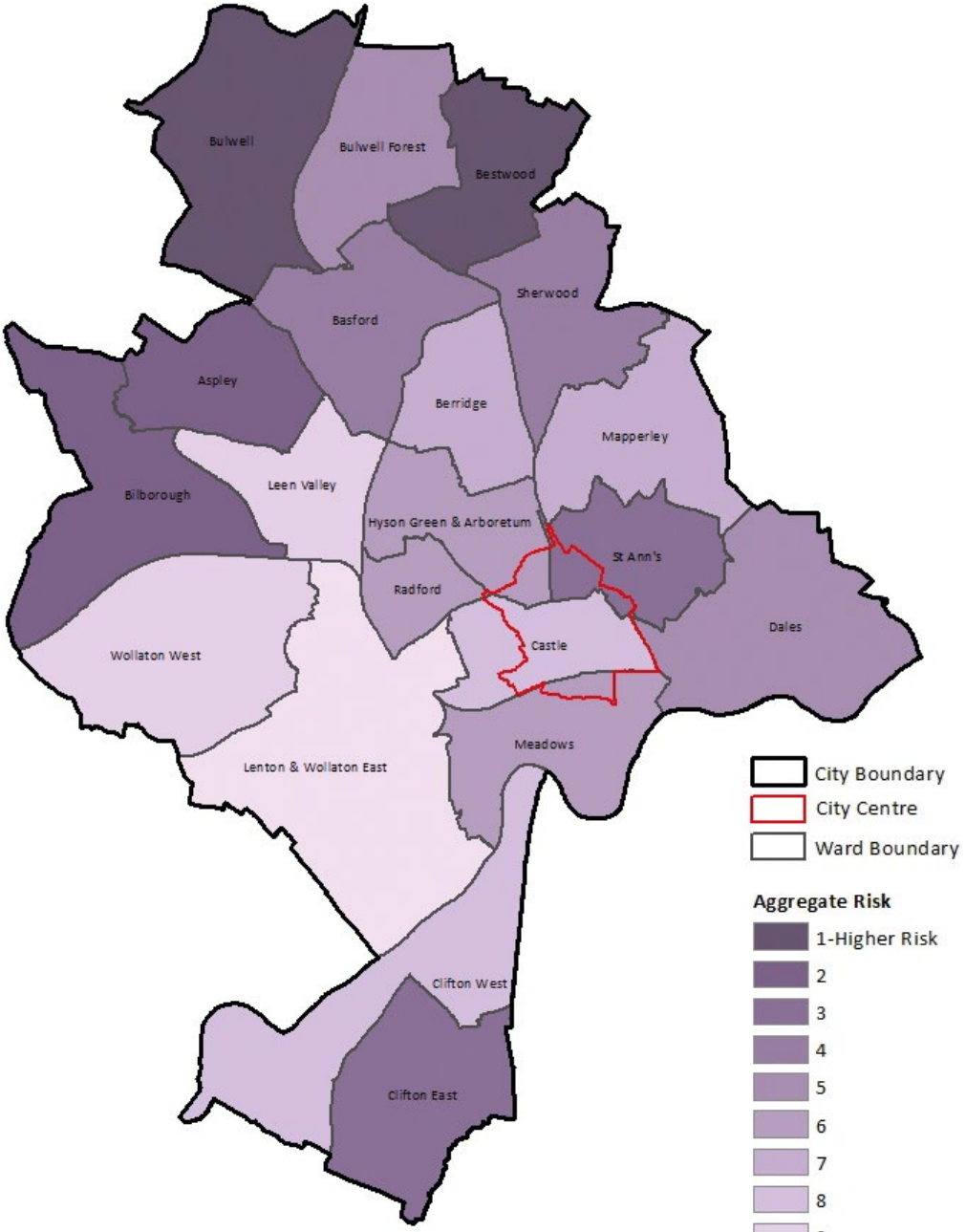


Source: Gambling related harm in Nottingham City: Health Needs Assessment (2023)

The health needs assessment also presented data on vulnerability with the ranking of populations estimated to have a higher risk of developing a gambling problem (Figure 3.59). The analysis included predictor variables of deprivation, unemployment, smoking, alcohol attributable hospital admissions and self-harm data. An innovative means of calculating

aggregate risk, this data has already supported the successful challenge to a planning application for a new gambling license in a high-density area of the city. Reasons for the dismissal by the Planning Inspectorate included risk of gambling related harm.

Figure 3.59: Aggregate ranked risk of a gambling problem in Nottingham City by ward



Source: Gambling related harm in Nottingham City: Health Needs Assessment (2023)

There is a high level of unmet need locally. Nottingham has the second highest estimated proportion of adults needing gambling treatment and support (5.1 per 100 adults compared to a national average of 3.6 per 100).[7] While the city has a high proportion of citizens experiencing

gambling related harm, very few access treatment and support; in 2021/2022, only 48 people in Nottingham called the National Gambling Helpline.

A key priority in our multiagency gambling related harm strategy[8] is to raise awareness of gambling related harm and promote the sources of information, advice and support. In 2023, we developed an information campaign with three objectives: to raise awareness of the types of gambling related harm; to enable people to recognise when they or someone they know is experiencing gambling related harm; and to point to the help available. The central messages and materials were co-designed with local people with lived experience of gambling related harm to ensure appropriate tone and messaging that was authentic, reliable and engaging. The participants also informed the choice of promotional channels for maximum effectiveness and reach of the campaign's key messages (Figure 3.60).

Figure 3.60: Gambling harm awareness campaign posters

Source: Nottingham City Council, 2023

An evaluation of the campaign indicated an increase in awareness: more local people reported knowledge of what gambling related harm is and how to access information, advice and support services. It also indicated an increase in access to information, advice and support: more Nottingham citizens called the National Gambling Helpline during the months of the campaign, and monthly visits to the local information and advice webpage increased 30-fold. The next phase of this work includes co-producing gambling related harm information for specific population groups, such as people in contact with criminal justice services, and people who speak languages other than English.

Gambling harm is a health equity issue. Our focus on whole population awareness, at-risk groups, and geographical clusters is part of tackling inequalities. As Nottingham has a young population profile and the needs assessment highlighted that approximately 1000 11 to 16 year olds show signs of gambling problem[6], we will take a life course approach. We have commissioned training for professionals who work with children and young people, as well as a

training offer in services who engage with adults who may be at greater risk and we are piloting provision of local recovery support to complement local, regional and national pathways.

Importance of engaging and involving communities

In Nottingham, it is recognised that if we want to reduce health inequalities in our city we need to understand and work closely with our communities as partners. This became clear during the COVID-19 pandemic when there were gaps in understanding how different neighbourhoods' and communities' experiences varied. Vaccine uptake differed and trust in official information sources was sometimes low. Services planned to support those with the greatest needs often do not reach the people intended. Communities are being empowered by embedding new ways of working recognising that all aspects of public health, ranging from understanding health needs, sharing health information and providing public health services, benefit from closer working with the people of our city. Listening and understanding the diverse experiences of our communities means we can support them to advocate for health within their own communities.

Community Champions Programme

Building on the Community Vaccine Champions programme commenced during the COVID-19 pandemic, a new 'Healthy Communities' team was developed that includes experienced community development staff and public health professionals. This volunteer programme includes individuals and groups reflecting the diversity of Nottingham. Volunteers are trained and supported to develop their role with a menu of opportunities, from sharing information and supporting community events to developing community initiatives or contributing to partnership discussions. Volunteers have also stepped forward to be trained to support community-based research in partnership with academic partners.

There are now over 200 people volunteering as Health and Wellbeing Community Champions, each shaping how they want to be involved, and finding the best way for them to champion health within their own community. This brings 'trusted community voices' into conversations about health and inequalities and has supported small projects that build community capacity for health and support our understanding of community perspectives.

Bringing 'Lived and Living Experience' into commissioning

Ensuring that community voice is central in the way services are designed, organised and commissioned is important in making sure our delivery meets the needs of our diverse city. Nottingham City Council's Public Health Team has a well-developed approach to consultation, engagement and coproduction. Our aim is to involve citizens fully in the design and development of new services and strategies to best meet the needs of the population, reduce health inequalities and improve health outcomes.

Expert panels of individuals with lived and living experience have been established. Groups of volunteers are recruited who have a wide variety of experiences and work alongside public health professionals at each stage of the commissioning and procurement cycle. Volunteers are trained in a range of skills and are encouraged and supported in their personal development.

This approach has been effectively used when redesigning the substance use treatment and recovery services and designing a new sexual health service. The impact of this approach is that, with the honest, reliable and meaningful insight gained from the experiences of our target populations, we are much more confident that services and interventions are designed to meet the needs of some of our most vulnerable citizens. Expert panel members are involved in the ongoing monitoring of service outputs.

The welfare of the members of the group is our priority. For consistency, the same staff lead throughout the process and are available for support to individuals before, during and after each meeting. There are a range of ways to engage, including in person, online and hybrid meetings. Travel expenses were paid, and engagement was incentivised with shopping vouchers.

Conclusion

Whilst the challenges felt in Nottingham might be similar to those in other cities or urban areas, they are often in greater concentration. By adopting a public health approach placing communities at the heart of our work, we are listening, learning and seeing those challenges first-hand. We have changed the way our public health team addresses health inequalities to understand and work closely with our communities as partners. Our Health and Wellbeing Community Champions as 'trusted community voices' are vital to this approach.

Our gambling related harm work has highlighted the importance of taking a population needs approach to planning and licensing, strengthening public health input into a formal local authority function. Key to this is the life course approach and the importance of taking a preventative approach with children and young people.

Our city is young and vibrant, and we celebrate its diversity and strong, united communities. The council is proactive in building an infrastructure that enables active travel, uses enforcement and planning to support healthy choices and works in partnership to provide services and interventions that empower residents to take responsibility for their own health.

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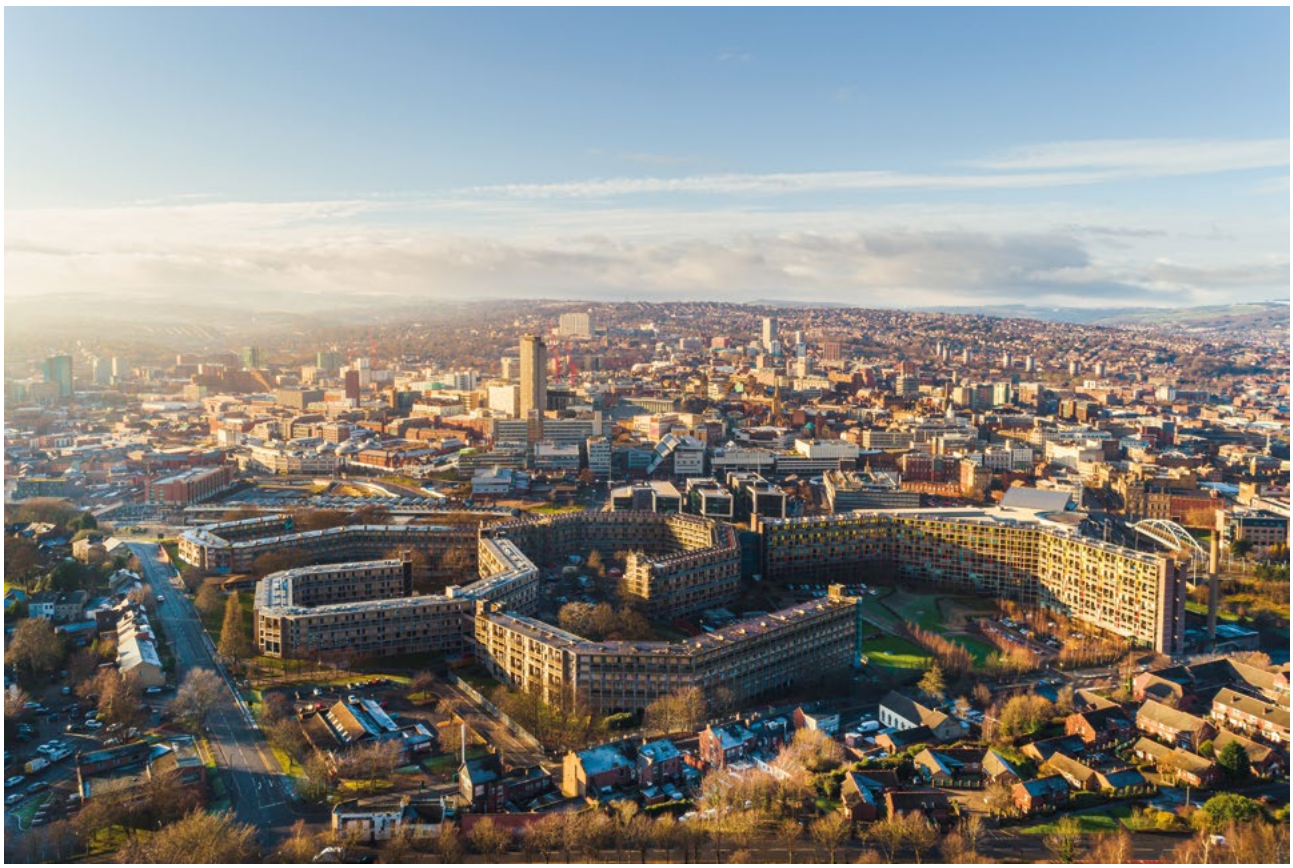
3.9 Sheffield



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Introduction to Sheffield

Sheffield is a Core City, the fourth largest in England with a population of over 560,000 people. For many it is a great place to live, renowned for green space and outdoor activities and with easy access to the Peak District, as well as a vibrant cultural offer. Sheffield is inventive, inclusive and full of people who are both down-to-earth and restless. It's a city of makers, past and future, with a fiercely independent spirit which fuels the collaborative, creative culture that's unique to Sheffield. We have two world-leading universities, a thriving community scene, and

the famously friendly welcome. Sheffield has a unique geography – a city built around a green ring of hills, with the Peak District National Park making up a third of the city. This makes Sheffield the 2nd greenest city (by % greenspace) in the world and giving it the nickname 'The Outdoor City', highlighting the connectivity between nature and culture.

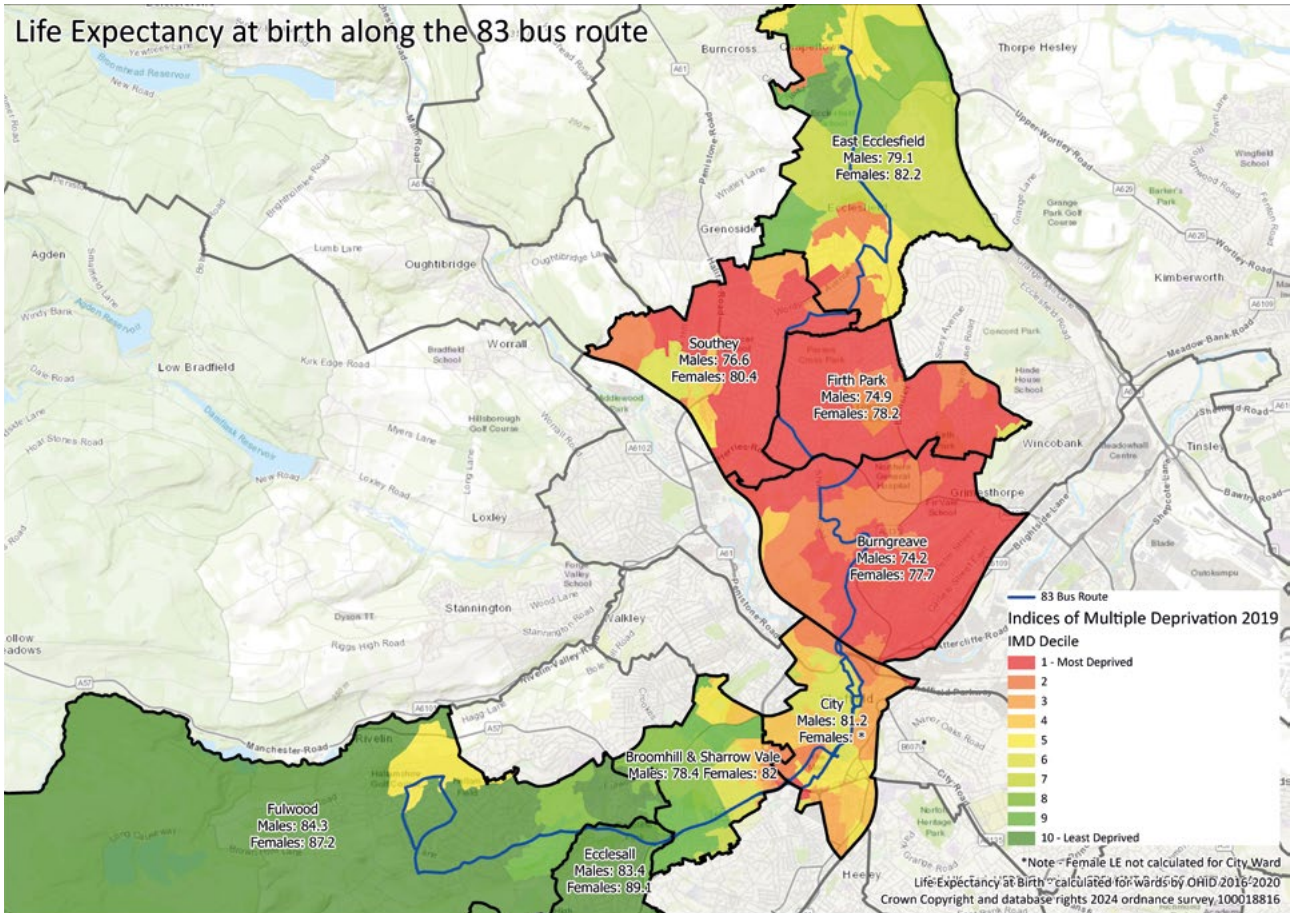
Our approach to economic growth, to health and well being and to transitioning to a green economy are increasingly aligned. We know we need economic growth to improve the lives of the people living, working and doing business in Sheffield. We are also focused on increasing living standards over the long term, we need to increase our productivity as well as lowering inequality.

However, like all cities, it has challenges and for Sheffield the inequalities which exist across the city mean that not everyone has equitable access or opportunity to take advantage of what the city has to offer, or to live a long and healthy life. We are very clear that we don't find this situation acceptable, this is why we are taking steps laid out in the rest of the chapter.

Investment to improve health matters. The factors that contribute to both health and the inequality in health span across the whole of government and the whole of society. It is impossible to talk about healthy life expectancy and not reference the spending power of the city. The long term reductions in the spending power of the city, most visibly seen through cuts to local government budget, have hugely affected out ability to invest in what many frame as "the determinants of health" (housing, leisure, transport). This has had an impact on every sector of the economy and it is hard to conceive it hasn't significantly impacted on health outcomes.

Like many cities there are significant inequalities in health, measured most simply by life expectancy differences between the most and least affluent. The No. 83 bus has been a feature of Sheffield for generations, and the life expectancy differences for people living along that route are stark (Figure 3.61):

Figure 3.61: Life expectancy at birth along the 83 bus route



Source: Sheffield City Council. Data from: Life expectancy at birth 2016-2020 (Office of Health Improvement and Disparities); English indices of deprivation 2019 (Ministry of Housing, Communities and Local Government); Sheffield City Council – Transport.

Healthy Life Expectancy is the other metric that illustrates inequalities in length and quality of life and time spent with illness. A baby born in Darnall in the east of the city can expect to get to 45-50 in a state of good health and live to about 70: a third of their life in poor health. A baby in Dore in the affluent west can expect to get to about 65-70 in good health and live to about 85: only a seventh of their life in poor health.

Cities can bring challenges, especially to our health and wellbeing; the structures that provide access and opportunity can also foster exclusion, significant wealth gaps and inequalities in living standards such as housing quality and affordability. These inequalities have deep roots, and many contributing factors; addressing them means partners across the city working together to a coherent plan. The collective impacts of the cost-of-living crisis and significant changes to benefits have increased the number of individuals and families in Sheffield living in relative poverty.

Over the past couple of years Sheffield has been working on where it wants to go as a city. Sheffield City Goals[1] are the City's 'North Star' of where we want to be by 2035, a clear direction for the whole place agreed by a range of organisations. Our Joint Health & Wellbeing Strategy[2] has been refreshed in support of the Goals, with a focus on how we create good health, not just on how we treat ill health. Our strategy is very broad, but here we spotlight three areas that contribute to our overall health strategy:

- the emotional and mental health of our children and young people and how we approach this;
- how we face the challenge of the impact of housing on health outcomes; and
- the critical role of our voluntary and community sector organisations in providing the basis for building health and wellbeing at both neighbourhood level and strategically.

Creating health in our communities

Sheffield is a global, dynamic and diverse city. It also has very distinct neighbourhoods where people feel a sense of identity and there is a friendly culture, residents have a strong devotion to identifying with the neighbourhoods and communities in which they live as "home". One of our core goals[3] as a city is to emphasise this sense of belonging to welcoming communities that care for one another, developing a city where all can live safe and fulfilling lives and share equitably in the city's success.

There is often strong representation of these neighbourhoods and communities by Voluntary and Community, Faith and Social Enterprise (VCFSE) sector organisations. The sector provides a trusted voice, point of support, and access to opportunity for those that are all too often unheard or underserved, and is essential to creating health. This is a key feature of our approach to improving health and wellbeing. The VCFSE sector is an embedded and responsive local actor playing a vital role in reversing long-standing health inequalities and improving health outcomes for local people.

Equitable partnerships

By fostering partnerships where power is shared, Sheffield is working to ensure that the expertise of local communities is valued and incorporated into decision-making processes. The VCFSE sector embeds equitable relationships to address the existing power deficit between formal institutions and communities, bridging connections to excluded citizens.

Sheffield has several emerging cross-sector partnerships where the sector is able to shape the interventions and co-design the framework of support, where honest dialogue can take place, and where governance allows for equal or majority decision making by local communities.

The ICB-funded Sheffield North East Model Neighbourhood approach is an emerging example of good practice.[4] The Model Neighbourhood ambition is to empower communities to live happier and healthier lives by:

- connecting people to each other in their communities through increased investment in local VCFSE organisations;
- building community capacity of individuals and neighbourhoods to help them address issues that are important to them and;
- devolving power to communities.

In addition to geographically focused approaches we need to increase our attention to city wide organisations oriented around specific cohorts such as those with a disability or those from black and minority ethnic communities.

Providing accessible support

The sector excels in providing tailored support that can wrap around the individual, at reachable moments, with interventions that both promote wellbeing and prevent future harms.

The local authority-funded People Keeping Well (PKW) Framework demonstrates a model that guides what health-centred community development looks like: building social capital through a network of funded local community anchor organisations (community health hubs) funded for over 10 years with a current agreement of 5 years based on local deprivation weighting. PKW is an outcomes-based programme allowing for flexibility to localise delivery according to the needs of local communities.

To have greater impact this needs to be scaled up and adopted more extensively through cross-sector funding and balancing local place-based investment with provision for more Communities of Interest united by culture or a particular need that isn't geography.

Utilising local community assets

We understand that community assets go beyond physical infrastructure and include relationships, trust, and social networks within communities. These assets are fundamental to creating lasting improvements to individual health and wellbeing.

Community anchor organisations provide critical trusted hubs for social interaction, support, and engagement. They provide spaces where people can connect, form lasting relationships, and access numerous health and wellbeing services. These hubs are pivotal in fostering social capital, a key determinant of health and wellbeing.

Community anchors are also able to make sense of and stitch together a local approach to programmes to provide a cohesive and coherent community offer. This is the essence of a "total place" approach at neighbourhood level.

The PKW programme, local social prescribing arrangements and the emerging ICB investment framework highlight the importance of leveraging community assets. By investing in trusted

local organisations, support is not only available but also meaningful and responsive to local needs. This approach helps catch people before they fall, providing the right support at the right time and place.

Long term devolved investment

Sheffield's commitment to long-term, flexible funding arrangements, such as those underpinning the PKW programme, help provide the stability needed for meaningful community engagement and development. Long-term investment at the right level can enable VCFSE organisations to plan strategically, build lasting relationships and deliver consistent support to address local health inequalities.

The current resource base remains very fragile and restrictive. There is an opportunity to shift how we measure value and impact in public and local investment, to maximise the impact that can be achieved. This needs to allow long-term movement of power, resource and autonomy to locally led cross-sector health partnerships, that place emphasis on community agency.

Local financial stability and autonomy allows for the development of innovative health interventions that are sustainable and have a lasting impact on community health outcomes.

We try to ensure that local services are meeting their needs in line with the six Keep it Local for Better Health principles:[5]

1. Think about the whole system not individual service silo
2. Co-ordinate services at a neighbourhood level
3. Increase local spend to invest in the local economy
4. Focus on prevention now to save costs tomorrow
5. Commit to your community and proactively support local organisations
6. Commission services simply and collaboratively so they are "local by default"

The impact of this commissioning approach is summed up by VCFSE CEO comments:

> "the funding is a bedrock of delivery, providing an element of much-needed stability and sustainability for the organisation and therefore the people we support. It enables a consistent presence through investing in local community infrastructure via us as a leading local anchor organisation. It has provided a level of consistency that has enabled us to build trusted relationships with local people, many of whom have had poor experiences of services"

This work is a critical part of our overall approach to improving health and wellbeing and a core part of how we can keep people well and thus reduce the need for acute health care.

Children and young people's emotional wellbeing and mental health

Emotional regulation and executive function skills make a difference to readiness to learn and attainment; the quality of future relationships within families, and over time antisocial behaviour, employability skills and long term mental and physical health.

In the UK, we have the unique opportunity to make a difference to the life chances of all children and young people at key developmental stages through our universal services of midwifery, health visiting, and education.

Sheffield's children and young people perhaps rely most on the strengths and assets of their neighbourhoods and local communities for their health and wellbeing.

The city has worked intensively across sectors on perinatal and infant mental health by engaging with early years and childcare providers. Our approach to this incorporates the voluntary sector, the NHS and local government. We have a city-wide approach to governance and are seeking to both prioritise and expand services offered through schools to support children and young people's emotional wellbeing and mental health.

Secondary schools consistently report worsening mental and emotional health, and that while historically they might have had five students who were difficult to understand and engage; they now have fifty. The reasons for this will be multi-factorial, and magnified by poverty, inequality and increased pressures on families and support services.[6,7,8] The system appears to have reached a tipping point.

It makes moral, social and financial sense to invest in the emotional wellbeing of our children. This can positively influence their health, support them in their roles in society and impact the prosperity of our cities.[9,10,11] Left unaddressed, the cumulative impact on our communities and the city will be felt in years to come. We need to act; investing in evidence-based services and interventions serves our young people and their future. The systems and relationships that we know will make a difference to children and young people's emotional wellbeing must be strengthened, ensuring key protective factors are in place.[12,13]

Case Study 1: Sheffield Healthy Minds

Sheffield Healthy Minds enables the development of emotional resilience through whole school practice. This service offers mental health support to children and young people in, around and through schools. Local data from over 40,000 children and young people suggests that children's mental health was of significant concern before the pandemic with 1 in 5 children from Year 2 to Year 13 reporting difficulties with anxiety, low mood, sleep, body image, friendship issues and academic stress. Of these approximately 6% report feeling always angry, sad or anxious and a further 12% stating they feel this way most of the time.

Supporting an emotional wellbeing and mental health culture in schools should not be seen as an add on but vital to the core aims of education as children and young people are more able to engage and access learning when they feel psychologically safe. Educational settings, schools and colleges, are in a strong position not just to teach about emotional well-being and identify concerns but to help children experience it. The critical ingredient of our approach is the whole school approach and keeping this principle will be essential as we seek to expand this.

Case Study 2: Mental Health Support Teams (MHST)

This national initiative develops and extends the children and young people's mental health workforce. The Sheffield MHST workforce is based in schools. It delivers the nationally recommended model and in addition, meets the needs of the most vulnerable children and young people by supporting settings to be trauma-informed. This means raising awareness and embedding practice that recognises children may struggle to emotionally regulate and have gaps in their executive function skills due to adverse childhood experiences which require additional ways of working beyond traditional behavioural approaches. The Sheffield service works with schools to understand children and young people's concerns. It supports the whole school culture to provide opportunities across the day to enhance emotional wellbeing and build skills. It also offers individual support for children and young people with low to moderate mental health concerns.

Sheffield children across all ages tell us that friendship issues are one of their key concerns which impacts their emotional wellbeing. Schools provide opportunities for children to develop and navigate friendships and interactions as part of everyday experiences within a school culture that provides both physical and psychological safety. We know that good relationships are a protective factor for mental health, so the team works alongside schools to optimise children's everyday activities to build good friendships through:

- Sport, craft, music and chess clubs so children can meet like-minded peers
- Structuring lunchtimes so all children feel included
- Kindness projects
- Groupwork to support peer relationships and help children manage their emotions
- One-to-one sessions
- Supporting staff to understand the needs of children who are struggling
- Psycho-education on assertiveness
- Preparing children for their transition to secondary school

Housing and health

The importance of good quality housing and the impact this has on people's health and wellbeing is well understood. Poor housing standards have a disproportionate impact on health, ranging from respiratory health to children and young people's educational attainment. Housing is also key to emotional wellbeing and feelings of stability and security.

Everyone should have choice and access to a safe and suitable home which is affordable to run, but we know this isn't the case for everyone. In particular there are significant inequalities in housing quality and security in Sheffield's neighbourhoods and this can intersect with other issues: for example, often people from ethnic minorities live in less affluent areas, with worse housing conditions. Poor quality housing impacts on other public services and can also be a critical contact point for support. We also have to consider that an ageing population, living with more health conditions and in housing that is not accessible, creates further impacts on the whole system. Sheffield City Council is working within its own services and with partners to build a whole system approach to housing in Sheffield that takes advantage of these connections, and address the underpinning challenges that contribute to ill health.

This means direct work to address some specific challenges; using our contact with residents to connect them to support when they need it; building relationships with other public services and housing providers to address challenges together; and developing a coherent strategy to bring everything together and maximise our impact.

Homelessness is associated with poor health outcomes in both mental and physical health terms, as well as making it harder for people to access support. Sheffield has seen an increase in the level of homelessness and rough sleeping, outstripping the availability of prevention services and housing leaving many in temporary accommodation: the number of people presenting as homeless has risen from 1,319 in 2016/17 to 3,898 in 2022/23, with the main reasons behind this being asked to leave by friends and family; domestic abuse; loss of private rented accommodation; or leaving Home Office provided accommodation following decisions on asylum applications. There is not always the right offer of housing, advice and support for people in this situation with complex needs. We are taking systemic action to address this through our Homelessness Prevention Strategy and associated partnership action plan. We are also one of six places involved in the Royal Foundation's Homewards programme, aimed at ending homelessness.

Advice, support and treatment to live independently often involves more than one service or assessment. Both the Council and Registered Housing Providers in Sheffield operate a support-based model to ensure their tenants are receiving support when needed to help them have a successful tenancy. In 2023/2024, 1797 referrals were identified and support put in place. The top 3 categories were Health & Wellbeing, Locally Delivered Services and Mental Health. Local Delivered Services captures referrals including Targeted Prevention, Social Prescribing and Team around the Person.

We are continuing to develop a universal offer to homeowners and residents to improve warmth, safety and standards in private sector homes including better information and advice and signposting to other organisations where their expertise would best help residents.

Tackling damp and mould in all homes has been identified as a key priority, given the impact on respiratory health. In Sheffield we have improved understanding and coordination across relevant services and organisations. We have held joint events to give housing and health staff an insight into each others' work, clarifying the boundaries of their remits, and identifying collaborative ways of working. This has resulted in a more collegiate approach between the NHS and Housing when referring patients suffering the effects of damp and mould.

We've also established a Housing, Health and Care Reference Group as a key point of contact for housing and health services to build partnership working. This has identified key external partners and workstreams to ensure that the work of the group aligns with work at South Yorkshire level. Work is in progress with the South Yorkshire Health & Housing Group to generate a joint working strategy across the region in response to customers' changing needs and the services we deliver in both the health and housing settings.

To bring everything together, Sheffield City Council has developed a new 10 year Housing Strategy.[14] We expect this to be adopted in October 2024. This will be a cornerstone strategy in the Council's developing Strategic Framework, setting longer-term direction for housing across all types of tenure to deliver the ambitions in the City Goals and our Council Plan and complementing our new Local Plan.

Supporting good health through housing is a key ambition for the Strategy, with positive health outcomes being central to the vision and priorities. Our vision is:

> "Everyone in Sheffield has a home that supports good health and is suitable for their needs and aspirations. We want people to have more housing choice and better access to a home which is safe, affordable and ready for a changing climate."

Sheffield's Health and Wellbeing Strategy – bringing it all together

As highlighted at the start, the current context in Sheffield post-pandemic, including longstanding structural inequalities and the cost-of-living crisis, means that people's health and wellbeing and widening inequalities require focused attention and action by all Sheffield partners. This means a wide range of partners working together to do the right things for residents, while also responding to different national, regional and local pressures and accountabilities that pull them in different directions.

Here we have focused on three examples of how we seek to improve health and wellbeing in specific policy areas, or cohorts or at neighbourhood level. We are clear: almost all sectors and policy areas contribute to our health and wellbeing.

Joining up and working together in this context is not a simple job. It requires a clear shared purpose, and it needs people to be committed to doing the ongoing work of stitching together and coordinating activity across a range of domains.

Sheffield's Health & Wellbeing Board have been refreshing the city's Joint Health & Wellbeing Strategy: thinking about the big shifts we need to make to support delivery of a whole-city approach to health and to help us reduce inequalities in healthy life expectancy.

The Health and Wellbeing Board responsible for this is a strong and equal partnership across the Council, NHS and local Voluntary, Community, Faith and Social Enterprise (VCFSE) sector, focused on all determinants of health. Our refreshed Strategy reflects this, being structured around a Sheffield interpretation of the eight building blocks of health identified by Professor Michael Marmot, and setting out four radical shifts we need to deliver over the next ten years to make progress.

Figure 3.62: Foundations for a healthier future for people in Sheffield

Source: Fair and Healthy Sheffield Plan: Sheffield City Council, 2024.

Figure 3.63: Radical shifts

Source: Fair and Healthy Sheffield Plan: Sheffield City Council, 2024.

These shifts are critical to success. We have engaged with partners, stakeholders and communities to understand what has or hasn't been achieved over the life of the previous strategy and why: what emerged is that the building blocks alone are not enough if this new strategy is to be more than just a grand ambition or inspiring words. The four radical shifts are about acknowledging where we need to get unstuck and where the Board, its members and their organisations need to unlock the way to achieve a healthier and fairer Sheffield.

The question is: how do we make these happen? No single stakeholder has complete control over all the determinants of health. Our approach is one of shared leadership and ownership, mindful of the need to respect the different mandates that partners in Sheffield have to respond to.

In Sheffield we see our Board as having three key tasks:

- Guiding action: agreeing and endorsing a partnership approach to an issue and holding partners to account for supporting that work
- Convening: bringing together citizens, VCFSE partners and public services to discuss health and wellbeing challenges and how to approach them together
- Influencing: reaching out to those working on other policy areas to help shape them in ways that lead to positive impacts on health and wellbeing in Sheffield

This is not straightforward and requires ongoing work and dialogue to stitch together and coordinate efforts across partners, in pursuit of doing the right things for Sheffield. But it's vital to do: we are in the best position to understand the good that Sheffield has to build on, the challenges it has to face and the assets that must be brought together to do that. As with any other place, Sheffield wants and needs the trust and autonomy to deliver what is needed locally.

Doing this work well depends on relationships and requires a degree of stability in the system over time. Both recent reforms to the NHS and subsequent cuts to ICB resource have removed stability and capacity from the system; this, along with pressures to meet national objectives, makes bringing all partners together to work on the things that Sheffield needs ever harder.

Also critical to success is investment. We set out above the impact of long term reductions in spending power of local government on our ability to invest in the determinants of health. Making significant progress on improving health outcomes will require re-investment in local government with a pro-equity lens.

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3.10 Milton Keynes

Title image: City of Milton Keynes – Better by Design

Credit: Vicky Head, MKCC – with permission

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1. Introduction

Milton Keynes (MK) is internationally renowned as a planned city. Established in 1967, it was the largest and most ambitious of the post-war New Towns and is the only one to have gained city status, which was granted as part of Queen Elizabeth II's Platinum Jubilee celebrations in 2022.

Built in the Buckinghamshire countryside, its original area of 21,883 acres encompassed the small towns of Bletchley, Wolverton and Stony Stratford as well as several villages, including Milton Keynes village, which gave the city its name. The unitary authority of Milton Keynes was created in 1997, including the urban area of Milton Keynes itself as well as surrounding countryside to the north and east. Today's city is economically and culturally vibrant and continues to welcome newcomers from across the world, keeping it among the fastest growing areas of the country.

The influence of Milton Keynes' design on the health and wellbeing of its future residents was recognised from the start. The original masterplan was instrumental in creating the city's generous network of parks, green spaces, waterways and woodlands, as well as determining the characteristic grid layout and associated ease of car travel, and the provision of extensive traffic-free infrastructure for walkers, cyclists and e-scooters. This chapter considers the impact of these conscious design choices on residents' health today, and how an evolving understanding of the built environment's influences on health is shaping the city's more recent development.

Aerial view of central MK looking north-east, showing grid structure and grid roads

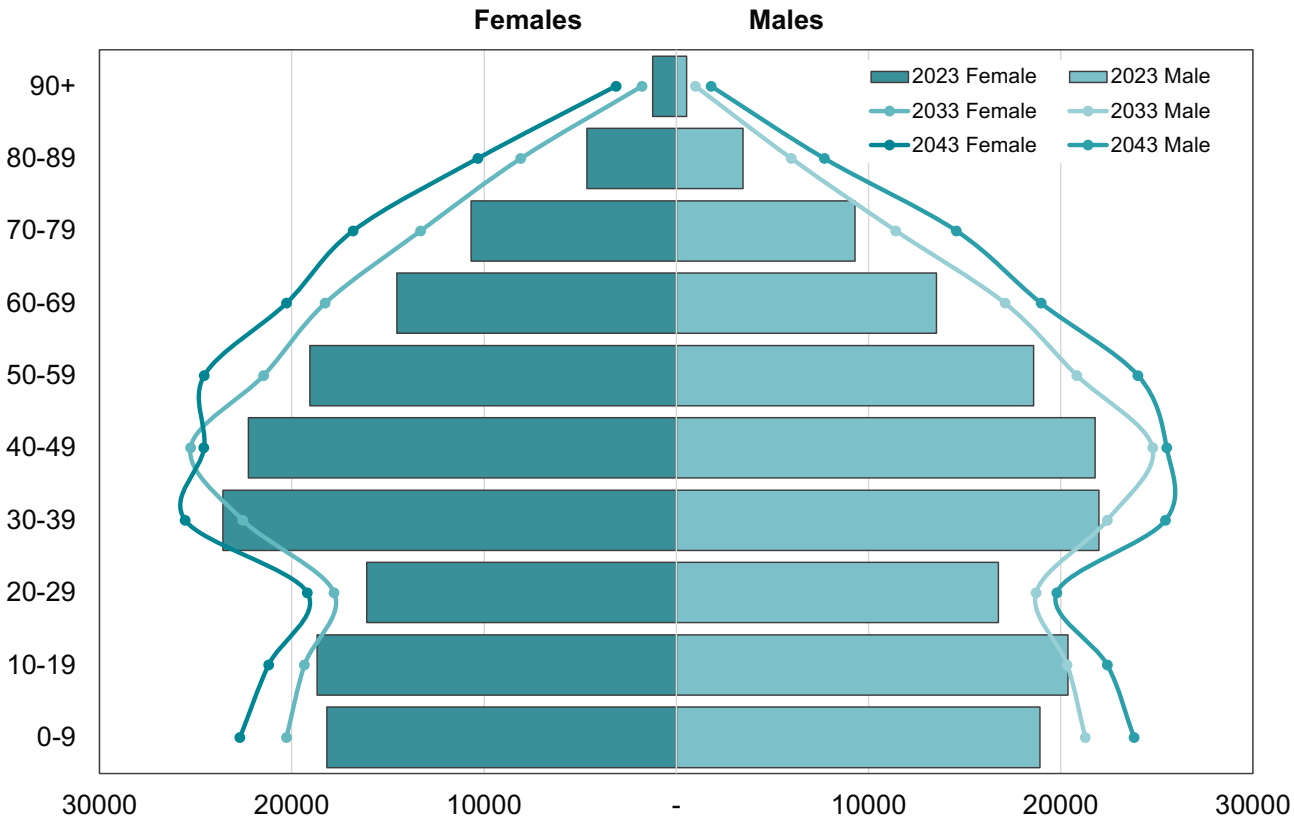
Source: iStock, under licence, credit Chunyip Wong

2. The city's population and health

The first houses in MK were completed in 1971 and development has continued along the original design. In contrast to many other urban areas in the UK, Milton Keynes has not been constrained by green belt and has consequently expanded outwards. It remains among the fastest growing areas of the country, with a 15% population increase between 2011 and 2021, reaching 287,000 in 2021.[1]

In common with other new settlements, MK has a younger population than average. This is becoming less pronounced over time as the population ages (Figure 3.64), although ongoing housing growth will continue to bring younger families to the city. Local population forecasts suggest that, with planned levels of development, MK will be home to almost 400,000 people by 2050.[2] The city is increasingly ethnically diverse. In 2011, 20% of the population were from ethnic groups other than White. By 2021 this had risen to 28%.

Figure 3.64: MK population pyramid for 2023, 2033 and 2043 showing growth and ageing over time[2]



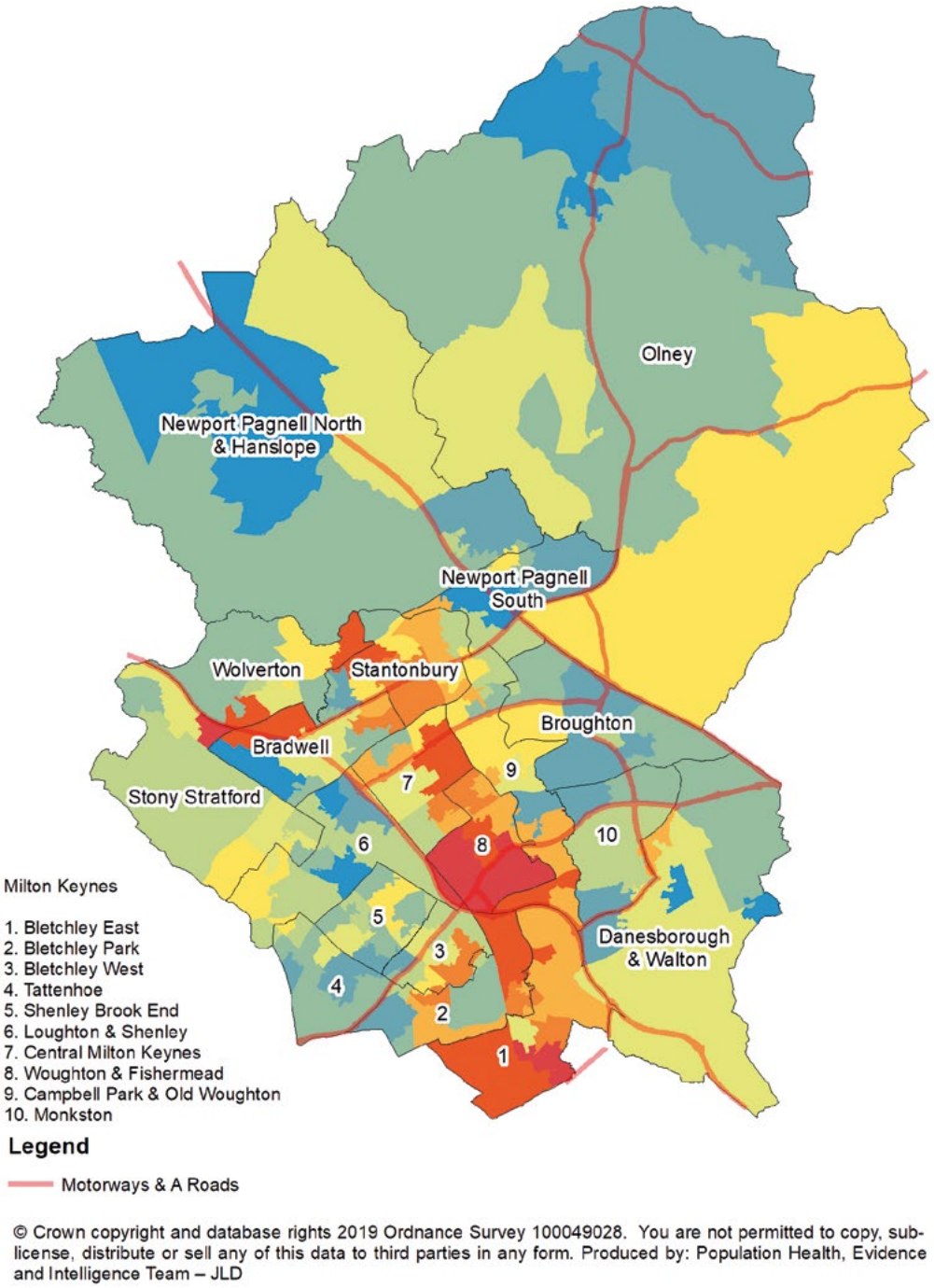
Source: Population Health Intelligence Unit, BLMK. Local population forecasts 2023-2043

In 2022, MK had the ninth highest gross domestic product (GDP) per capita amongst statistical areas in the UK, similar to Edinburgh and Manchester.[3] It is a net provider of jobs to the wider region. There are 104 jobs per 100 people of working age in the local authority area (compared to 87 per 100 across England, and the South East region), with relatively high average earnings among people *working* in the area (£779 per week vs £704 for the South East).[2] However, its residents do not always benefit from these opportunities. The proportion of households that

are workless is higher than across the South East (13% vs 11%), and average earnings for people *living* in MK are lower than the South East (£701 per week vs £724).[2]

MK falls among the 40% least deprived local authorities in England.[4] As with most places, this masks significant areas of deprivation within the city (Figure 3.65), mostly clustered around the central spine and original areas of development with poorer quality housing. In this sense, MK shares the inequality evident across most cities in the UK.

Figure 3.65: MK Index of Multiple Deprivation 20194, by national deprivation deciles

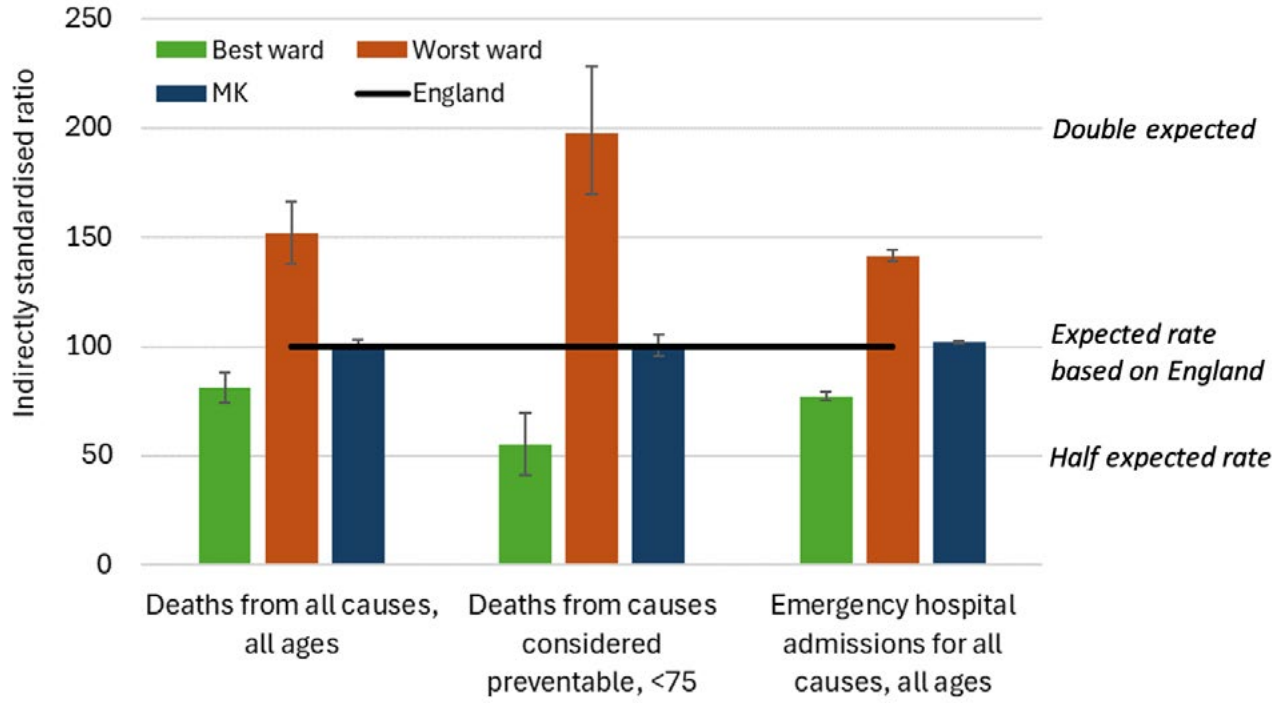


Source: MHCLG Indices of Deprivation 2019

Health outcomes in MK overall tend to be similar to England as a whole, but often worse than across the rest of the South East region.[5] Male and female life expectancy at birth, and preventable mortality for those aged under 75 years, are similar to England but significantly worse than the South East. Infant mortality is in line with England overall.[5] Smoking, physical activity, child obesity and adult obesity rates tend to be similar to or worse than national averages.[5]

At electoral ward level there are pronounced inequalities in health outcomes, with a 7.4 year gap in male life expectancy at birth between the highest and lowest wards, and an 8.1 year gap in female life expectancy.[6] There are wide inequalities in rates of deaths from all causes, causes considered preventable and rates of admissions to hospital,[6] as shown in Figure 3.66. Over 30% of pupils in Central Milton Keynes ward leave primary school living with obesity, compared to 15% in rural Olney ward.[6] Overall, therefore, despite MK's economic prosperity, health outcomes lag behind the South East average, and there are wide health inequalities within the City.

Figure 3.66: Mortality and hospital admissions for 'best' and 'worst' wards in MK, relative to England average, indirectly age standardised to England



Source: OHID: Local health, public health data for small geographic areas

NB: The England rate on each measure is 100. A ratio of 200 means the area has double the rate that would be expected given the age of people living there; a ratio of 50 means it has half the expected rate.

3. Planning and public health

Public health and planning are intrinsically linked. Planning legislation in the 19th century responded to the high incidence of communicable and water-borne disease by mandating appropriate sanitary provision. In the early 20th century, Ebenezer Howard's Garden Cities movement arose partly in response to concerns about protecting people from the air pollution and overcrowding found in cities, and giving people access to green space. The post-war New Towns programme grew out of this movement and established ambitious programmes for building new towns. This gave the Government power to designate areas of land for development. Public bodies known as 'Development Corporations' were established to oversee each New Town. Stevenage was the first New Town in 1955 and Milton Keynes Development Corporation (MKDC) was established in 1967.

At the time of MK's development there was a strong focus on rapid growth and urbanisation. The car offered new possibilities and its use was prioritised. Creating space for cars was a challenge in many British cities, but MK started with a blank sheet of paper and was able to put accessibility by car at the heart of its design. Today there is a much richer understanding of how built environments can positively and negatively impact people's health, for example through air pollution, car dependency, urban heat islands, substandard housing and exposure to flooding.[7]

Since the turn of the century there have been concerted efforts to strengthen the link between planning and health. This has been accelerated by the recognition of new health challenges, such as obesity and loneliness, and the need to develop sustainable cities. New policies, approaches and tools have been developed that feed into the planning process, such as Health Impact Assessment,[8] the Healthy Streets toolkit for the design of streets and highway infrastructure[9] and Active Design from Sport England to best promote physical activity in the built environment.[10]

4. Milton Keynes: Better by Design?

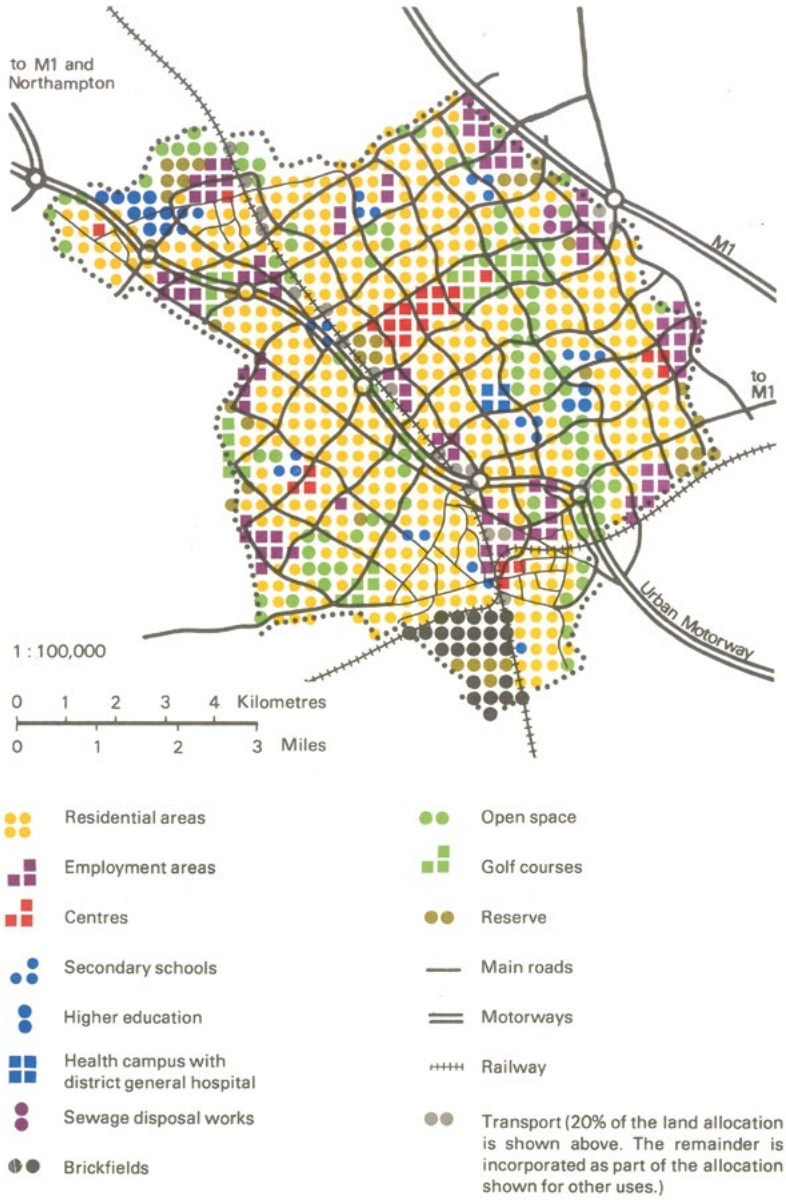
"Milton Keynes is conceived as a city of the future – one to stand the test of time".[11]
Lord Campbell – Chair of Milton Keynes Development Corporation (1967-1983).

4.1 The original Masterplan – a unique layout

The original Masterplan for Milton Keynes (1970) focused on equality of opportunity, principally through tackling poverty and promoting social cohesion, and the Plan sought the "attainment of an environment of high quality, which will minimise risks to health". There was recognition of the "many related goals and proposals which will affect, to a greater or lesser extent, the health, and particularly the mental health, of the new city's inhabitants."[12] As with all the New Towns, Milton Keynes enabled people to relocate from existing urban areas, predominantly London, and in some cases from very poor-quality condemned housing.

The Masterplan's design, centring on a grid network of roads with distinct neighbourhoods within the grid squares, sought to create ease of movement, with a road network for cars and a segregated network for people walking and cycling known as the Redways. Services and facilities were located within each residential grid-square which are separated from employment grid-squares. Rather than growing outwards from the centre, individual grid-squares have been developed as more self-contained communities that are connected via the Redways and grid roads.

Figure 3.67: Urban Milton Keynes as planned in 1970 imagery showing the grid network and segregated uses[36]



Source: Milton Keynes Development Corporation. *The Plan for Milton Keynes Volume One*. 1970

A typical Redway overbridge passing over a grid road in MK

Credit: Sam Smith, MKCC – with permission

A challenge of the grid-road and grid-square design is that it creates 'community severance' – the separation of people from goods, services and each other by busy roads or other transport infrastructure, [13] which can act as a physical or psychological barrier to movement by people walking or cycling.[14] This is exacerbated when the method of crossing the infrastructure is perceived as risky or unpleasant. Perceptions of safety are a concern in MK, with a 2022 residents' survey finding residents feel unsafe in underpasses and on overbridges, both during the day and at night.[15]

Gross housing densities across the city are very low[16] and land uses are distinctly segregated. This creates a sense of space and allows for extensive private and public green spaces within the estates, though the latter are often low quality. Such densities would have been in stark contrast to the inner-city areas many of the pioneering residents were leaving behind. Low

densities create challenges, however, notably difficulties in sustaining a public transport network and easily accessible services and facilities.

A typical estate road in Galley Hill, MK, with housing located on cul-de-sac side streets

Credit: Sam Smith, MKCC – with permission

In contrast, compact mixed use neighbourhood design is now widely recognised to bring public health benefits by reducing car dominance, encouraging more active travel, and making

opportunities and amenities more accessible to people. There are physical and mental health benefits, with higher levels of social interaction and sense of community arising from compact and walkable neighbourhoods that provide quality services/shops, open spaces, and affordable housing.[17,18] More recent development in the Eastern and Western Expansion areas of MK have taken this approach, with greater mixed use areas and higher densities, and there are proposals to increase the number of people living in the city centre with plans for 11,000 new homes over the next 25 years.

4.2 Housing

The principal reason for establishing Milton Keynes was to provide new housing. Five key principles were established, which have been borne out with mixed success:

(i) Housing in the city should be built to a quality which can stand the tests of the future.

(ii) Housing, whether for rent or sale, should be available in a wide variety of sizes and type.

(iii) Housing must be available over a wide price range to allow the relatively poor as well as the relatively wealthy to move to the new city.

(iv) No large areas of the city should be developed with houses of a similar type, size or tenure.

(v) Mobility must be possible between different types and tenures as household needs, resources and preferences change.

Principles (ii) and (iii) have been realised, with a range of tenures and sizes of properties, in line with national averages. Property prices are similar to average (£310,000 in April 2024 in MK vs £298,000 across England). The private rental market is less expensive on average than nationally (£1,218 per month in May 2024 compared to £1,293 across England),[19] but there is pressure on social housing let directly through the Council (which retains a housing stock of its own) or through Housing Associations. There are high numbers of households living in temporary accommodation and proactive measures have been put in place to address high levels of rough sleeping. The Housing and Economic Development Needs Assessment for the MK City Plan 2050 has identified that 14,000 new affordable homes will need to be built over the plan period.[20]

While there is variety in design, size and tenure across the city (principle iv), within local areas there can be less variation, with inevitable impacts on concentrations of deprivation. Large, architect-led, estates built early in the city's development lacked variety in terms of the housing offer and the design. These areas are significant in terms of the historic development of the city but tend to have the highest levels of deprivation.

Section 4.3 describes how the grid-road network has been effective in maximising mobility by car (principle v), but has also limited use of other modes of travel.

The quality of homes (principle i) is a significant issue in MK. Early on, large areas of housing were built quickly driven by ambitious housing targets, and the use of new, non-traditional materials. During the early years of the Development Corporation (MKDC) there were material shortages and, whilst the housing was of a higher standard than the homes people were leaving behind, the legacy today is a relatively poor housing stock. The oldest Development Corporation housing in MK, and that of non-standard construction, is in areas which are now suffering most from high levels of deprivation and health inequalities. These properties are difficult and costly to maintain and offer poor thermal comfort, causing overheating in the summer months and cold temperatures in winter. While just 1.1% of homes across MK have no central heating,[21] compared to 1.5% across England, in some small areas of the city the proportion is over 5%, despite all the properties having been constructed since 1971.

Maisonettes constructed of concrete panel frame with corrugated metal cladding

Credit: Sam Smith, MKCC – with permission

The Marmot Review (2010) highlighted housing as a determinant of health[22] reflecting evidence that exposure to poor housing conditions (including damp, cold, mould, noise) is strongly associated with poor physical and mental health. The longer the exposure to poor conditions, the greater the impact on mental and physical health."[23]

The City Council has embarked on an ambitious programme of regeneration and renewal. More than 300 homes in Netherfield will benefit from upgrades to improve thermal comfort, energy-efficiency and ventilation to reduce the risk of damp and mould and address fuel poverty. The Council is also regenerating The Lakes Estate, a former Greater London Council development built in Bletchley between 1967-1975. This includes the demolition of Serpentine Court, a block of 199 flats which suffer from damp, mould and poor thermal comfort, and its replacement with a new development of high quality and sustainable homes, landscaping and children's play areas.

Artists impression of the Lakes Estate regeneration

Credit: Milton Keynes City Council – with permission

4.3 Movement and accessibility

Porte-cochères in Central MK provide shelter for pedestrians between carriageways

Credit: Sam Smith, MKCC – with permission

The grid-road network forms the foundation of movement across the city, comprising over 100 miles of grade-separate roads, two-thirds of which are dual-carriageways. Alongside these, the city was planned with 200 miles of dedicated shared-use paths known as Redways. This traffic-free network covers most of the city's estates, with some routes extending out to connect to the older towns.

Despite this infrastructure, Milton Keynes is heavily reliant on private vehicles. The grid-road design makes travel by car very convenient, with average speeds over 34mph compared to 23mph nationally.[24] Outside Central MK, most grid-roads are subject to the national speed limit of 70mph. Minimum journey times to key services favour private vehicles, at 9.3 mins compared to 13.6 (cycle) and 16.1 (public transport/walking).[25] Central MK alone has 21,000 parking spaces,[26] compared to 4,900 in neighbouring Northampton and 5,800 in Bedford. Car ownership is higher than average with 83% of MK households (78% nationally) having access to at least one vehicle.[27] Access is not equal within the city, however, and over a third of households in some central and more deprived areas do not have access to a car or van.[25]

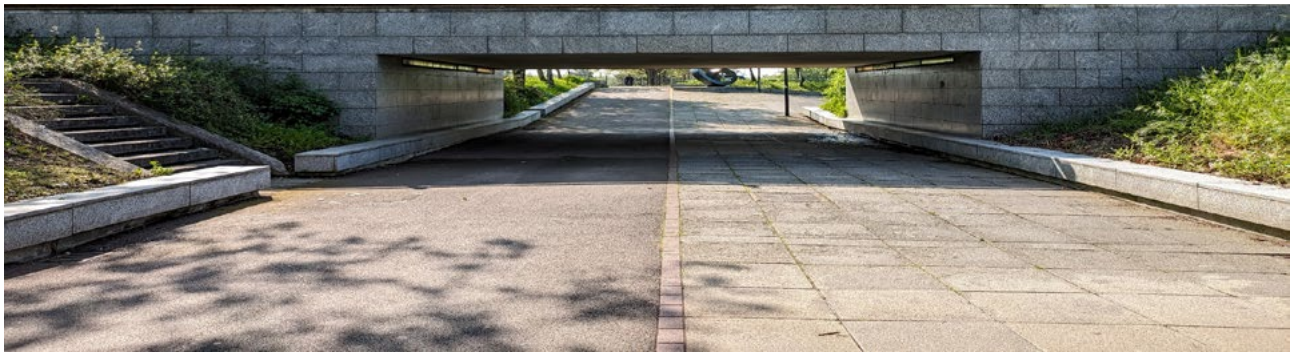
A typical grid road – grade-separated dual carriageway with tree planting to verges and elevated pedestrian/cycle routes

Credit: Sam Smith, MKCC – with permission

The ease of vehicle travel in MK makes public transport less attractive. This is a longstanding issue: even by 1974 complaints about public transport were common, with the Chair of the MKDC Lord Campbell observing that, "[public transport] is inadequate to the point of being non-existent". 8% of journeys to work by MK residents were made by public transport in 2021, compared to 12% nationally.[28] The circuitous nature of bus routes in MK to serve the grid-squares, along with the lower customer base arising from low housing densities and the convenience of the car, reduces the sustainability of routes without subsidy. Bus stops along the grid roads can be isolated and several minutes' walk away the residential area, often accessed across grass verges. The lack of informal surveillance and lit walking routes may be a further deterrent.

Similarly, despite the Redways network, the proportions of people walking or cycling to work are low. Of residents who travel less than 5km to their place of work, just 21% walk to work and 6% cycle. Nationally, these proportions are 29% and 10% respectively, though they tend to be much higher in cities. Research by CitizensMK,[29] an alliance of community groups, found that only 23% of cycle journeys in MK were made by women. 82% of non-cycling respondents said they would like to start cycling but 33% don't have a bike, 31% aren't confident and 4% of cyclists do not feel safe on the Redways. The latter is understood to be common perception: the Redways are often segregated from other road users, using underpasses or overbridges to cross grid-roads, and in parts of the city they run behind residential streets rather than along them, which results in a lack of passive surveillance ('eyes on the street' from other people, rather than active surveillance through security systems). In addition, the Redways do not necessarily provide direct routes between destinations, but can be circuitous.

The lack of active travel in MK is likely to be having a negative impact on resident's health. The health benefits of physical activity are well understood and there is evidence that the most effective way to increase physical activity is to incorporate it into day-to-day activities through active travel.



An underpass with Redway and pedestrian paths under the junction of Saxon Street and Avebury Boulevard in Central MK

Credit: Sam Smith, MKCC – with permission

Improving access to cycles is a priority for the Council and MK has both docked and dockless cycles and scooter hire schemes. These schemes have been very successful with over two million trips undertaken across the network since 2020 and are well-used by younger people.[30] The Council recently extended the scheme to run until at least May 2026.

4.4 Green and Blue Infrastructure

MKDC actively sought to incorporate existing landscape features, water courses, habitats and heritage sites into their plan for MK. Many of these were used to establish the layout of the city, which incorporated a network of linear parks. As a result, many of the city's homes and workplaces are within walking distance of green and natural spaces. The plan created several new parks including the Grade II Listed Campbell Park in Central Milton Keynes, which is one of the largest parks to be laid out in the UK during the 20th and 21st Century.[31] Extensive woodlands line much of the grid-road network, which separates the roads from their adjacent communities, dampens sound and limits air pollution, but potentially reduces passive surveillance.

The city's blue infrastructure includes the Grand Union Canal and River Great Ouse. The Plan also required the formation of new balancing lakes as part of the flood and water management for the city, which provide extensive water-based recreation as well as protecting the city from floods.

There is evidence that green space buffers the socio-economic gradient with health, such that all-cause and circulatory disease mortality are better in poor areas that have access to green space than in poor access without access to green space.[32] It Is difficult to say if this is evidenced in MK; wide health inequalities certainly exist, but they might be even wider without the green space.

Figure 3.68: Milton Keynes parks[33]

Source: The Parks Trust, Milton Keynes

Whilst recognising the importance of strategic blue and green infrastructure, MKDC were aware of the need to provide local green spaces and particularly play spaces for children. The image below shows the hierarchy of play, and play facilities for children to guide development of the original estates. There are now over 500 play areas in MK, and this number continues to grow as new developments are built out. Physical activity for children and young people builds confidence and social skills, improves concentration and learning, strengthens muscles and bones and maintains healthy weight amongst other benefits.[34] There is growing interest in the design of the built environment and its impacts on children, including a select committee inquiry during the last parliamentary session.[35]

Figure 3.69: Original guide for play facilities[36]

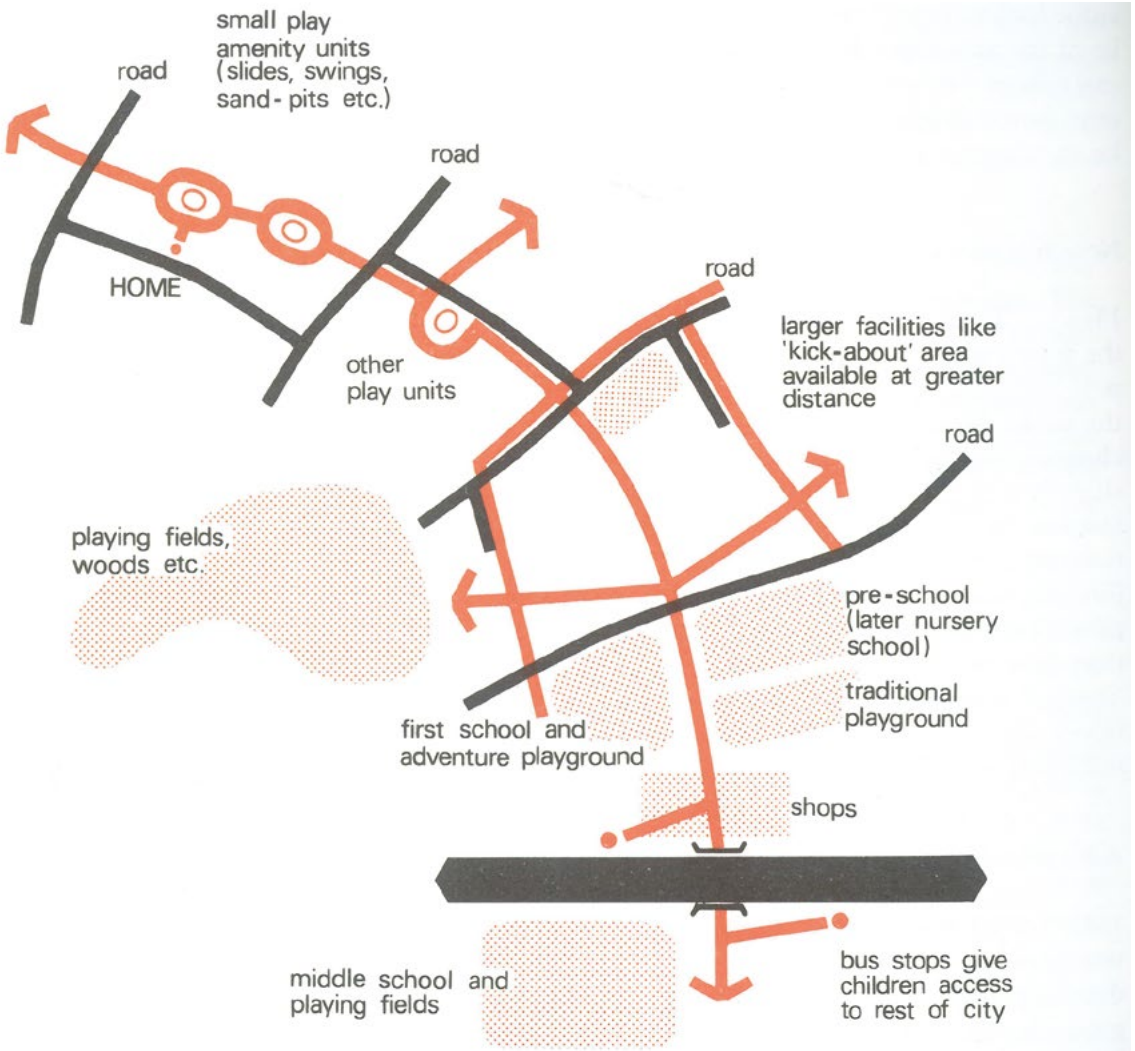


Figure 131
PLAY FACILITIES IN RESIDENTIAL AREAS. Growing children need a range of play opportunities as they are increasingly able to venture further from the home. These facilities will be used only if they offer some special activity or because they lead somewhere and can relate to a play movement route.

Source: Milton Keynes Development Corporation. *The Plan for Milton Keynes Volume One*. 1970

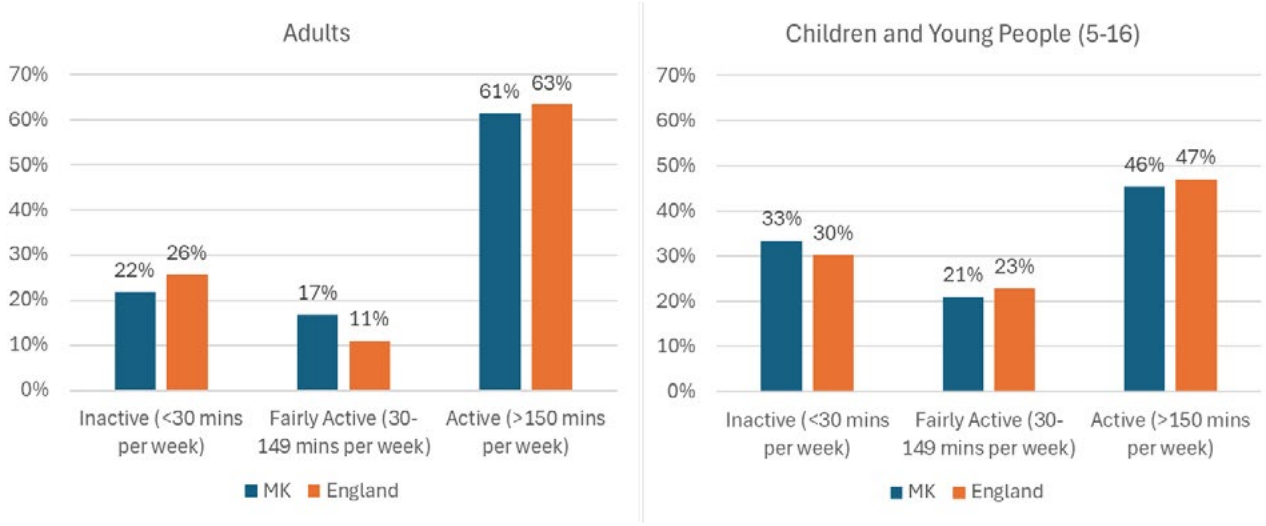
Milton Keynes is unusual in that the council is not responsible for much of the city's blue and green infrastructure. Instead, when MKDC was wound up in 1992, The Parks Trust was established as a charity to own and manage them, funded through a property endowment. The Parks Trust is responsible for 6,000 acres of green space including parks, ancient woodlands, lakes, river valleys and 80 miles of landscaped areas along the city's grid roads. The space managed continues to grow as ownership of new parkland and greenspaces in new developments is passed onto the charity. This structure of management has helped to protect the spaces and maintenance costs are less impacted by other pressures on the public purse.

Play and open space in new development at Brooklands, Milton Keynes

Credit: The Parks Trust – with permission

Despite this extensive provision, which amounts to roughly 80sq/m per resident, the latest results from Sport England's Active Lives Survey (Figure 3.70) show that the proportion of MK adults and children reaching thresholds for being 'active' are below the England average. Concerningly, the proportion of MK children in the 'inactive' category is higher than average. The same survey also suggests MK children spend less time outdoors than average, with just 36% averaging over half an hour outdoors per day outside school compared to 45% nationally. These low levels of physical activity at least partly explain why obesity rates are high in MK and undoubtably have negative impacts on people's health.

Figure 3.70: Levels of physical activity among MK residents compared to England average[37]



Source: Sport England. *Active Lives Survey, 2022/23*

5. Looking to the future: Milton Keynes in 2050

Milton Keynes retains a strong sense of innovation and ambition. The positive approach to planned growth, and the potential to shape health through good design, come through strongly in the City's Strategy for 2050 and the draft MK City Plan 2050.

The Strategy for 2050[38] explicitly references the relationship between urban design and health and signals a shift towards avoiding obesity-related illness and supporting mental health, with an emphasis on promoting an active lifestyle, through more walking and cycling, active leisure and sport, and continuing to provide open space and parks.

The draft MK City Plan[39] sets out an ambition to deliver around 63,000 new homes between 2022-2050. Making MK a "more people-friendly and healthy place to live, work and enjoy" is described as a "driving force of the plan". There is a focus on providing good quality, energy efficient and affordable homes; creating more and high-quality jobs in accessible locations; supporting people to be active and walk, cycle or scoot as much as possible in their day-to-day lives and providing quality open and green space, schools and services in the right places.

This demonstrates how the City Council is taking a long-term perspective to guide how the city will grow, responding to health and social challenges that are currently evident.

Proposed car park 'greening' in Central MK

Source: Draft MK City Plan[39] (image copyright Milton Keynes City Council – with permission)

6. What can we learn from MK?

MK remains a popular place to live, especially for families, and to set up businesses and to work. The original plan for the city has been broadly realised but the grid design is now almost 55 years old. Much has changed in that time, including our understanding of how the built environment influences people's behaviour and health, as well as society's needs and health challenges.

Some design features, such as the generous green and blue infrastructure, have aged well, providing opportunities for people to be active and to be outdoors, though these opportunities do not lead to higher levels of physical activity in practice. Newer housing developments have integrated these opportunities into residential areas more successfully. Other attributes of the planned city, such as the low densities, combined with the planned dominance and efficiency of car travel, leave a practical and cultural legacy for public transport and active travel that is challenging to address, even in the context of rising obesity and the climate emergency. Similarly, the underlying grid design creates severance between neighbourhoods, forming physical and psychological barriers between communities that affect levels of active travel and wider connectivity. The poor quality housing in parts of the city, not unique to Milton Keynes but a legacy of building design during that era, will be expensive and take time to remedy. The extensive walking and cycling Redways network remains an under-used asset from a health and

transport perspective, showing that infrastructure alone is not enough but its quality and perceived safety, and wider cultural norms, matter too.

These examples highlight how urban planning can shape people's lives, their behaviours and their health. The ability of planners to do this well relies on an understanding of what good planning looks like as well as the political priorities and legal framework to enable it to happen, particularly where there are commercial concerns about the financial viability of individual developments. Continued efforts to share learning and undertake good quality research and evaluation are still needed. The learning from MK has much to offer but is by no means the end of the story.

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4 City contexts

The following subsections consider a variety of subjects important to health in cities, and broadly cover the built environment as well as some specific populations and medical topic areas.

Whilst changing the environments we live in can be a significant undertaking, the gains which can be achieved for public health and wellbeing are large. Housing, active travel, the food environment and air pollution are areas where making even incremental positive changes could meaningfully improve the health of city populations.

Cities have different population structures than smaller towns and rural areas, and some populations are more likely to live in them, such as higher education students and people who sleep rough. The intersection between ethnicity, health and living in cities is complex and explored further here. Deprivation, whilst existing both in cities and rural areas, is often concentrated in specific urban areas and is highlighted due to the well-established links between higher levels of deprivation and poorer health. Whilst older people are becoming more concentrated in the periphery, as highlighted in the CMO annual report 2023, cities are ageing too and the health of older residents must be considered.

Due to the sheer numbers and density of people living in cities, it would be possible to select any medical specialism and highlight it from a city angle. In this section, we have chosen to highlight two, where the interplay between city and condition is highly relevant: mental health and infections.

4.1 Urban centres, ethnicity and health: where are we now?

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Introduction

Urban environments in England hold significant importance for the nation's ethnic minority populations, serving as both engines of opportunity and incubators of health and care inequalities. These areas have historically attracted migrants and ethnic minority groups seeking improved socioeconomic prospects and cultural cohesion.[1] While cities offer access to essential services, employment, and education, they also concentrate factors linked to poorer health outcomes, such as poverty, overcrowding, distrust of health systems, negative health behaviours and environmental pollution and noise.[2]

The World Health Organization emphasises the potential of cities to enhance population health through the provision of services and social infrastructure.[3] However, the benefits of urban living are unevenly distributed, with ethnic minority populations often experiencing disproportionate health burdens.[4] These communities are overrepresented in deprived neighbourhoods characterised by substandard overcrowded housing, limited green spaces, access to poor quality food and poor air quality, factors strongly associated with adverse health outcomes.[5]

Rapid urban transformation processes, including gentrification and demographic shifts, have further compounded these challenges. While these changes can bring economic benefits, they may also displace long-standing residents and erode social cohesion.[6] Ethnic minority communities are particularly vulnerable to these effects, often facing displacement and polarisation due to rising housing costs and the loss of essential services.[7] Living in neighbourhoods with higher ethnic density, however, may also have advantages such as increased cultural identity, religious/spiritual and social support, and family cohesion which may have beneficial effects particularly on psychological wellbeing[8,9] and may offer some protection from the effects of racism.[10]

The increasing diversity of England's cities reflects the nation's changing demographics, which often coexist with persistent and widening health inequalities. Some ethnic minority groups experience higher rates of morbidity and mortality from a range of conditions, including cardiovascular disease, diabetes and mental health disorders. The factors underlying these disparities are not well understood and may be influenced by complex interactions between socioeconomic, physiological, genetic, cultural, environmental and discrimination factors.[11] For example, South Asian communities experience increased cardiometabolic morbidity and mortality; this is attributed to a combination of factors, such as a genetic predisposition in combination with lifestyle and physiological factors, including lower levels of physical activity[12] and cardiorespiratory fitness,[13] poorer risk factor control,[14] a higher prevalence of visceral adiposity and sociodemographic factors, including living in areas with higher levels of deprivation and air pollution exposure.[15,16,17] Office for National Statistics data showed that prior to the COVID-19 pandemic, the White ethnic group had lower life expectancy compared to ethnic minority groups, with the healthy migrant effect and lower rates of tobacco and alcohol as potential reasons for these differences.[18] Recent analysis of longitudinal census data also highlighted the relatively high proportions of missing data for ethnic minority groups which would artificially overestimate life expectancy.[19]

This chapter reviews our understanding of UK urban areas and the distribution of ethnic minority populations, how these are changing and their impact on population health. We also reflect on emerging approaches and frameworks to respond to these challenges, including a selection of case studies of promising practice.

Setting the scene

From 2021 census data, in England, 9.6% of the population, or 5.4 million people, identified themselves as Asian, or Asian British ethnic groups, while 4.2%, or 2.4 million, identified as Black, Black British, Caribbean or African. Those identifying with Mixed or Multiple ethnic groups made up 3.0% of the population, totalling 1.7 million. The White ethnic groups were the largest, comprising 81.0% of the population, or 45.8 million people.[20] On average, the White group had a higher median age of 43 years, whereas the Asian/Asian British, Black/Black British, had a median age of 32 years. The Other ethnic group had a median age of 33 years. In contrast, individuals from Mixed or Multiple ethnic groups were considerably younger on average, at 19 years.[21]

From analysis combining Census 2021 and linked data, allowing the derivation of built-up area (BUA) categories, the BUA category with the largest number of people (Table 4.1) was the Medium/Large BUA (20,186,840 people), with the Major BUA having the lowest number of people (7,099,050 people). There was a gradient in the ethnic composition between the largest and smallest BUAs, with more people from ethnic minority groups residing in the largest BUAs (Major, London) compared with the smallest (Small/Minor, Medium/Large). London had the highest percentages and number of people from ethnic minority groups residing there (61.9% and 4,686,570 people).

Table 4.1: Counts of individuals in sample, by ethnic group and built-up area category

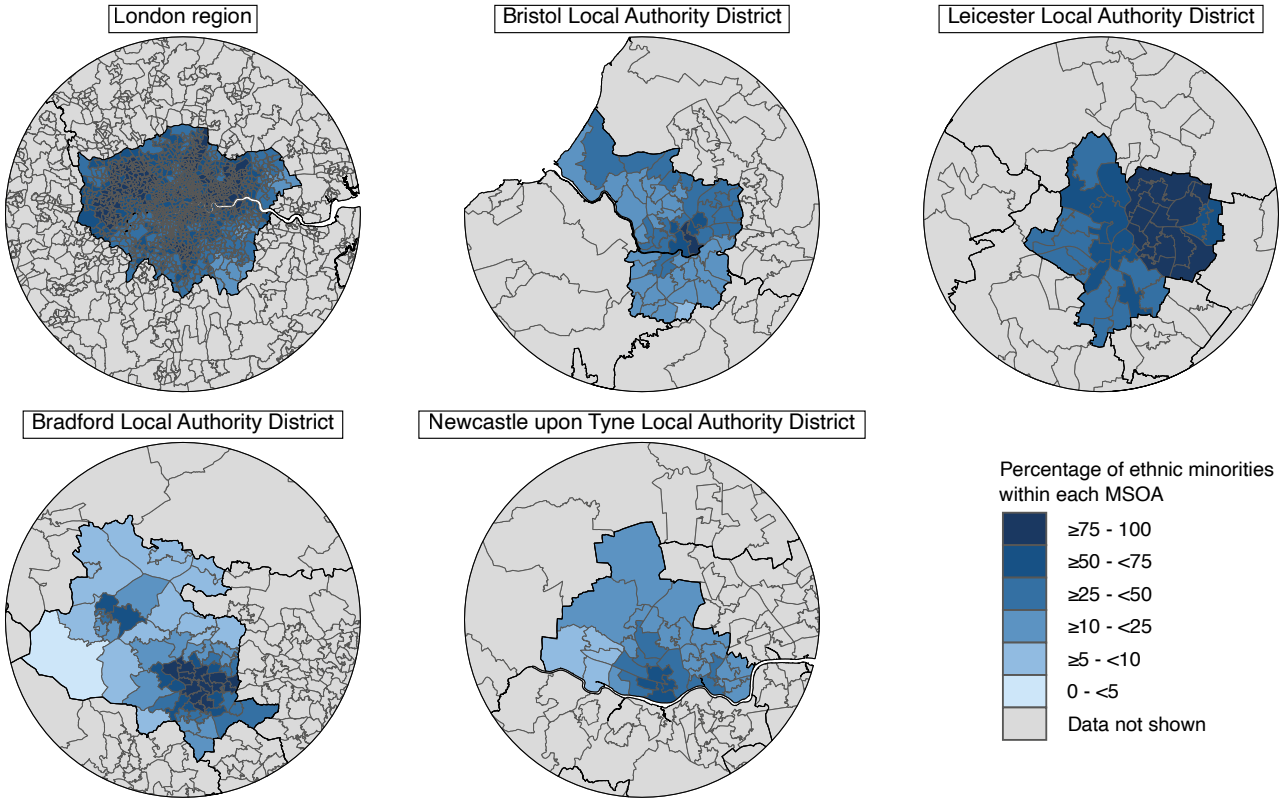
Ethnic group	Minor/Small		Medium/Large		Major		London	
	Count (n)	Share (%)	Count (n)	Share (%)	Count (n)	Share (%)	Count (n)	Share (%)
White British	12544575	91.3	16139730	80	4436155	62.5	2882035	38.1
White Other	494765	3.6	1266360	6.3	520855	7.3	1244760	16.4
Mixed/multiple ethnic groups	220935	1.6	496220	2.5	269765	3.8	429790	5.7
Indian	128205	0.9	551230	2.7	366230	5.2	582085	7.7
Pakistani	53890	0.4	537370	2.7	529015	7.5	250885	3.3
Bangladeshi	15690	0.1	128745	0.6	123700	1.7	276670	3.7
Chinese	39035	0.3	113125	0.6	67010	0.9	119255	1.6
Asian Other	67085	0.5	252555	1.3	145930	2.1	346365	4.6
Black Caribbean	24735	0.2	97495	0.5	103650	1.5	285935	3.8
Black African	60010	0.4	280055	1.4	272080	3.8	563040	7.4
Black Other	14015	0.1	55040	0.3	50615	0.7	119340	1.6
Arab	14220	0.1	61935	0.3	73175	1.0	116440	1.5
Any Other Ethnic Group	58700	0.4	206980	1.0	140870	2.0	352005	4.7
Total	13735860	99.9	20186840	100.2	7099050	100	7568605	100.1

Data are presented as count (n) and percentage (%). All values are rounded to the nearest five and percentages are based on rounded values. Shares sum to approximately 100% within BUA categories across ethnic groups, but may not sum exactly to 100% due to rounding.

Data source: Office for National Statistics, Health inequalities by built-up area and ethnic group, England: March 2021 to May 2023

There are regional differences in the composition of ethnic group (Figure 4.1). While all classified as Major BUAs, London has a higher percentage of residents belonging to ethnic minority groups compared with Newcastle or Bristol. There are differences within different regions and Local Authorities (LAs) too, with northern areas of London having a higher percentage of residents who are from ethnic minority groups compared with the south of London. Eastern parts of Leicester LA have a higher percentage of residents from ethnic minority groups compared with southern and western Leicester LA. Similarly, areas of Bradford LA closer to the City of Bradford have a higher percentage of residents from ethnic minority groups compared with more rural northern areas of the LA. This pattern of higher concentrations of people from ethnic minority groups in more urban areas is generally seen across most LAs.

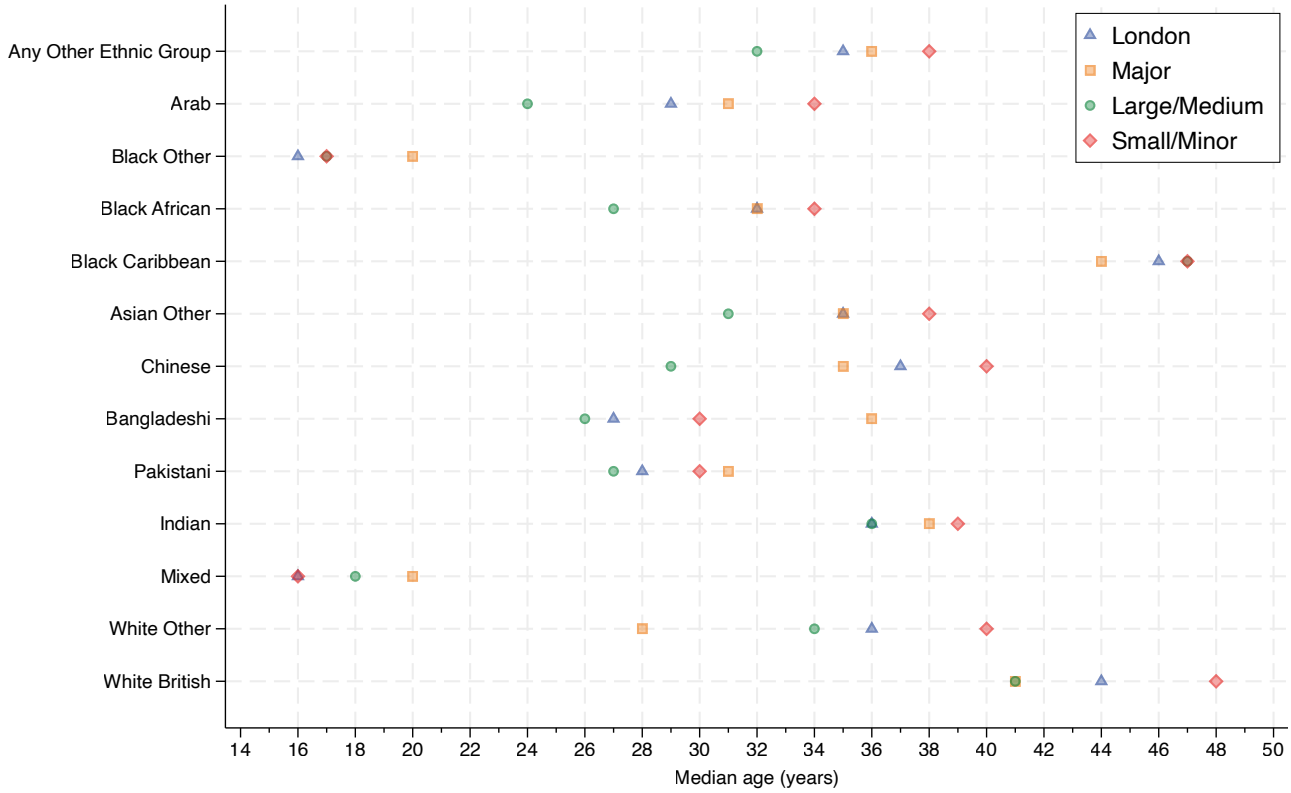
Figure 4.1: Percentage of residents belonging to ethnic minorities in the London region and Bristol, Leicester, Bradford and Newcastle upon Tyne Local Authority Districts



Ethnic minority group includes all ethnic groups, except White British.
Data source: Office for National Statistics, Census 2021

Across most ethnic groups, residents in the Small/Minor BUA had the oldest median age (Figure 4.2). Black Other and Mixed ethnic groups had the lowest median age across all BUA categories, with the White British and Black Caribbean ethnic groups having the highest median age.

Figure 4.2: Median age, by ethnic category and built-up area category

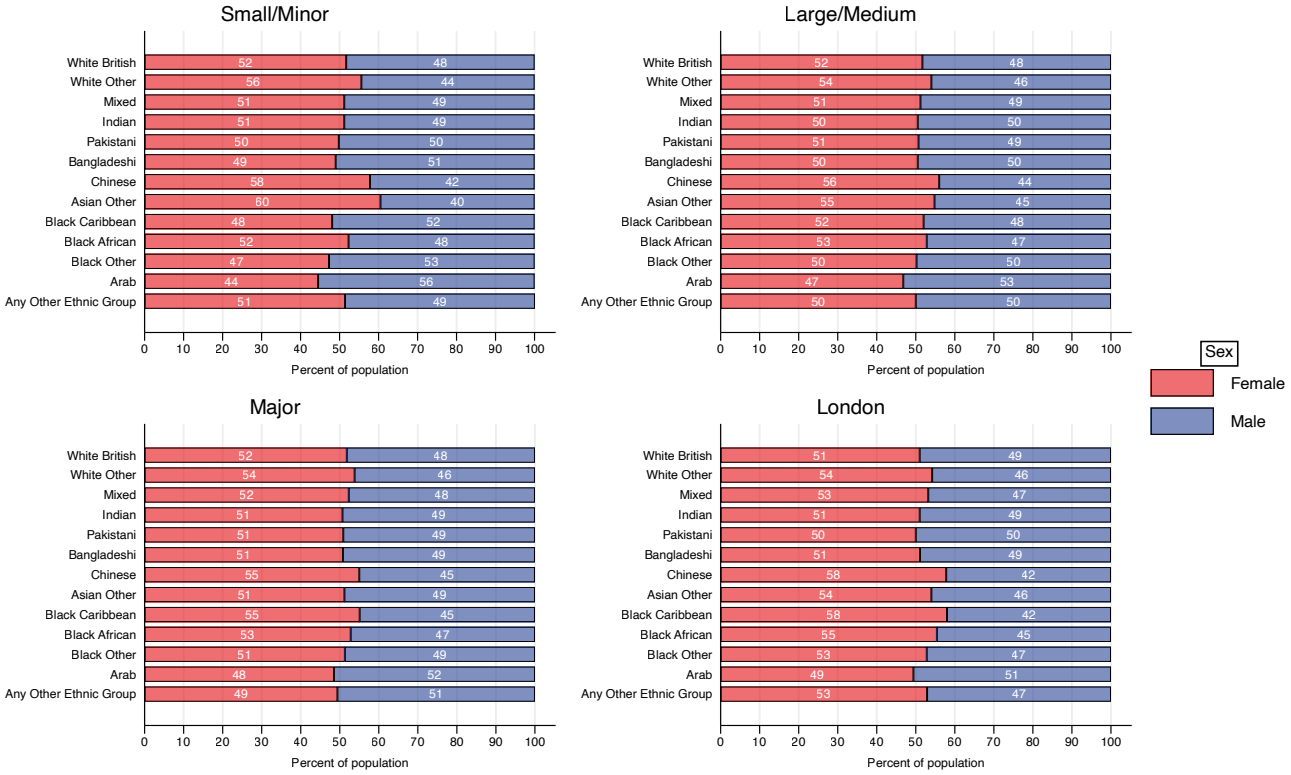


Age (years) is presented as median. Blue triangle denotes London BUA; yellow square denotes Major BUA; green circle denotes Large/Medium BUA; red diamond denotes Small/Minor BUA.

Data source: Office for National Statistics, Health inequalities by built-up area and ethnic group, England: March 2021 to May 2023

The percentage of females and males were generally consistent across all BUA categories (Figure 4.3). The Chinese ethnic group had one of the highest percentages of females across all BUA categories, while the Arab ethnic group had the lowest across all BUA categories.

Figure 4.3: Percentage of females and males, by ethnic group and built-up area category

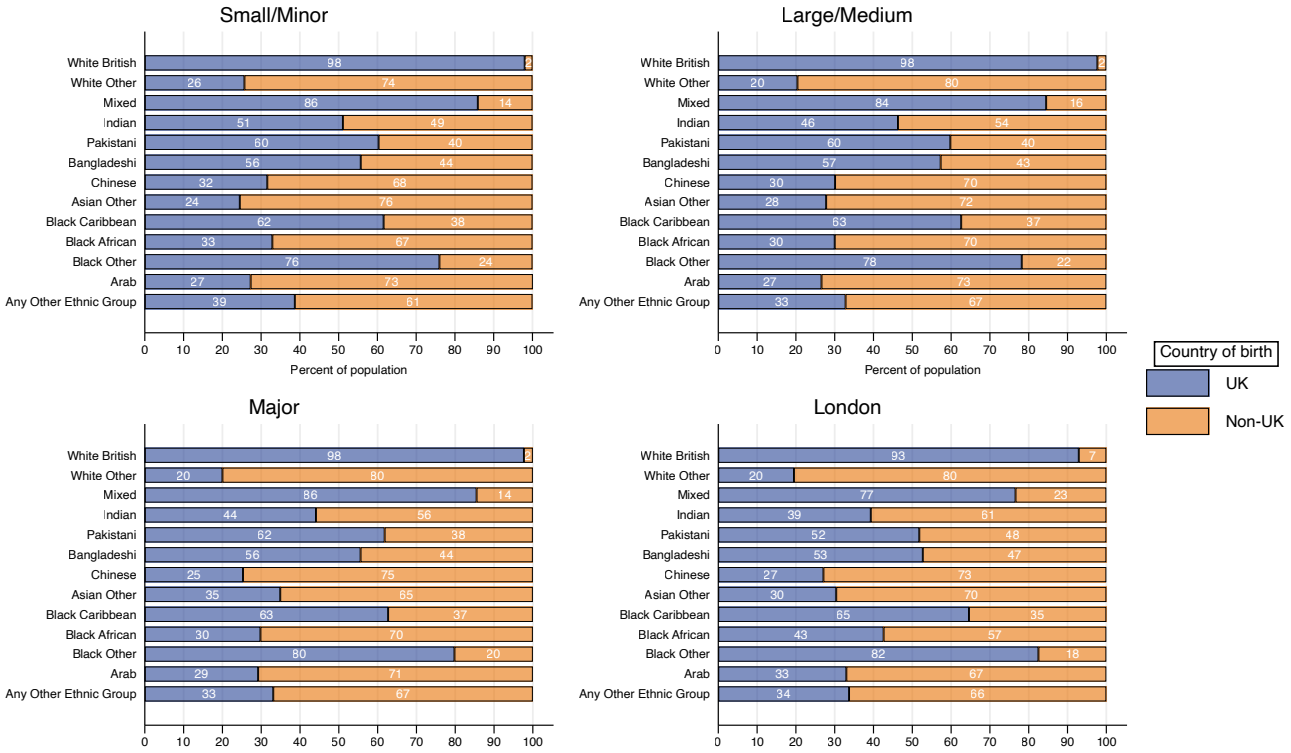


Categorical variables are presented as percentage (%) and not count. Percentages are based on rounded count values, with all count values (not shown in Figure) rounded to the nearest five. Red shading in bar denotes female and blue shading denotes male.

Data source: Office for National Statistics, Health inequalities by built-up area and ethnic group, England: March 2021 to May 2023

The percentage of UK born, and non-UK born individuals in different ethnic groups was generally consistent across all BUA categories. (Figure 4.4). Across all BUA categories, the ethnic group with the highest percentage of non-UK born individuals was the White Other group.

Figure 4.4: Percentage of UK and non-UK born individuals, by ethnic group and built-up area category



Categorical variables are presented as percentage (%) and not count. Percentages are based on rounded count values, with all count values (not shown in Figure) rounded to the nearest five. Blue shading in bar denotes UK born and orange shading denotes non-UK born.

Data source: Office for National Statistics, Health inequalities by built-up area and ethnic group, England: March 2021 to May 2023

Social and structural determinants of health for ethnic minority populations in urban areas

Social determinants of health, such as education, employment, income, and housing, play an important role in shaping health outcomes for ethnic minority populations in urban areas. The physical features of neighbourhood environments, including factors like residential density, traffic safety, recreational facilities, greenspace, the density of fast-food outlets, and walkability, are also important, and have been linked to cardiovascular diseases.[22]

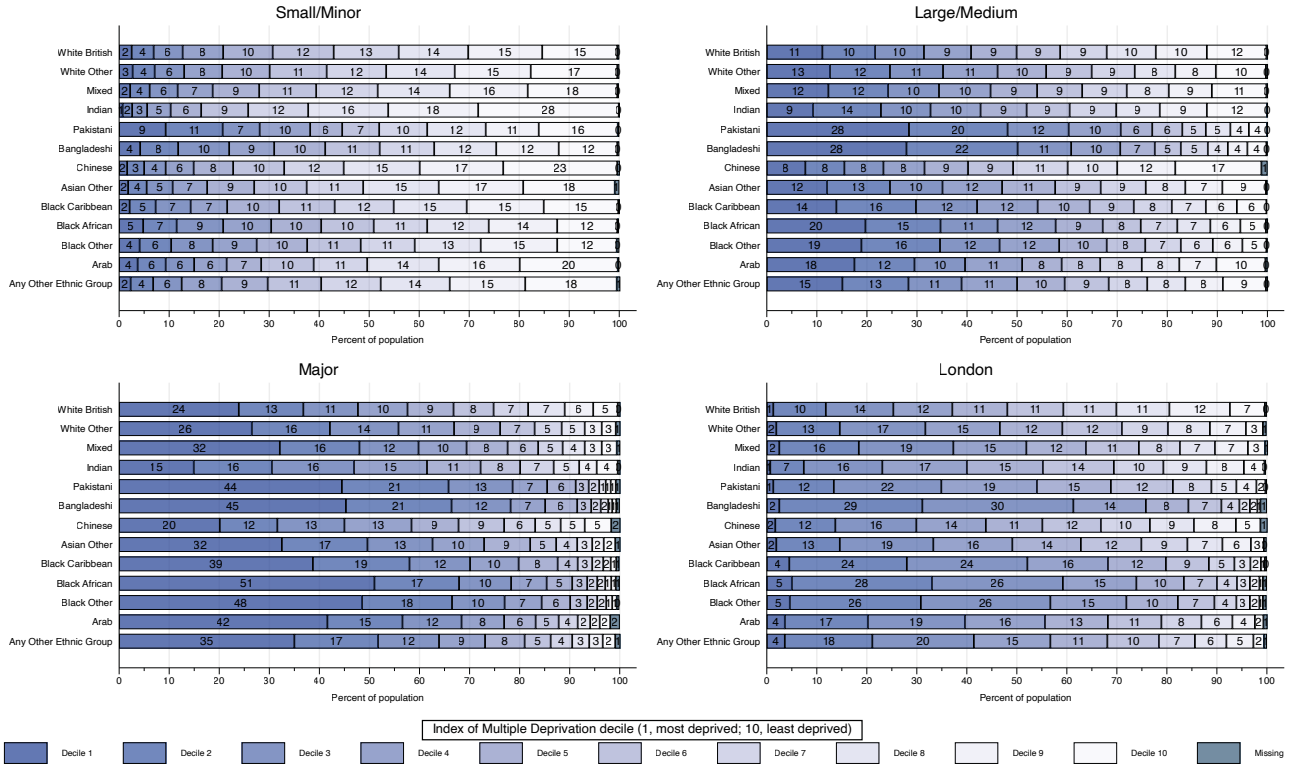
People living in cities also often have greater access to fast food, and some data has shown that areas with large ethnic minority populations and deprived neighbourhoods tend to have a higher number of fast-food outlets, which is associated with increased risk of developing Type 2 diabetes and obesity.[23] Additionally, racism and racial discrimination have a direct negative impact on health outcomes and further contribute to health disparities by reinforcing socioeconomic inequalities.[24]

In relation to deprivation, from analysis combining Census 2021 and linked BUA category derivations (Figure 4.5), Small/Minor BUAs had the highest percentage of people living in the least deprived areas (Index of Multiple Deprivation [IMD] decile group 10) across all ethnic

groups. The Major BUA category had the highest percentage of people living in the most deprived areas (decile group 1). London had amongst the lowest percentage of people living in the most deprived areas (decile group 1), but higher percentages of people in decile groups 2 to 5 compared with Small/Minor and Large/Medium BUAs.

In Small/Minor and Large/Medium BUAs, the ethnic groups with the highest percentage of people living in the top three most deprived decile groups (decile groups 1 to 3) were the Pakistani and Bangladeshi ethnic groups. In London and Major BUAs, Black African and Black Other groups, in addition to Pakistani and Bangladeshi groups, had the highest percentage of people living in the most deprived decile groups (decile groups 1 to 3).

Figure 4.5: Percentage of individuals in each decile of the Index of Multiple of Deprivation (IMD), by ethnic group and built-up area category

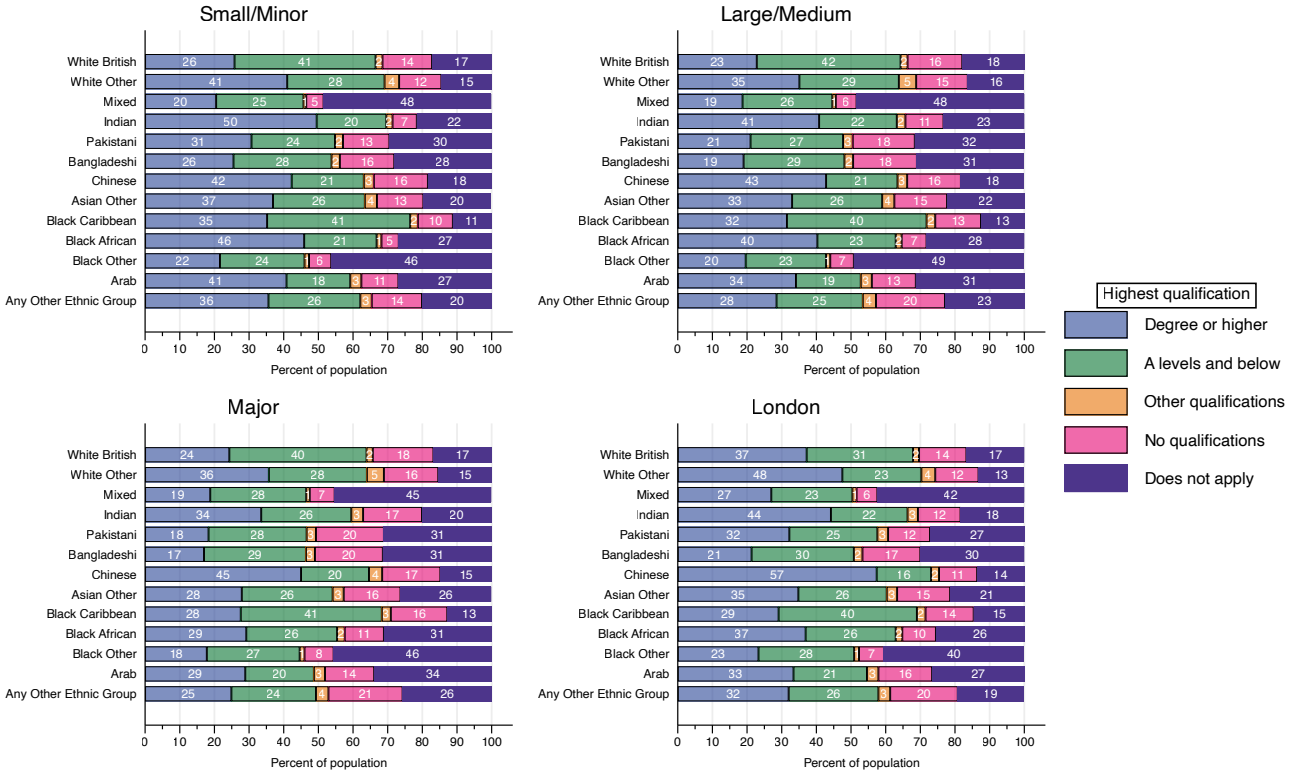


Categorical variables are presented as percentage (%) and not count. Percentages are based on rounded count values, with all count values (not shown in Figure) rounded to the nearest five. A darker shade of blue indicates a higher degree of deprivation and a lower IMD decile (i.e. Decile 1) indicates a greater degree of deprivation. IMD data is based on 2019 IMD. Missing IMD data indicates no IMD data could be linked to an individual.

Data source: Office for National Statistics, Health inequalities by built-up area and ethnic group, England: March 2021 to May 2023

In reference to education (Figure 4.6), London had the highest percentage of people who had degree-level or higher qualifications. In London and Major and Large/Medium BUAs, the Chinese ethnic group had the highest percentage of people with degree-level or higher qualifications. In Small/Minor BUAs, the Indian ethnic group had the highest percentage of people with degree-level or higher qualification. The Bangladeshi ethnic group had the lowest percentage of people with a degree-level or higher qualification in London and Major and Large/Medium BUAs. In Small/Minor BUAs, the Mixed ethnic group had the lowest percentage of people with a degree-level or higher qualification.

Figure 4.6: Percentage of highest qualification attained, by ethnic group and built-up area category

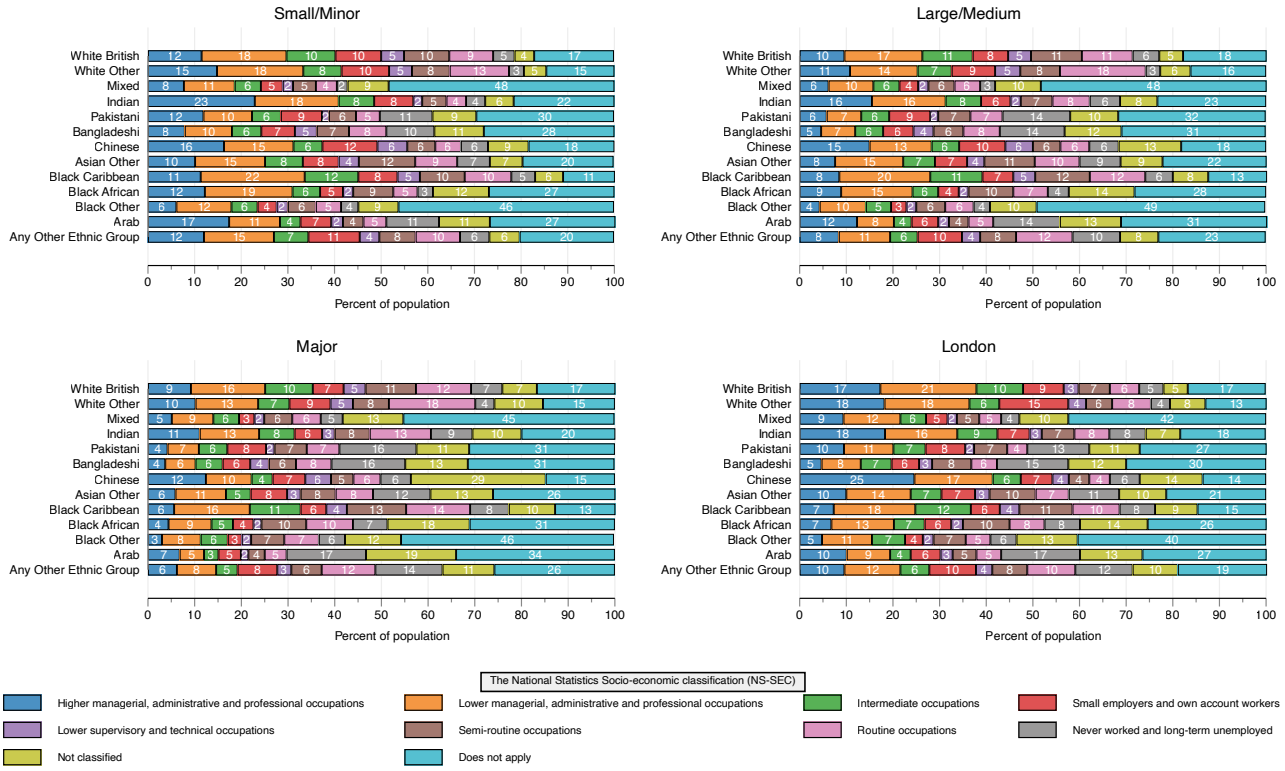


Categorical variables are presented as percentage (%) and not count. Percentages are based on rounded count values, with all count values (not shown in Figure) rounded to the nearest five. Blue shading in bar denotes degree or higher qualification; green shading denotes A-level qualification; orange shading denotes other qualifications; pink shading denotes no qualifications; purple shading denotes category does not apply. Does not apply indicates students and schoolchildren living away during term-time, and children aged 15 years and under.

Data source: Office for National Statistics, Health inequalities by built-up area and ethnic group, England: March 2021 to May 2023

In terms of National Statistics Socio-Economic Classification (NS-SEC, an occupation-based measure of socio-economic position) (Figure 4.7), Small/Minor BUAs and London had the highest percentage of people working in 'higher managerial, administrative and professional occupations' and 'lower managerial, administrative and professional occupations', with Major BUAs having the lowest percentage of people in these occupations across all ethnic groups. The ethnic groups that generally had the highest percentage of individuals working in these two occupation classifications were the Chinese and Indian ethnic groups. Major BUAs had the highest percentage of people who were classified as 'never worked and long-term unemployed', with the Arab, Pakistani and Bangladeshi ethnic groups having the highest percentage of individuals in this category.

Figure 4.7: Percentage of National Statistics Socio-Economic Classification, by ethnic group and built-up area category



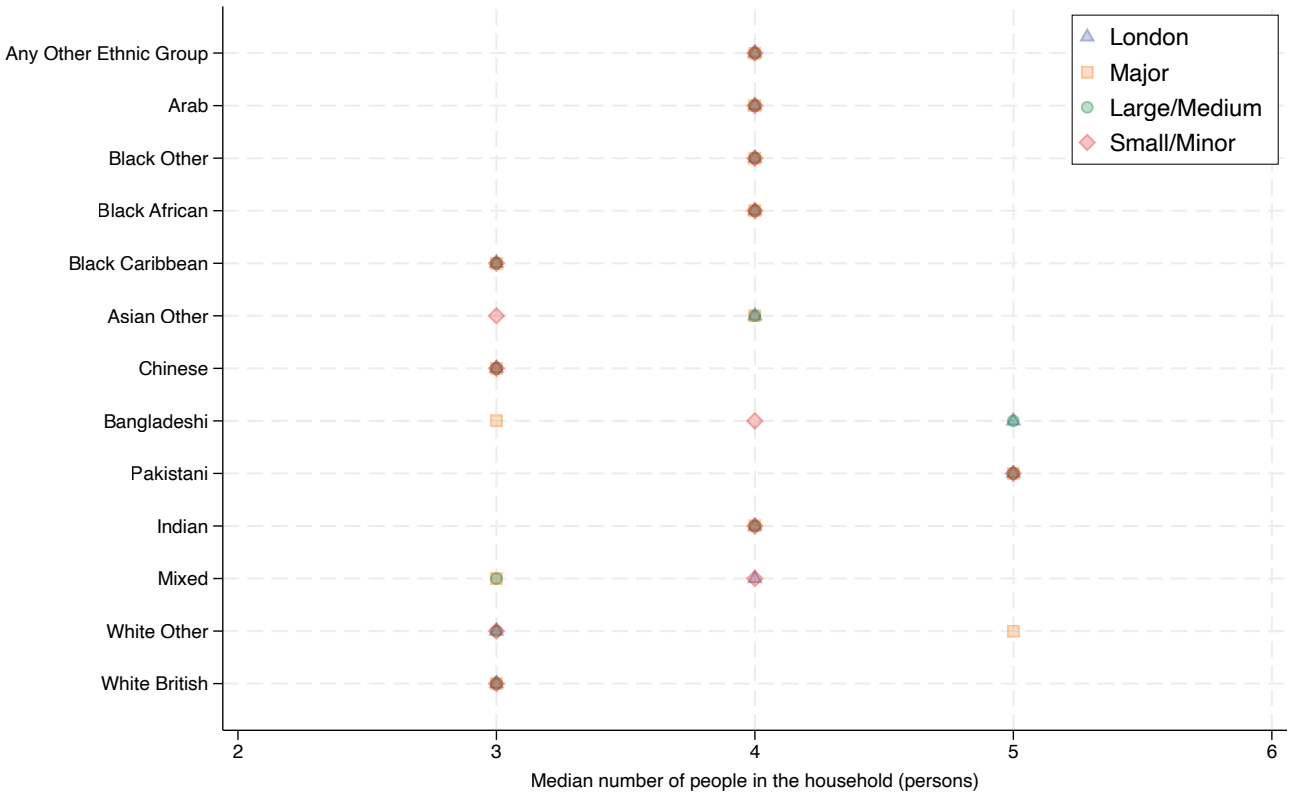
Categorical variables are presented as percentage (%) and not count. Percentages are based on rounded count values, with all count values (not shown in Figure) rounded to the nearest five. Bar shading meaning is denoted in the Figure legend. Not classified indicates full-time students. Does not apply indicates students and schoolchildren living away during term-time, and children aged 15 years and under.

Data source: Office for National Statistics, Health inequalities by built-up area and ethnic group, England: March 2021 to May 2023

From Census 2021 data, in England (excluding London), 7.3% of households in Minor BUAs (i.e., villages) were living in flats, maisonettes, or apartments, compared with 27.6% of those living in Major BUAs. The percentage of households in terraced properties was 16.9% in Minor BUAs and 28.8% in cities.[25]

From analysis combining Census 2021 and linked BUA category derivations (Figure 4.8), the Pakistani ethnic group had a consistently high median number of people living in a household (five people) across all BUA categories. The White British and Black Caribbean ethnic groups had a consistently low median number of people living in a household (three people) across all BUA categories.

Figure 4.8: Median number of people in household, by ethnic group and built-up area category



Number of people in household (people) is presented as median. Blue triangle denotes London BUA; yellow square denotes Major BUA; green circle denotes Large/Medium BUA; red diamond denotes Small/Minor BUA

Data source: Office for National Statistics, Health inequalities by built-up area and ethnic group, England: March 2021 to May 2023

Characterising and understanding differences in risk factors and health outcomes, by ethnic group and built-up area

Childhood obesity

Obesity is associated with adverse health outcomes throughout the life course. Further, children with obesity are at higher risk of developing adult obesity and the associated health risks, in addition to increased risk of social and psychological obesity related issues during childhood and adulthood.[26] There are also known differential associations between ethnicity and body mass index (BMI), with increased cardiometabolic disease risk among some ethnic minority groups (particularly south Asian and Black populations) at lower BMI thresholds.[27,28,29] Urban environments have also been postulated to create an obesogenic environment, which may promote behaviours associated with obesity. Therefore, monitoring ethnic differences in obesity and built-up area is important.

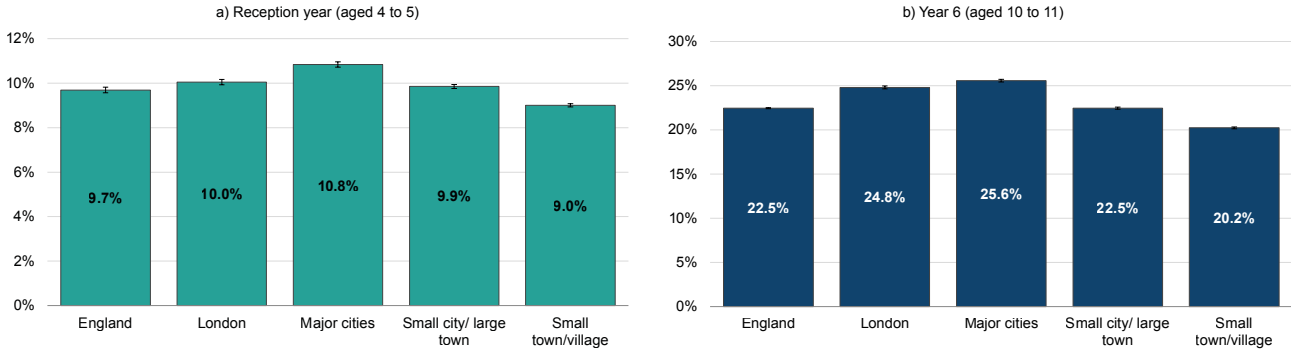
The National Child Measurement Programme (NCMP) collects data on child height and weight for children in Reception year (aged 4-5) and Year 6 (aged 10-11). Figures 4.9a and 4.9b show the

prevalence of children living with obesity in Reception and Year 6 by BUA categories for the academic years 2019/20, 2021/22 and 2022/23 combined. Data for 2020/21 is not included as data was only collected from a sample of schools due to the COVID-19 pandemic.

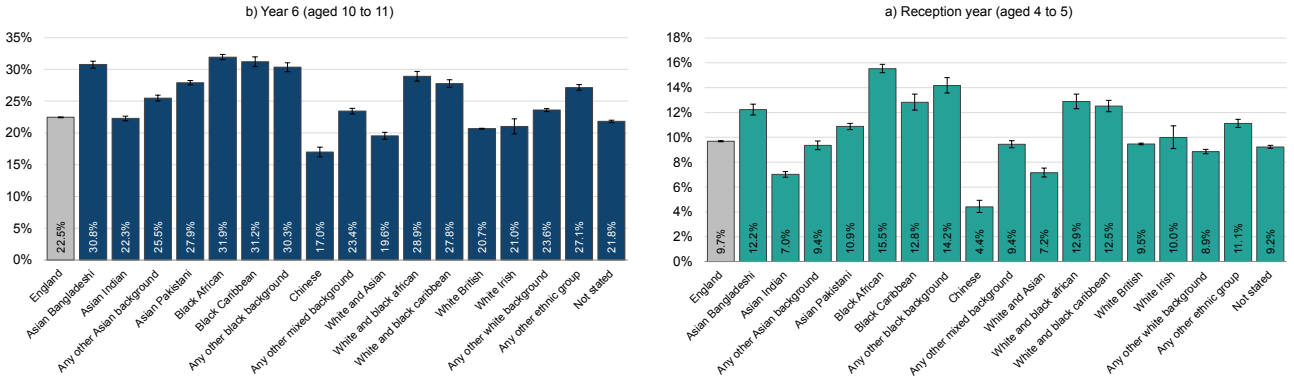
The prevalence was highest for those living in major cities and lowest for those living in small towns or villages. This high prevalence in cities was seen for White British and White Irish ethnic groups predominantly (Figures 4.11a and 4.11b). For other ethnic groups, particularly Pakistani, Bangladeshi, Black Caribbean and Black African ethnic groups, there was little difference in prevalence by built up area category and those living in cities did not have a higher prevalence (Figure 4.1a).

A large proportion of children from the Pakistani, Bangladeshi, Black Caribbean and Black African ethnic groups live in the more deprived areas across all the built-up area categories. Therefore, this suggests that the level of deprivation in the area may be a more important driver of obesity prevalence than built-up area category for some ethnic groups.

Figures 4.9a and 4.9b: Prevalence of obesity for children, by built-up area category



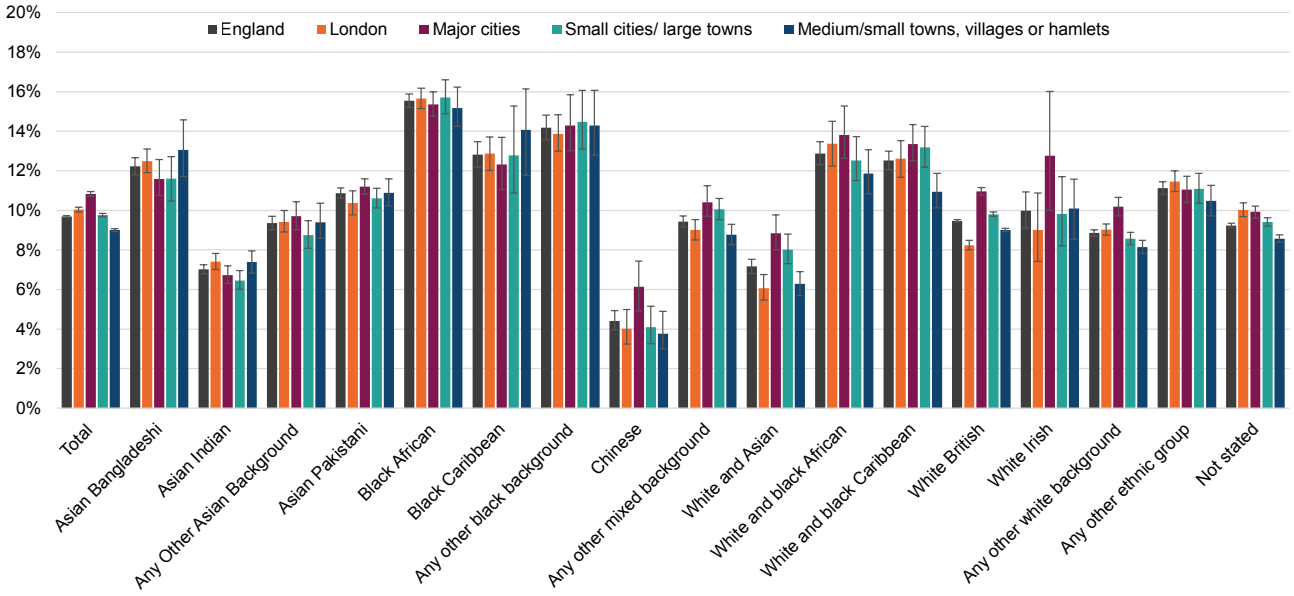
Figures 4.10a and 4.10b: Prevalence of obesity for children, by ethnic group



Data source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

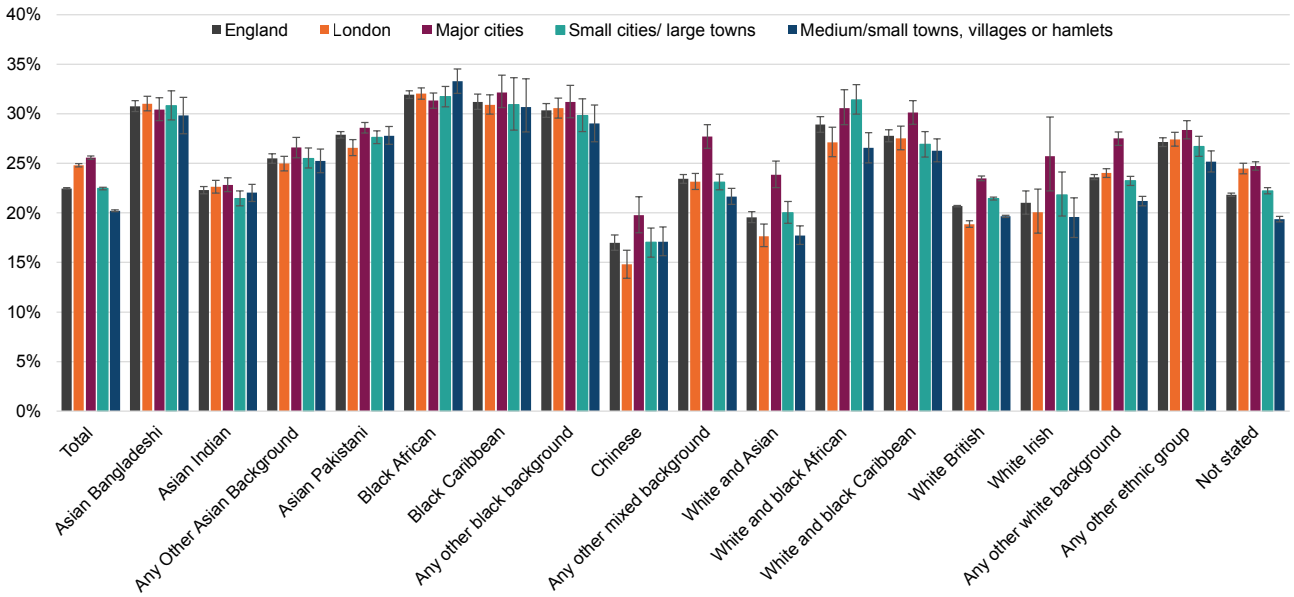
This analysis uses a slightly different classification of built-up areas from that presented above due to data availability.

Figures 4.11a: Prevalence of obesity for children in Reception year (aged 4-5), by built-up area category and ethnic group



Data source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Figures 4.11b: Prevalence of obesity for children in Year 6 (aged 10-11), by built-up area category and ethnic group



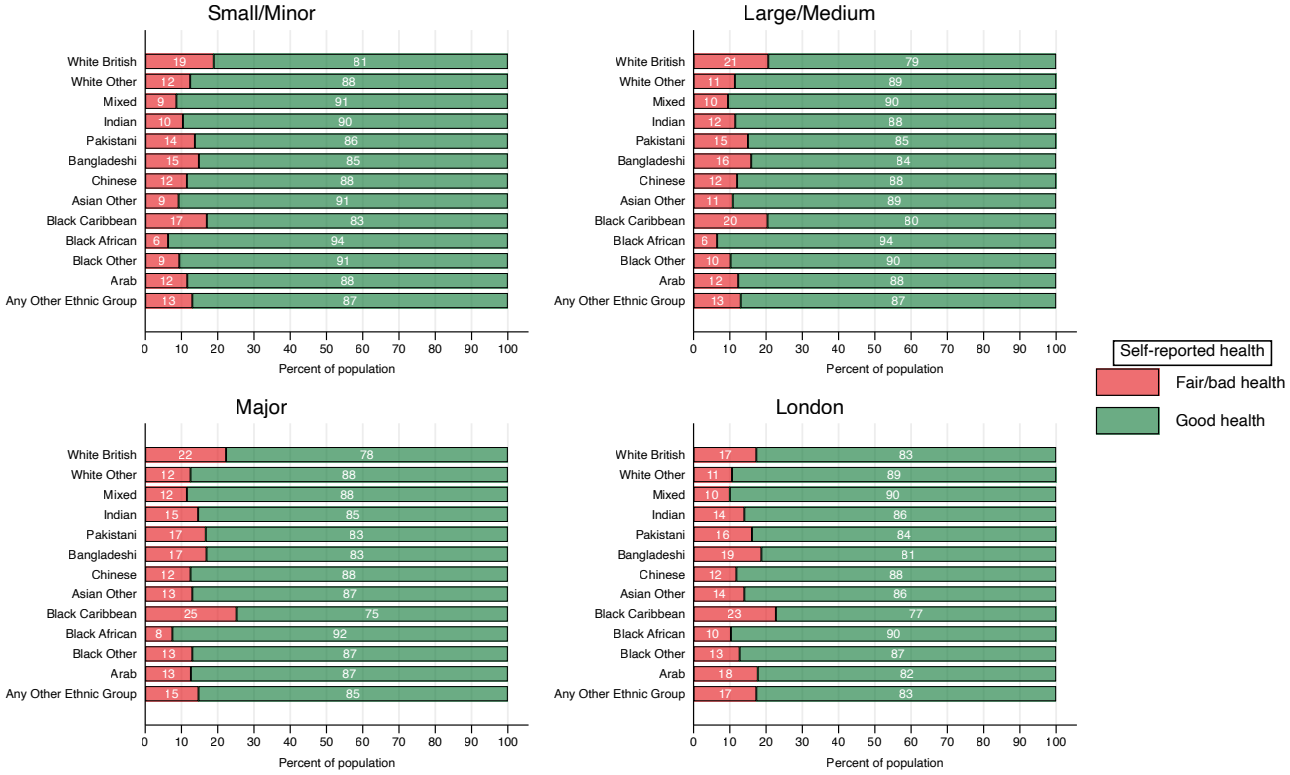
Data source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Self-reported health and disability

Self-reported health and disability status have been reported to be strong predictors of all-cause mortality, particularly in men.[30,31] Therefore, understanding the breakdown of self-reported health and disability by ethnic group and BUA category is important to assess

potential health inequalities. Analysis combining Census 2021 and linked BUA derivations showed the percentage of people reporting they were in good health (Figure 4.12) was generally consistent across all BUA categories. The ethnic groups which had the highest percentage of people who reported living in fair/bad health were Black Caribbean, White British and Bangladeshi groups, across all BUA categories. This may be partially explained for Black Caribbean and White British individuals given they have the oldest median age (Figure 4.12). The Black African ethnic group had the highest or joint highest percentage of people who reported living in good health across all BUA categories.

Figure 4.12: Percentage of people in self-reported good and fair/bad health, by ethnic group and built-up area category



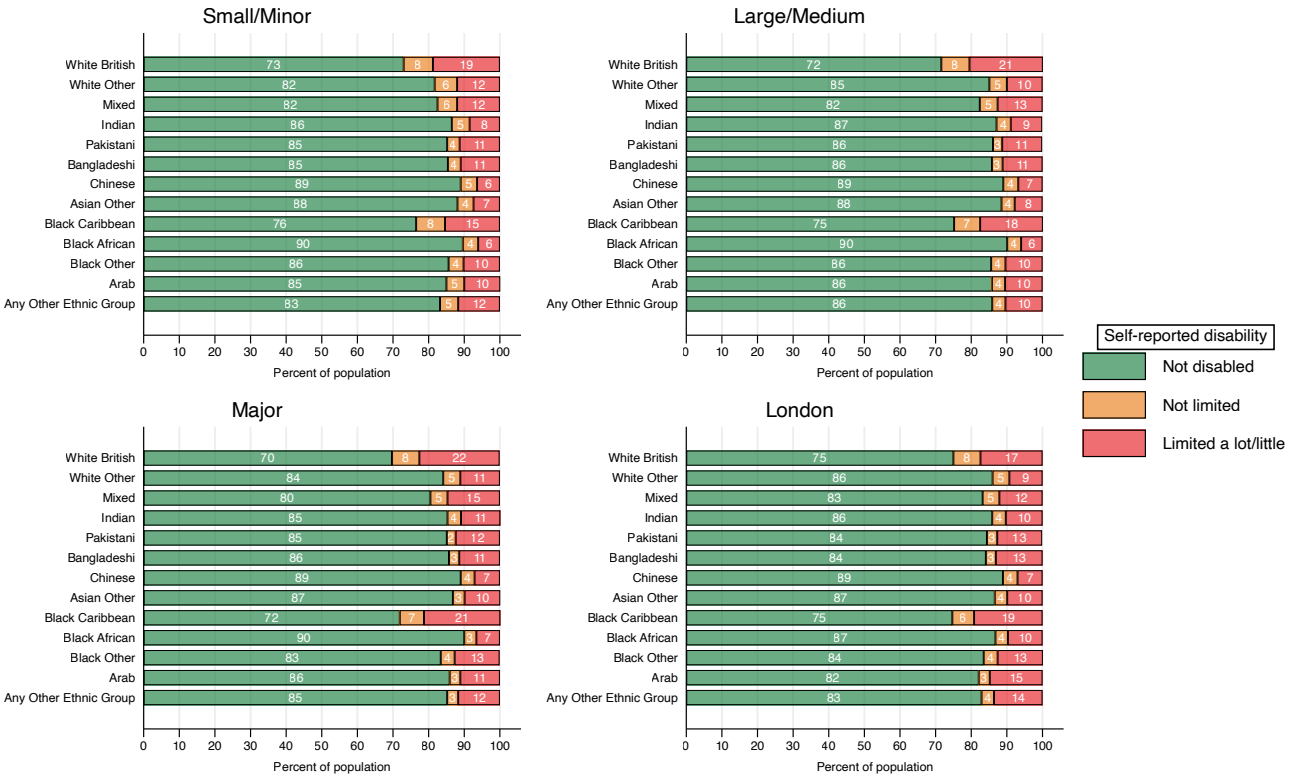
Categorical variables are presented as percentage (%) and not count. Percentages are based on rounded count values, with all count values (not shown in Figure) rounded to the nearest five.

Red shading in bar denotes fair, bad and very bad self-reported health; green shading denotes good and very good self-reported health.

Data source: Office for National Statistics, Health inequalities by built-up area and ethnic group, England: March 2021 to May 2023

The percentage of people living with a disability (defined as having a self-reported health condition which limits day-to-day activities) (Figure 4.13) was generally consistent across all BUA categories. Across all BUA categories, the White British and Black Caribbean ethnic groups had the highest percentage of people living with a disability. Like self-reported health status (Figure 4.12), this may be partially explained by the White British and Black Caribbean ethnic groups having the highest median age compared with other ethnic groups.

Figure 4.13: Percentage of disabled people, by ethnic group and built-up area category



Categorical variables are presented as percentage (%) and not count. Percentages are based on rounded count values, with all count values (not shown in Figure) rounded to the nearest five. Green shading in bar denotes no self-reported disability; orange shading denotes having a self-reported disability and reporting no limitation; red shading denotes having a self-reported disability and reporting a lot/little limitation.

Data source: Office for National Statistics, Health inequalities by built-up area and ethnic group, England: March 2021 to May 2023

Mortality

From combined analysis using Census 2021, BUA derivations and death registrations data (Table 4.2), the patterns of age-standardised mortality rates (ASMRs) differed by BUA category and ethnic group. In Small/Minor BUAs, the Bangladeshi ethnic group had the highest ASMR (1233.8 [847.2, 1686.5] per 100,000 person-years), with the Chinese ethnic group having the lowest (563.0 [474.8, 651.1] per 100,000 person-years).

In Large/Medium BUAs, the Bangladeshi ethnic group had the highest ASMR (1081.5 [978.4, 1184.6] per 100,000 person-years) and the Asian Other ethnic group had the lowest (642.0 [592.8, 691.2] per 100,000 person-years). In Major BUAs, the White British ethnic group had the highest ASMR (1152.9 [1146.0, 1159.8] per 100,000 person-years) and the Black African ethnic group had the lowest (681.8 [601.1, 762.5] per 100,000 person-years). In London, the White British ethnic group had the highest ASMR (963.2 [955.5, 970.9] per 100,000 person-years) and the Chinese ethnic group had the lowest (612.1 [561.9, 662.4] per 100,000 person-years).

The White British ethnic group generally had the highest ASMRs (Major, and London) or was amongst the highest (Large/Medium and Small/Minor). The ethnic groups which consistently had the lowest ASMRs were the Chinese (Small/Minor and London) and Asian Other (Large/Medium) ethnic groups, as well as the Black African ethnic group (Major). The BUA category

which generally had the highest ASMRs for all ethnic groups was Major BUAs. Major BUAs had the highest ASMR for all ethnic groups, except for the Pakistani, Bangladeshi, Black African, Black Other, Arab and Any Other Ethnic groups. For all these ethnic groups, except Pakistani, the highest ASMRs were predominantly in the Small/Minor and Large/Medium BUA categories. The Pakistani ethnic group had highest ASMR in London BUA.

Table 4.2: Age-standardised all-cause mortality rates (per 100,000 person-years), by ethnic group and built-up area category

Ethnic group	BUA category			
	Small/Minor ASMR (95% CI)	Large/Medium ASMR (95% CI)	Major ASMR (95% CI)	London ASMR (95% CI)
White British	951.9 (948.5, 955.2)	1068.8 (1065.5, 1072.1)	1152.9 (1146.0, 1159.8)	963.2 (955.5, 970.9)
White Other	875.6 (853.6, 897.6)	930.3 (913.4, 947.3)	1061.2 (1032.0, 1090.3)	801.0 (784.5, 817.5)
Mixed/multiple ethnic groups	901.2 (830.4, 972.1)	943.5 (889.3, 997.8)	1058.2 (967.5, 1148.9)	847.5 (795.9, 899.0)
Indian	817.6 (762.3, 872.9)	846.9 (818.2, 875.6)	925.4 (893.4, 957.4)	788.3 (767.9, 808.7)
Pakistani	854.5 (743.5, 965.5)	880.6 (844.2, 917.0)	891.1 (856.6, 925.6)	893.4 (842.5, 944.2)
Bangladeshi	1233.8 (847.2, 1686.5)	1081.5 (978.4, 1184.6)	1012.7 (915.0, 1110.5)	845.0 (792.0, 898.0)
Chinese	563.0 (474.8, 651.1)	659.4 (602.5, 716.4)	702.6 (628.4, 776.9)	612.1 (561.9, 662.4)
Asian Other	647.2 (558.7, 735.7)	642.0 (592.8, 691.2)	758.0 (688.8, 827.1)	681.6 (646.8, 716.4)
Black Caribbean	866.3 (769.8, 962.8)	868.8 (824.9, 912.7)	945.7 (905.1, 986.4)	829.6 (805.7, 853.6)
Black African	748.5 (548.1, 949.0)	784.1 (657.8, 910.4)	681.8 (601.1, 762.5)	647.0 (616.1, 677.9)
Black Other	942.4 (704.1, 1222.4)	843.1 (710.0, 976.3)	852.8 (730.7, 975.0)	824.6 (753.2, 896.0)
Arab	775.7 (585.7, 1000.5)	788.8 (670.0, 907.7)	700.3 (587.7, 812.8)	634.5 (567.2, 701.8)
Any Other Ethnic Group	796.2 (715.3, 877.1)	750.6 (702.6, 798.6)	794.5 (731.5, 857.4)	672.4 (643.6, 701.2)

Age-standardised mortality rates for built-up area category, ethnicity and all-cause mortality. Values are age standardised.

Data source: Office for National Statistics, Health inequalities by built-up area and ethnic group, England: March 2021 to May 2023

Characterising and understanding differences in healthcare access and experiences for ethnic minorities in urban areas

Each year the GP Patient Survey asks over two million people registered with GP practices in England how they feel about their GP practice. For this report we have analysed data from 2021, 2022 and 2023 on two of the survey questions:

- Overall, how would you describe your experience of making an appointment?
- Overall, how would you describe your experience of your GP practice?

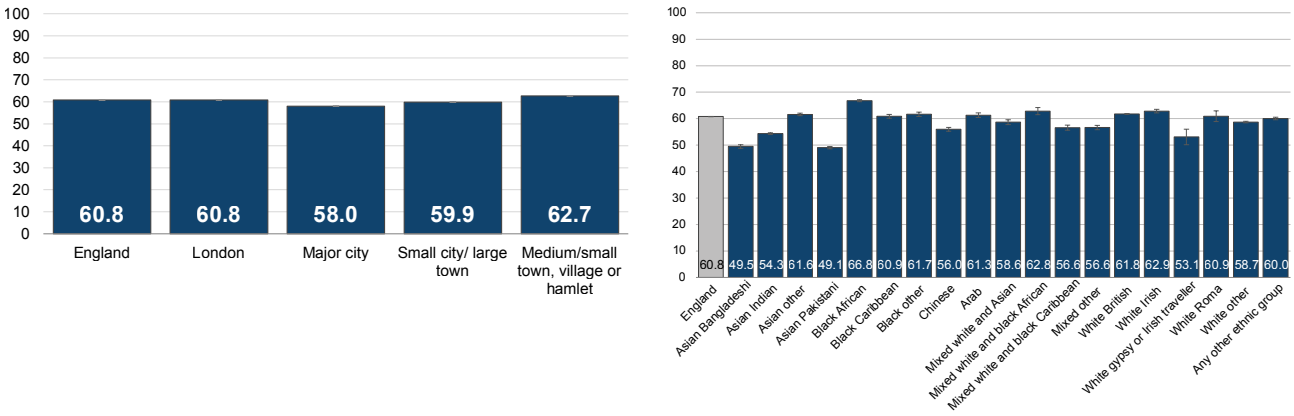
This analysis uses the same BUA categories as presented for childhood obesity above. The proportion of patients reporting a '*very good*' or '*fairly good*' experience of making an appointment at a GP Practice was lowest among those living in major cities and highest in medium/small towns/rural areas. Those living in London were more likely to report a *'very good'* or *'fairly good'* experience than those living in other major cities (Figure 4.14a).

The experience of making an appointment among Indian, Pakistani, and Bangladeshi ethnic groups showed a similar pattern to the overall picture for England described above, but there were few significant differences by built-up area category among other ethnic groups including the Black Caribbean and Black African groups. Patients from the Pakistani and Bangladeshi ethnic groups were least likely to report a '*very good*' or '*fairly good*' experience of making an appointment especially in London and major cities (Figures 4.14b and 4.15). People from ethnic minority groups may report lower scores for accessing GP appointments and negative experiences because of several factors. Some of these differences are due to the concentration of patients from ethnic minority groups being registered in low-performing practices particularly in deprived areas.[32] Therefore, factors which impact deprived neighbourhoods accessing care, such as an increased number of patients per GP, may disproportionately impact ethnic minority groups. Other reasons include language and communication barriers and cultural differences,[33] with limited understanding of health information or cultural differences in attitudes toward healthcare meaning people are less likely to engage with healthcare providers or find it more difficult to do so. Lastly, people from ethnic minority groups may have more distrust of healthcare providers or fear of prejudice or discrimination.[34]

The proportion of those reporting a '*very good*' or '*fairly good*' experience who were living in the least deprived areas was higher than those living in the most deprived areas for all area categories, but the differences were fairly small.

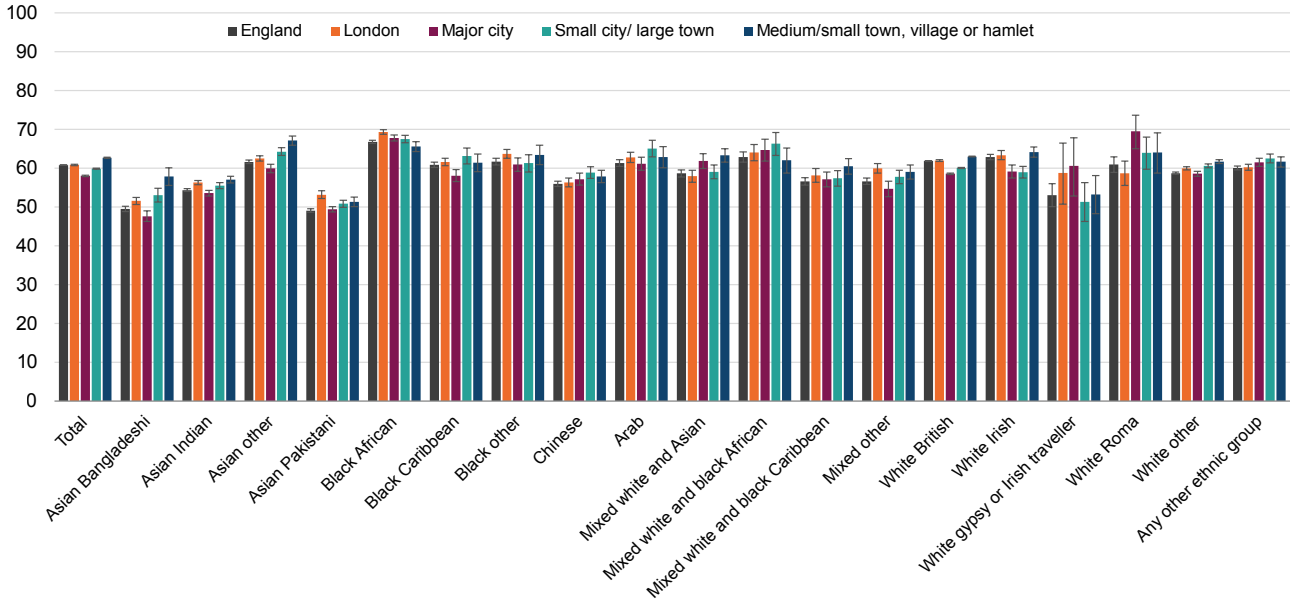
Patients were also asked to rate their overall experience with their GP practice. The proportion of those reporting a '*very good*' or '*fairly good*' experience by ethnic group within built-up area categories followed a similar pattern to experience of making an appointment, although the differences were small, and most were not statistically significant.

Figures 4.14a and 4.14b: Indirectly age-standardised percentage responding very good or fairly good to the question "Overall how would you describe your experience of making an appointment?" in England by a)built-up area category and b) ethnic group



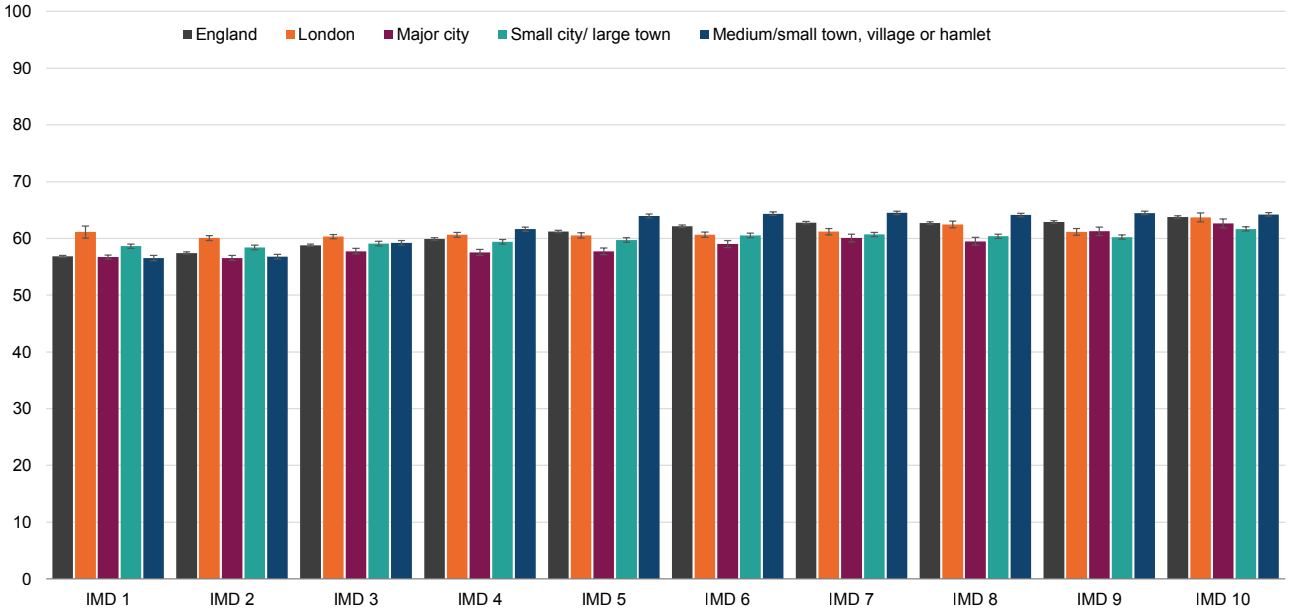
Data source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Figure 4.15: Indirectly age-standardised percentage responding very good or fairly good to the question "Overall how would you describe your experience of making an appointment?" by built-up area category and ethnicity



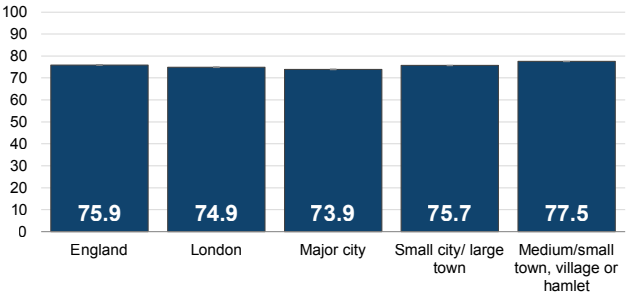
Data source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

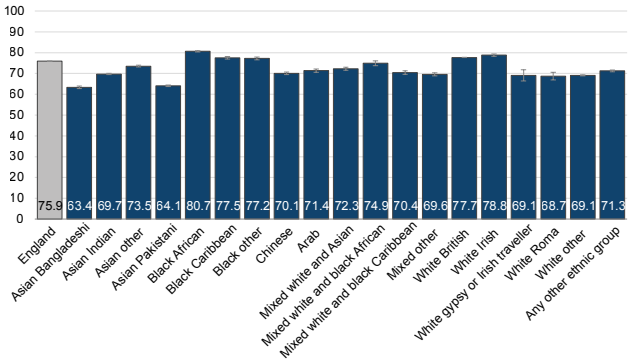
Figure 4.16: Indirectly age-standardised percentage responding very good or fairly good to the question "Overall how would you describe your experience of making an appointment?" by built-up area category and deprivation



Data source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

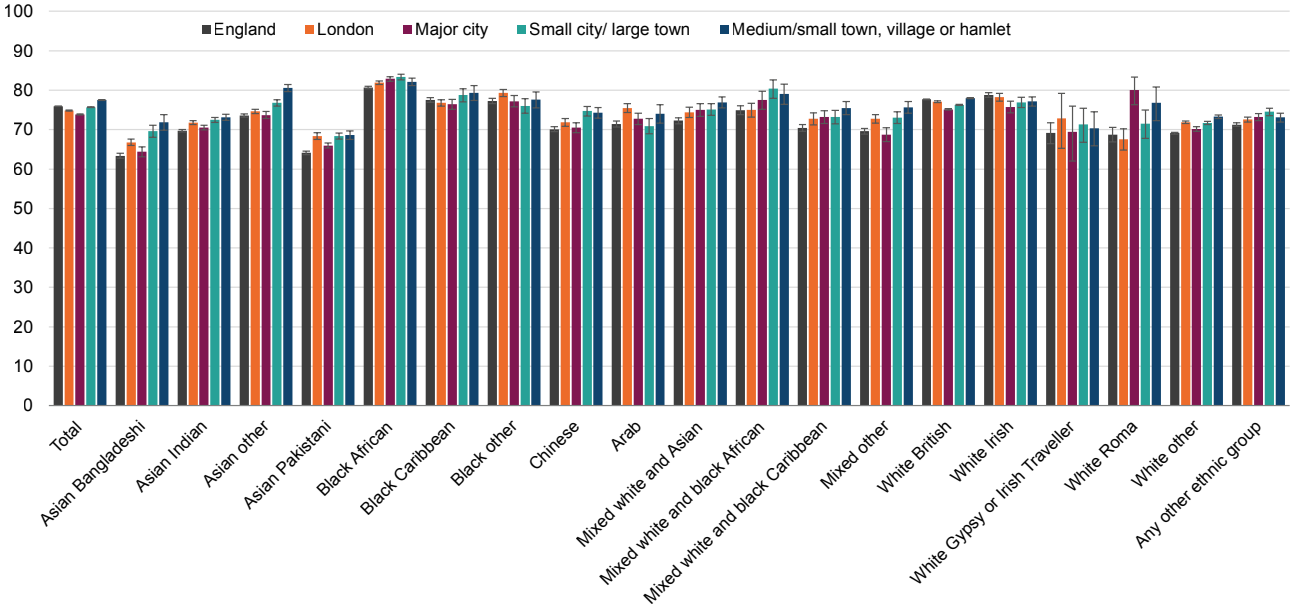
Figures 4.17a and 4.17b: Indirectly age-standardised percentage responding very good or fairly good to the question "Overall how would you describe your experience of your GP practice?" in England by a) built-up area category and b) ethnicity





Data source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Figure 4.18: Indirectly age-standardised percentage responding very good or fairly good to the question "Overall how would you describe your experience of your GP practice?" by built-up area category and ethnicity



Data source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Figure 4.19: Indirectly age-standardised percentage responding very good or fairly good to the question "Overall how would you describe your experience of your GP practice?" by built-up area category and deprivation

Data source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Improving Health and Wellbeing in Cities: Evidence-Based Interventions

Addressing the complex health inequalities experienced by ethnic minority populations in urban areas necessitates a multisectoral approach informed by rigorous evaluation. A growing body of evidence underscores the efficacy of interventions targeting social determinants of health including investing in education, employment, housing, and community development, urban planning as well as addressing issues of discrimination and racism. These structural interventions are usually applied at a policy or administrative level that goes beyond cities, and the evidence is mixed, with some evidence to support improving income as a mechanism to reduce ethnic health inequalities.[35] By creating healthier environments and providing equitable access to opportunities, it is possible to improve the health and wellbeing of minority ethnic communities in urban areas. Modelling studies in Barcelona to promote sustainable mobility and active lifestyles have estimated significant reductions in premature mortality attributed to reducing pollution, noise and improving physical activity.[36]

Different models of implementation of health information will be required to empower ethnic minority populations. For example, touch screens with health information in different languages have been shown to have been accessed by ethnic minority groups, particularly those living in deprived areas[37] as well as local Ambassador programmes as seen during COVID-19 pandemic. Culturally tailored interventions are also an important consideration to address variations in access that contribute to health inequalities for these communities.[38]

By adapting evidence-based approaches to local needs, it is possible to achieve significant improvements in the health and wellbeing of minority ethnic communities. Programmes such as NHS Core20Plus5 exemplify the potential of early intervention in mitigating health disparities. By delivering comprehensive support services to high-risk individuals and communities, these types of initiatives have demonstrated positive outcomes in improving health behaviours and reducing inequalities.[39] Integrated Care Boards (ICBs) will play a crucial role in translating national policy into local action on health inequalities and create an eco-system to focus on providing high quality and equitable clinical care and a stronger focus on primary and secondary prevention. By bringing together diverse stakeholders, these partnerships can facilitate knowledge exchange, resource sharing, and the development of innovative solutions. This will include working closely with communities, NHS, local and regional governments to identify and address specific health needs, leverage resources and mobilise communities, ensuring that interventions are tailored to local contexts. These are real life examples of community coalitions, where community, statutory and academic sectors work together to address locally identified health issues, drawing on principles of participation and empowerment. A Cochrane review examined the effect from a range of community coalition interventions based in predominantly urban areas of high-income countries on ethnic health disparities. The authors found that although the quality of the evidence was limited and interventions were heterogeneous, there was some indication that community outreach health workers could be effective in improving the health status of communities from ethnic minority groups.[40]

The London Anti-Racism Framework provides a strategic blueprint for tackling racial inequalities, including those affecting health to improve the health and wellbeing of ethnic minority communities.[41] Core to this framework, that is derived from an umbrella review[42] and supported by all London ICB chief executives and chairs, is the ambition to embed the community voice in the decisions, design and delivery of services, and the value of participation as a driver of health equity.

Conclusions

We have explored the complex interplay between urban environments, ethnic minority populations, and health outcomes. While cities offer opportunities for economic advancement and cultural enrichment, they also concentrate health inequalities and social challenges, particularly for cities outside of London. Addressing these disparities necessitates a multifaceted/multisectoral approach that tackles the root causes of poor health, rather than simply treating its symptoms.

To safeguard the health and wellbeing of ethnic minority populations in urban areas, there is a need for comprehensive strategic approaches, supported by robust and sustainable funding, and actively involving local communities in identifying sustainable and culturally competent solutions.[43] This must involve a concerted effort to address the social determinants of health, reduce inequalities, and create supportive environments as well as robust evaluations to assess effectiveness of the interventions.[44] Key priorities will include:

- Investment in deprived neighbourhoods, improved access to healthcare and culturally competent services are essential components of this strategy. Additionally, policies that promote social inclusion, reduce discrimination, and enhance community resilience are crucial for creating healthier urban environments for all residents. These include new concepts in urban planning including superblocks, low traffic neighbourhoods, 15 minute city and Car free cities,[45] as well as improving green space and transportation for commuting. There is good evidence showing that exposure to local green spaces is associated with a reduced risk of obesity and Type 2 diabetes, and increased likelihood or physical activity participation.[46] Urban planners should also make efforts to improve food options, particularly through regulation of neighbourhood fast-food outlets.
- Data-driven decision making: Improving the collection, analysis, and dissemination of data on health inequalities to inform targeted interventions. This includes disaggregating data by ethnicity, socioeconomic status, and geographic location to identify disparities and measure the impact of policies and programs. For example, the NHS Core20Plus5 approach focuses on the most deprived 20% of the population and five key clinical areas to reduce healthcare inequalities. This strategy includes utilising data collection on ethnicity and accelerating prevention programs targeting high-risk groups.
- Strong collaborative partnerships between public, private and voluntary sectors[47] may enhance the reach and impact of initiatives to reduce health inequalities, particularly given the complexity of the sources of health inequalities.[48] Building trust and capacity within communities is essential for successful partnerships. While involving people and

communities is a legal requirement in the NHS, working with them also supports the wider objectives of integration including population health management, personalisation of care and support, addressing health inequalities and improving quality. It means better decisions about service changes and how money is spent. It reduces risks of legal challenges and improves safety, experience and performance. It helps address health inequalities by understanding communities' needs and developing solutions with them.[49]

- Community engagement: Empowering communities to participate in decision-making and service delivery through participatory approaches.[50] This includes involving community members in needs assessments, program design, and evaluation. This was most recently and powerfully demonstrated in the efforts to tackle vaccine hesitancy in urban minority ethnic communities during COVID-19 pandemic, [51,52] and again with subsequent efforts to mobilise urban gay and bisexual men populations in response to the emergence of MPox.[53] At a population level community participation has also been shown to have positive impacts on housing, crime, social capital and community empowerment.[54] Community engagement is critical for building trust, cultural competence and ultimately for the effectiveness of interventions aimed at improving health equitably.

- Tackling racism and discrimination: Implementing anti-racist policies and practices across all sectors to address systemic inequalities and promote health equity.[55] This involves challenging stereotypes, training to promote cultural competence, and ensuring equal access to opportunities and resources. Cities are increasingly culturally and ethnically diverse, and therefore approaches to create healthier cities should include strategies to manage cultural diversity, support migrants, and ensure equitable health service provision.[56,57] Recent examples across the London health and care system to develop strategic approaches to incorporating anti-racism in health and care systems' approaches to tackling health inequalities, combined with efforts to build capacity and share emerging and promising practice, bodes well for system-level approaches and interventions to tackling this problem.[58]

- Addressing social determinants of health: Investing in affordable housing, education, employment, and green spaces to create healthier and more equitable urban environments.[59,60] This includes addressing issues such as poverty, unemployment, and environmental pollution, which disproportionately affect minority ethnic populations. To address health inequalities, efforts should focus on providing affordable, quality housing with the help of social housing providers and clear developer obligations.[61,62] Urban planning should prioritise public spaces, green areas, and promote healthy travel options like walking, cycling, and public transport. Community initiatives, such as allotments and school gardens, could encourage healthy diets and reduce social isolation.[63] Policies should also aim to improve employment opportunities, especially in ethnic minority communities, by reducing low-quality jobs and tackling barriers to high-skill or higher-income employment. Investing in early childhood education is also key, as it leads to better long-term health outcomes.[64]

- Early intervention and prevention: Focusing on preventive and community-based measures,[65] such as health education, screening, and immunization, to address health risks early in life. This includes targeting specific health conditions prevalent among minority

ethnic populations, such as diabetes, cardiovascular disease, and mental health problems. In addition, locally-delivered place-based approaches[66] to improving/ maintaining (a) the physical environment (e.g. active travel, green space, housing); (b) the social environment (e.g. children's services, alcohol and food licensing powers, provision of health promotion services, cultural venues/activities); and (c) the economic environment (e.g. local investment and growth strategies including local employment/training/education, subsidised public transport, and economic development initiatives). Place-based interventions can be effective at improving physical health, health behaviours and social determinants of health outcomes. [67] Studies indicate greater improvements for those living in greater proximity to the intervention, which may suggest that in order for interventions to reduce inequalities, they should be implemented at a scale commensurate with the level of disadvantage.

By prioritising these areas, it is possible to create a healthier and more equitable future for minority ethnic populations in urban areas. Sustained investment, policy coherence, and a commitment to social justice are essential to achieve these goals.

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4.2 The geography of cities – deprivation and health inequalities

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A city is shaped by many factors including its physical geography, economic origin and ongoing development – or contraction. London emerged in Roman times, a strategic port city that expanded its role in commerce, finance and culture – a position it still holds. Land enclosure policy and the Industrial Revolution drove the concentration of workers and the emergence of large industrial cities in the north and midlands of England, close to natural resources and the ability to trade. The emergence of cities also necessarily led to major public health programmes to improve major determinants of health – clean water and healthy food, sanitation and good housing. The decline in industry and manufacturing in the latter part of the last century and the shift to service industries, along with technological advances and globalisation, have further shaped England's urban geography and our cities' socio-economic determinants of health, including their job and housing markets.

Cities and the geography of deprivation

The Index of Multiple Deprivation (IMD) is a composite measure of different socio-economic domains (Appendix) that characterise the relative levels of deprivation within an area. It is one way of showing the range in the extent and location of areas of deprivation within English cities. Generally, the cities consist of large concentrations of deprived neighbourhoods – and disproportionately more of England's deprived areas.

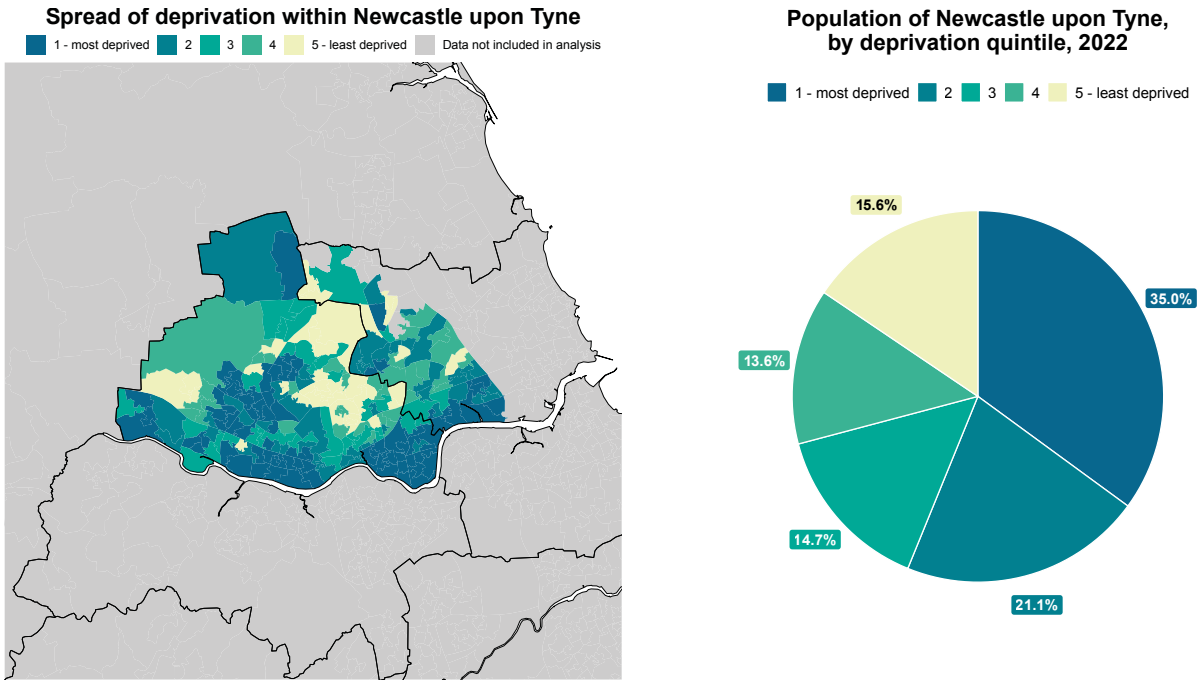
Over half of Liverpool's population (65%) and Birmingham's (52%) live within the 20% most deprived (quintile) of areas (LSOAs) in England (Figure 4.23 and 4.26). They have very few

residents living within the two least deprived quintiles (9% and 14% respectively), with Liverpool having less than 1% of its population living in the least deprived quintile.

There is a gradation across the remaining cities in the north and Midlands, with Manchester (44% in most deprived; 69% in 2nd and most deprived quintiles together), Leeds-Bradford* (45%; 62%), Newcastle upon Tyne (35%; 56%), Nottingham (35%; 53%) and Sheffield (38%; 52%) having the highest proportion of their population living in the most deprived quintile, and over half in the two most deprived quintiles (Figures 4.20 to 4.22; Figure 4.24 to 4.25). They have an even spread across the remaining less deprived quintiles.

London and Bristol, the two core cities in the south of England, have a different composition, with London (17%; 49%) having just on half the population in the two most deprived quintiles, but primarily in the 2nd most deprived quintile (Figure 4.28). Bristol has an even spread across all quintiles (Figure 4.27).

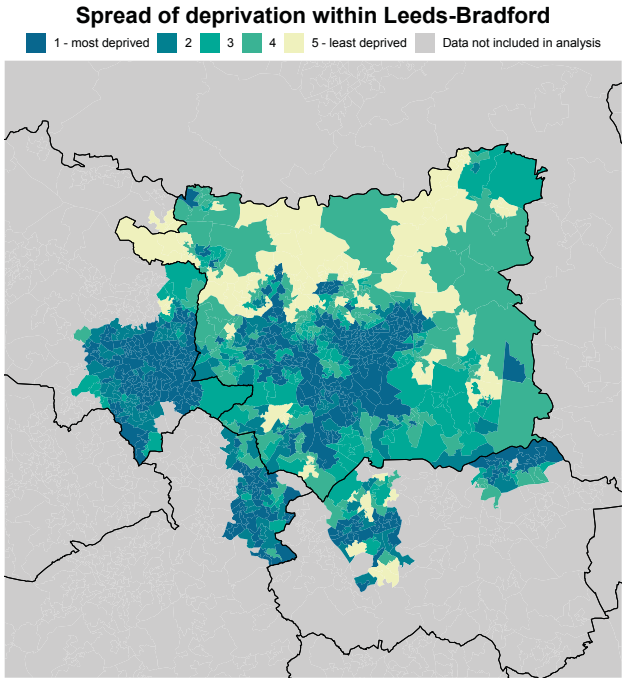
Figure 4.20: Deprivation in Newcastle upon Tyne

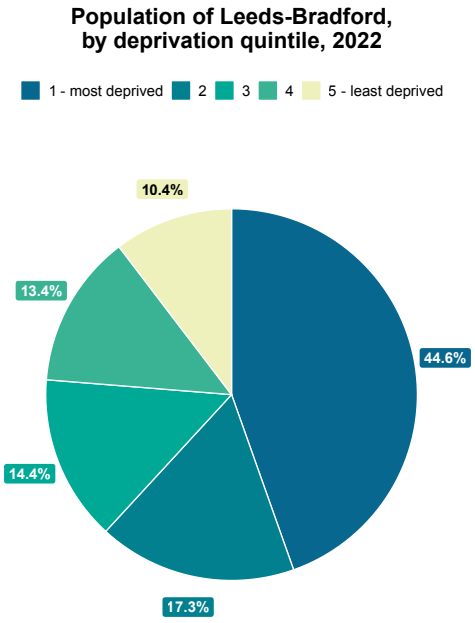


Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

* The map of Leeds-Bradford shows how some cities are expanding to include parts of adjoining urban areas, in this case parts of Bradford to the east of Leeds.

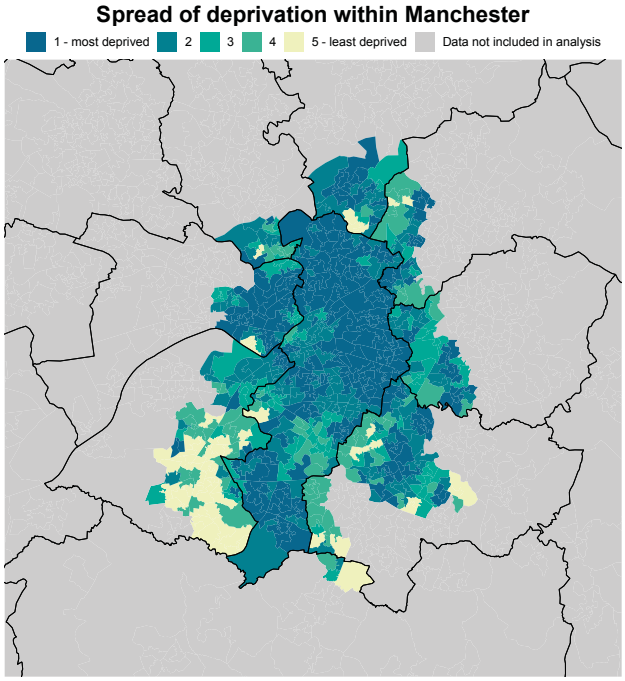
Figure 4.21: Deprivation in Leeds-Bradford

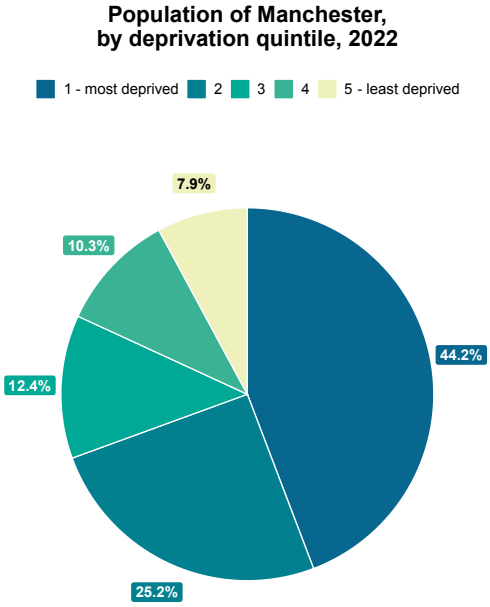




Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

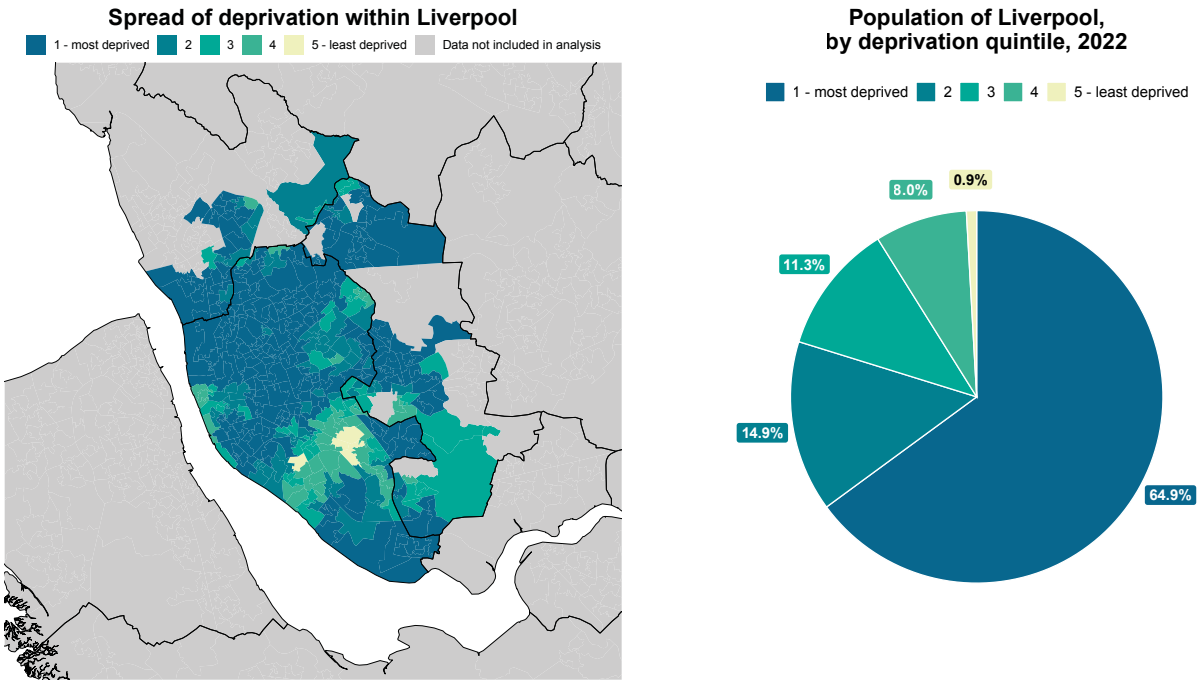
Figure 4.22: Deprivation in Manchester





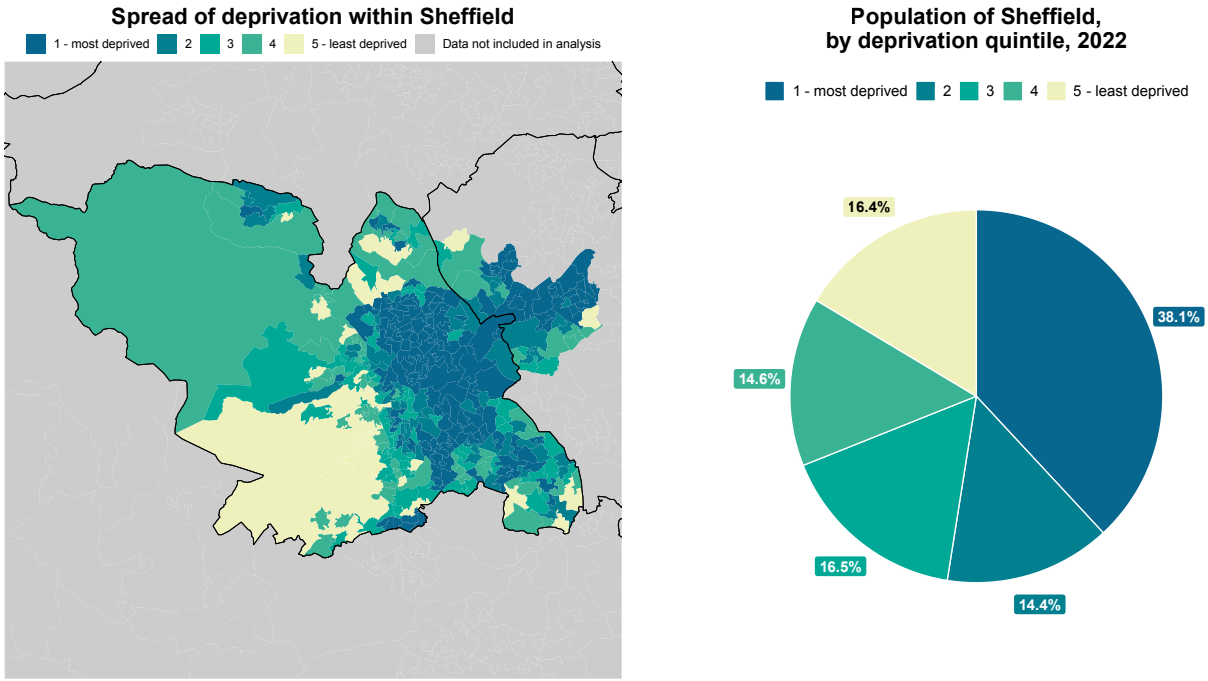
Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Figure 4.23: Deprivation in Liverpool



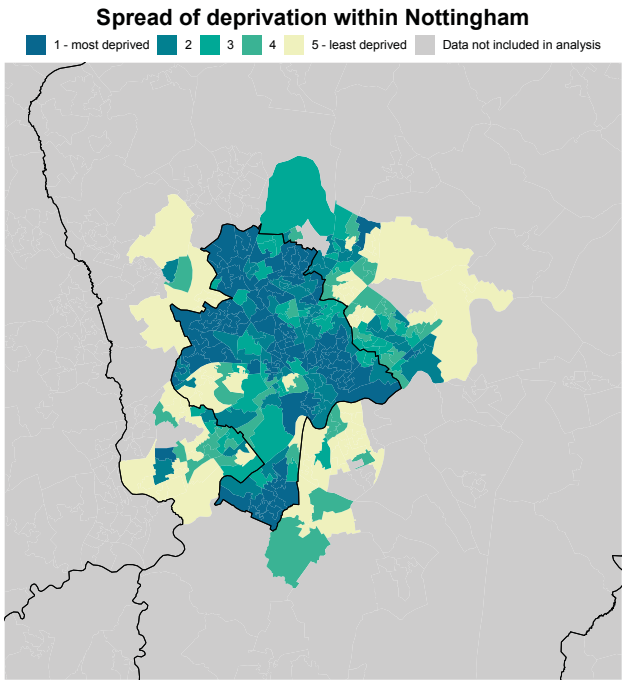
Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

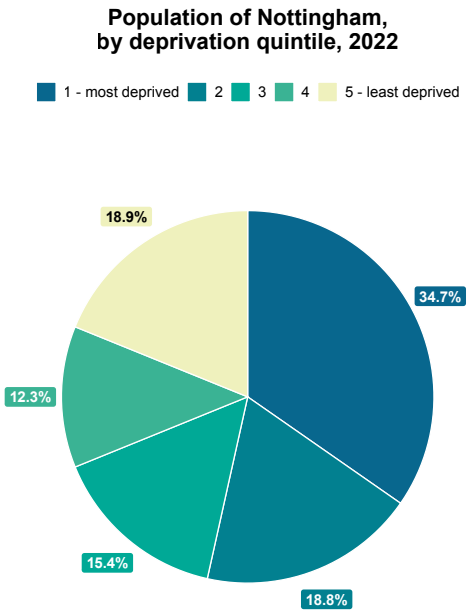
Figure 4.24: Deprivation in Sheffield



Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

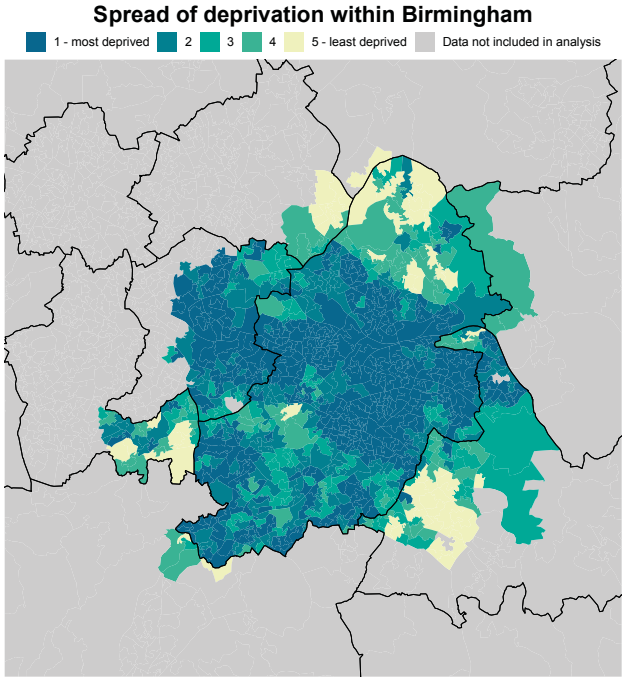
Figure 4.25: Deprivation in Nottingham

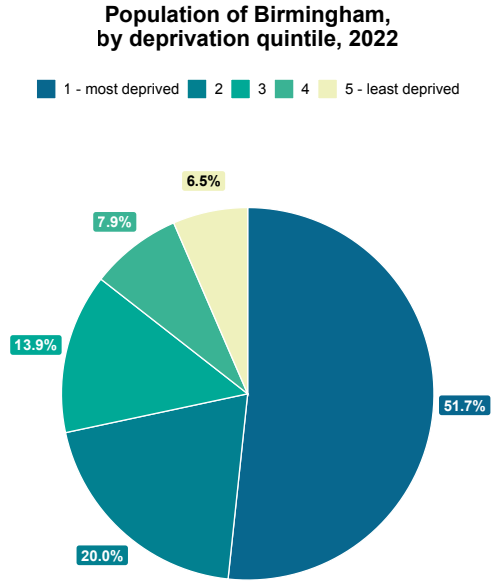




Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

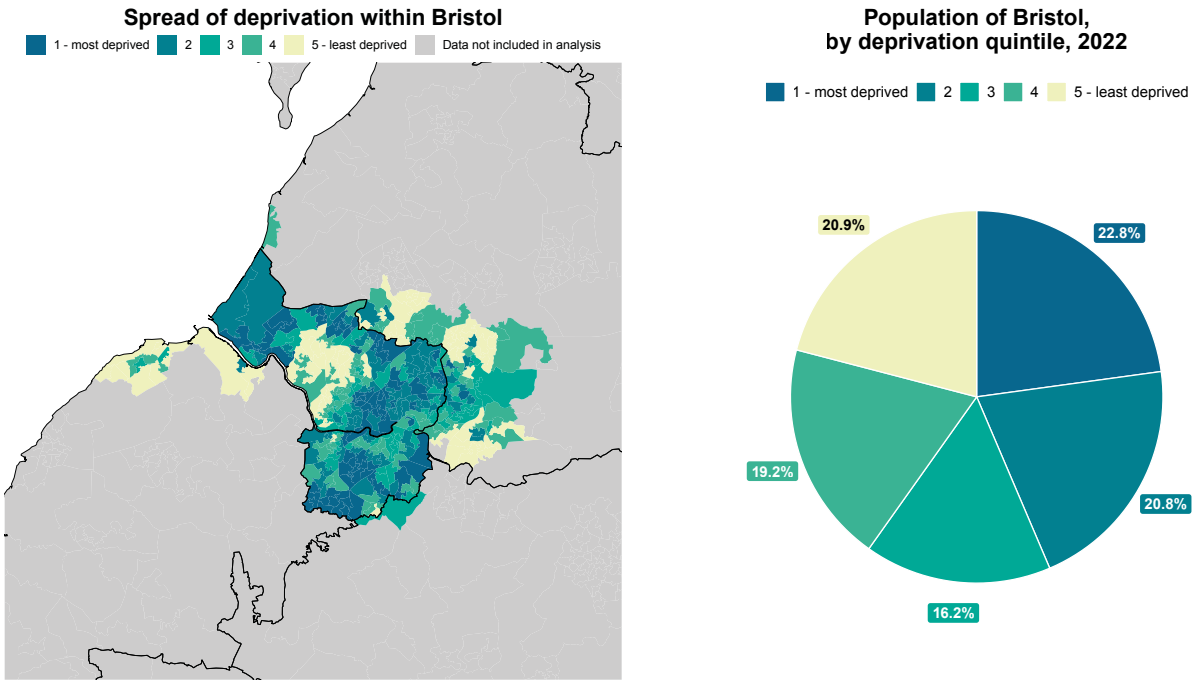
Figure 4.26: Deprivation in Birmingham





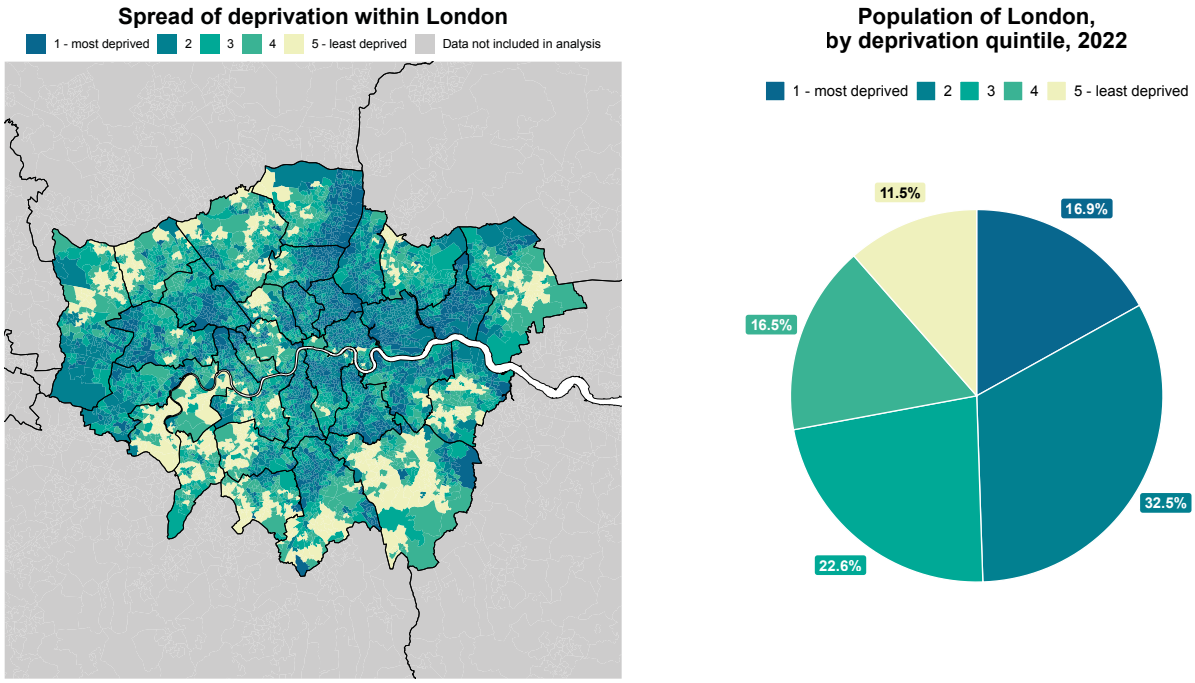
Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Figure 4.27: Deprivation in Bristol



Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Figure 4.28: Deprivation in London



Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Case Study 1: A historical perspective of deprivation – London

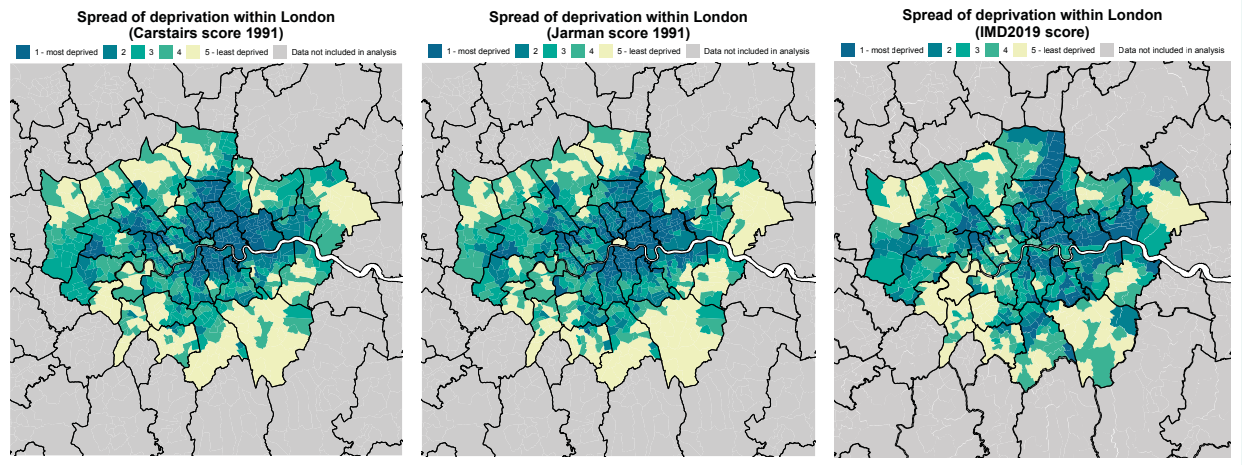
As noted above, cities are shaped by the interplay of factors from physical geography, migration and economic development (both domestically and globally) to housing and welfare policy across time. Patterns of socio-economic segregation have arguably been established over decades, if not centuries. Charles Booth's *Maps Descriptive of London Poverty (1898-9)* are 'an early example of social cartography, each street is coloured to indicate the income and social class of its inhabitants'[1] – a comprehensive analysis of London's socio-economic distribution. The maps show the juxtaposition of the more affluent west of London with the abject poverty of the East End as well as 'how wealth and space have long existed in correlate, with affluence luxuriating around green and open and riverside spaces, while strained incomes are cramped into crowded households and narrow side streets'.[2] (Figure 4.29).

Figure 4.29: Maps descriptive of London poverty, 1898-9.

Source: LSE Library

London has changed, with an absolute rise in living standards, especially in the East End, and over the last 100 years areas in inner London have tended to converge with fewer areas 'classified as either very rich or very poor and with a corresponding growth in middle-income areas'.[3] However, the spatial distribution of poverty has not changed too much with the distinctive split between clusters of rich areas in the west and poor in the east still clearly showing, although there appears to a movement of areas further out from the centre of the capital now being more relatively deprived (Figure 4.30).

Figure 4.30: Changes in deprivation within London – 1991 and 2019

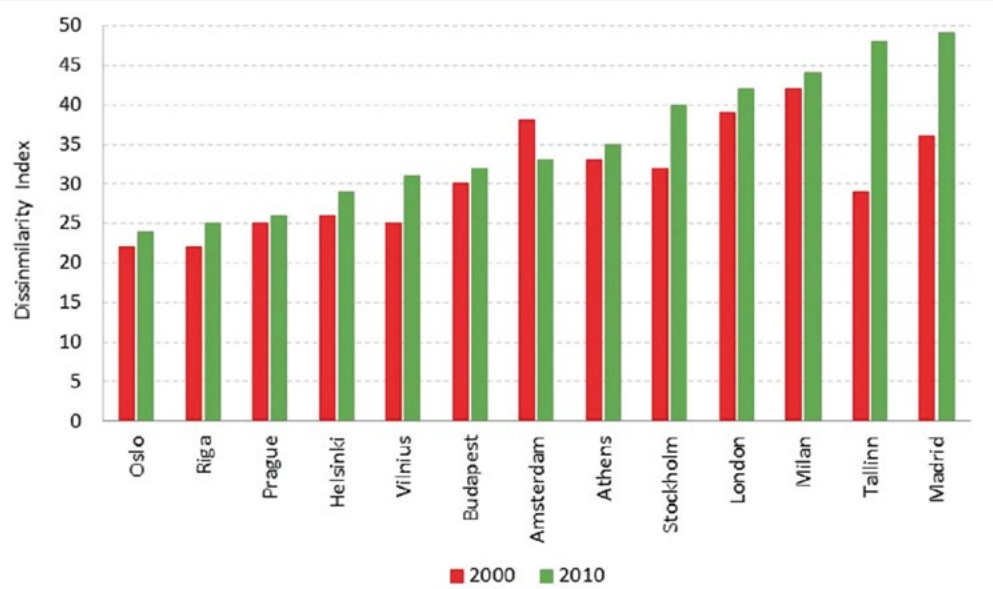


- The maps show the distribution of deprivation within the city for London's electoral wards, using 3 different deprivation indices and two time periods, 1991 and 2019. Definitions of the deprivation scores are available in the Technical Notes.
- Previous charts and maps in this chapter show distribution using LSOAs allocated to quintiles of deprivation within England.

Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

In one study of European capital city socio-economic segregation, London is one of the most highly segregated, which did not change much in first decade of this century (Figure 4.31).[4] These cities continue to be shaped by globalisation, inequality, labour market, housing and welfare policy changes.

Figure 4.31: Levels of residential segregation between the top and bottom socio-economic groups in a panel of European cities, 2000 and 2010

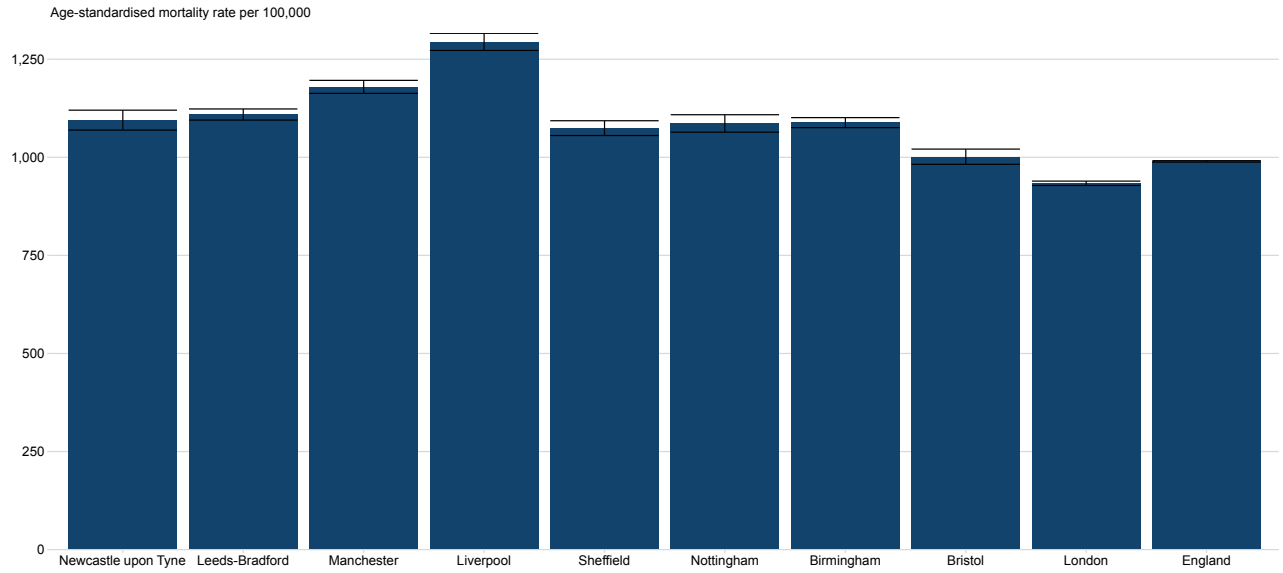


Source: Tammaru T, Sinitsyna A, Akhavizadegan A, van Ham M, Marcińczak S, Musterd S. Income Inequality and Residential Segregation in European Cities. In: Pryce G, Wang YP, Chen Y, Shan J, Wei H, editors. Urban Inequality and Segregation in Europe and China: Towards a New Dialogue [Internet]. Cham: Springer International Publishing; 2021 [cited 2024 Oct 17]. p. 39–54. Available from: https://doi.org/10.1007/978-3-030-74544-8_3

Deprivation and health inequalities

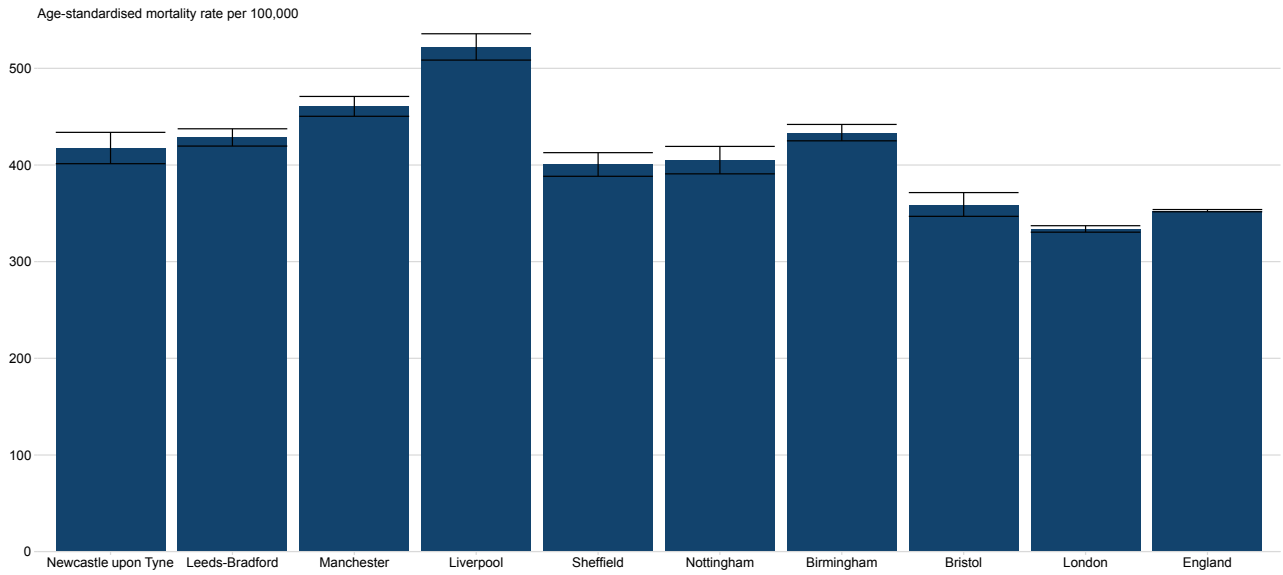
There is a clear correlation between levels of deprivation and health outcomes. On average, people who live in more deprived areas experience ill health earlier in their lives, and for considerably longer, before they then die younger.[5] Figure 4.32a shows that, on average, the cities which are more deprived in the north and midlands of England, have significantly higher mortality than the two core cities in the south (Bristol and London) and the England average. Liverpool and then Manchester have especially high mortality rates. This correlation is accentuated by the chart of premature mortality [Figure 4.32b], showing a greater difference, for example, between Birmingham and Bristol, reflective of their levels of deprivation.

Figure 4.32a: Mortality from all causes, for all ages, in England and in major cities, 2021 and 2022



Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Figure 4.32b: Mortality from all causes, for under 75s, in England and in major cities, 2021 and 2022

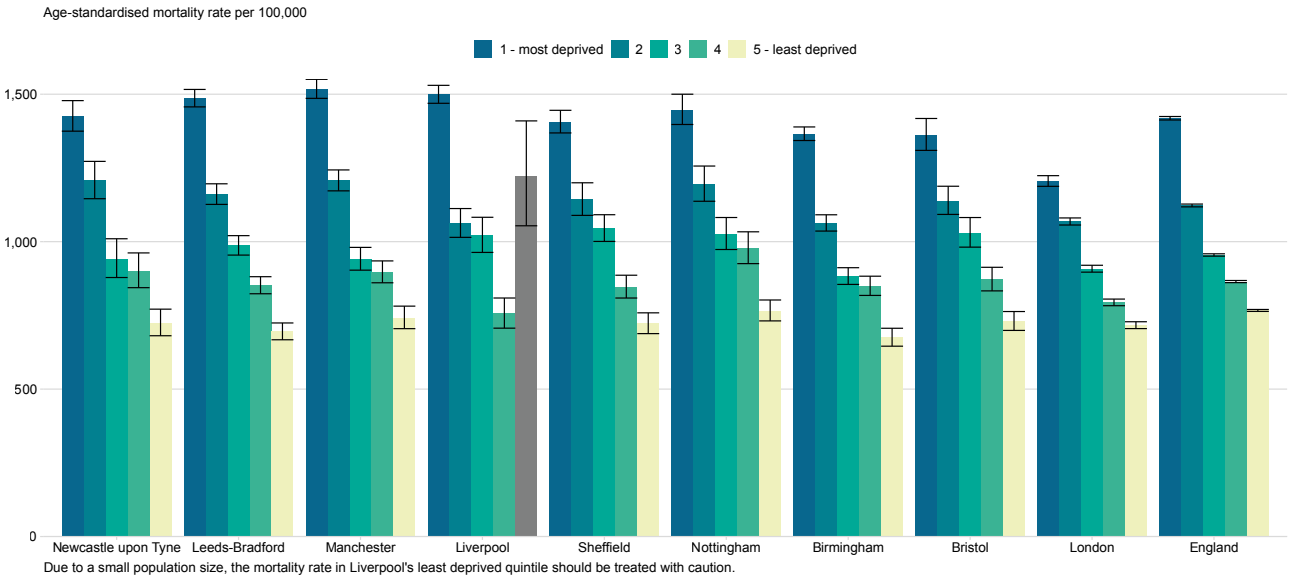


Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

However, the average masks the profound health inequalities within cities. Figure 4.33 shows the clear trend of health inequality for England, with mortality from all causes being highest in those living in the most deprived areas – with a gradation of reducing mortality across the quintiles of deprivation to those living in the least deprived areas having the lowest mortality rates. The figure also shows that this trend is present in all the cities.[†]

† Note that the anomaly of a high mortality for Liverpool's least deprived quintile is likely explained by the very small population in this category in the city (<1%).

Figure 4.33: Mortality from all causes, for all ages, in England and in major cities, by deprivation quintile, 2021 and 2022



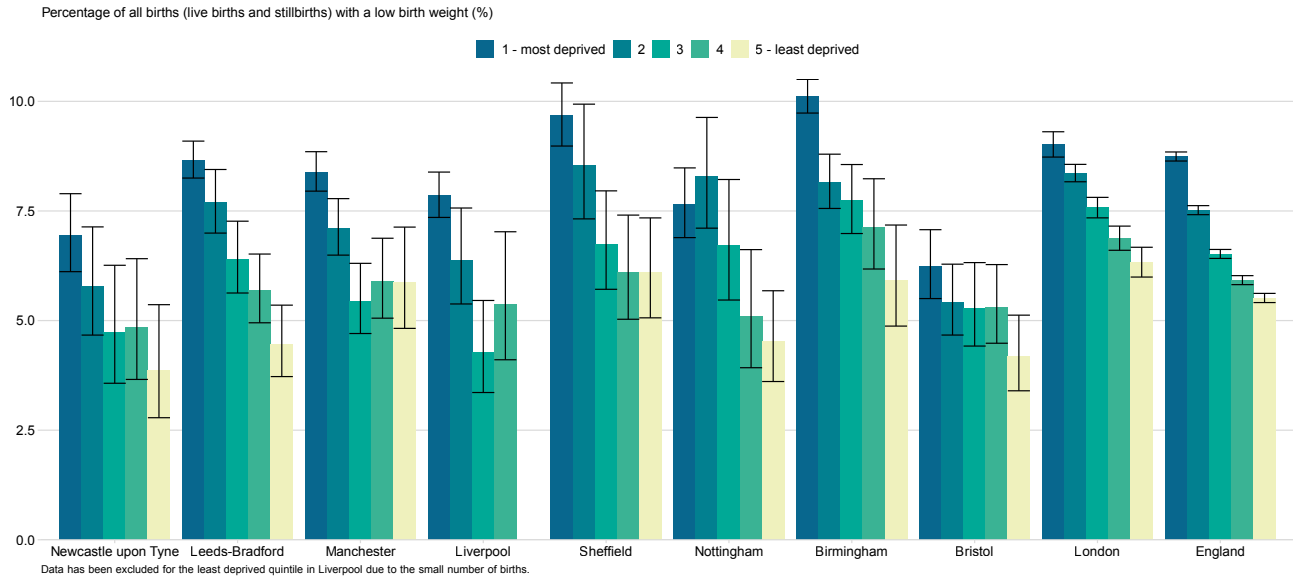
Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Apart from the known correlation of deprivation with health inequalities, what stands out is the significantly higher mortality rate in the most deprived quintile of areas in our cities and in England. While there is a largely steady gradation in mortality across the quintiles of deprivation across the cities, the high mortality rate in the most deprived quintile stands out as significantly higher than all other areas of cities and England.

The different levels of deprivation and mortality in the cities described above shows that there is arguably a different profile for the two cities in the south of England, Bristol and London, with a less steep gradation in mortality across the quintiles, and a less steep difference in mortality between the most deprived quintile and other areas. This could point to people living in cities in the south – which are generally in more affluent regions – or cities with a more balanced mix of areas of deprivation, having better health outcomes, even if their particular local area is similarly deprived to those in cities in the midlands or north.

Turning to the start of life, a baby born with low birth weight (less than 2500g) may be healthy, but they are generally babies that are more at risk of infant death or developmental problems and poorer health outcomes. Deprivation, maternal health and maternity care are key factors.[6] Figure 4.34 shows the clear correlation between low birth weight and deprivation within the cities, capturing the inequalities children face at this critical period at the start of life.

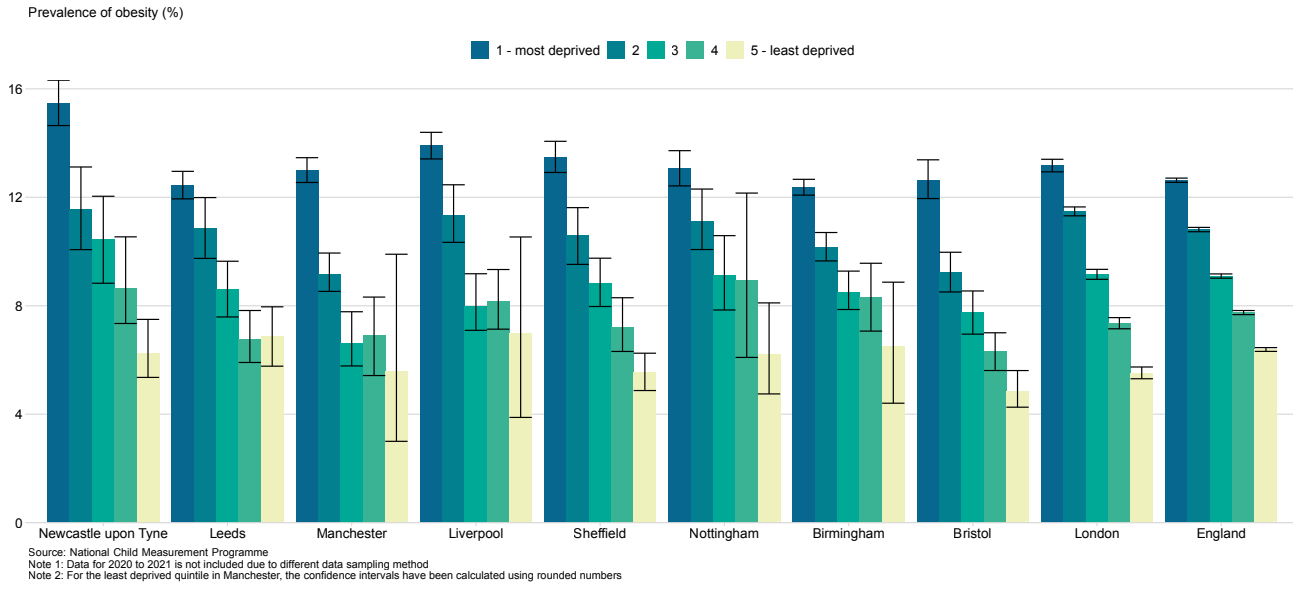
Figure 4.34: Percentage of all births with a low birth weight in England and in major cities by deprivation quintile, 2021 and 2022



Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

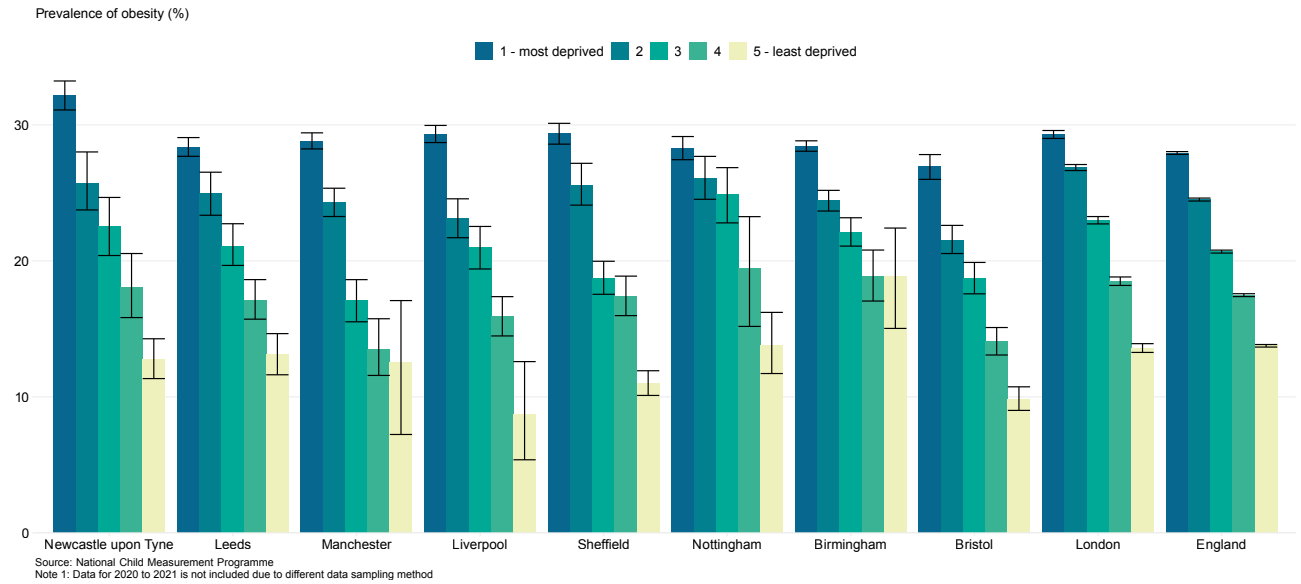
The correlation between deprivation and obesity at ages 4 to 5 and 10 to 11 (Figure 4.35; Figure 4.36) shows that risk factors for poorer health outcomes continue across children's lives. The higher levels in the most deprived quintiles in cities is, as with the charts of mortality, particularly significant.

Figure 4.35: Prevalence of obesity among children in reception (age 4 to 5 years) in England and in major cities by deprivation quintile, 2017 to 2018 to 2022 to 2023 combined



Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Figure 4.36: Prevalence of obesity among children in year 6 (age 10 to 11 years) in England and in major cities by deprivation quintile, 2017 to 2018 to 2022 to 2023 combined



Source: Office for Health Improvement and Disparities. Inequalities in health outcomes within English cities and other built-up areas

Socio-economic deprivation correlates with poorer health outcomes and a gradient in health inequalities across deprivation quintiles. Yet, as described above, there is a striking higher mortality rate in the most deprived quintile of areas. The Joseph Rowntree Foundation has provided analysis showing a socio-economic disconnect within cities where they show that 'the poorest areas of towns and cities do not always benefit from economic growth',[7] where 'local jobs do not mean local employment for residents of deprived areas' – geography matters, as well as skills. Their conclusion is that attention is needed on poverty alleviation at the same time as growth, to ensure that all who live in cities may contribute to, and benefit from, growth. They also flag the concerning tendency for conditions in deprived areas to worsen over time. Others have argued for attention to be given to education and social mobility as key ways to address inequity.[8]

Austerity over the last decade has provided challenges for the public sector, such as schools, to provide universal, quality services and has impacted much of the social infrastructure supporting communities in highest need. Their ability to both meet immediate demands and to take advantage of opportunities for their future has been reduced – libraries, adult education programmes, youth clubs and community organisation and volunteering infrastructure; more affluent areas – or indeed cities with a higher mix of deprivation and affluence – may have been relatively less impacted. With the shifts in the housing and labour markets and a reduction in communities' ability to contribute to and benefit from positive opportunities may further widen socio-economic and health inequalities.

This analysis highlights key considerations for policy makers:

- That patterns of deprivation in our cities are closely correlated with the health of their residents and show the scale of health inequalities they face.

- Only measuring and tracking the average health of the populations in our cities masks these considerable health inequalities within; obtaining and understanding data granularity for different groups – and the differential impact of policy and services for these different groups is important.
- Ensuring that those in the most deprived areas are able to contribute to – and enjoy – the benefits of future economic growth of our cities will require focused efforts if inequalities are not to widen further; this is particularly the case where large areas of cities have high relative deprivation, or where cities are in regions that are themselves more deprived.

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4.3 Housing and health in cities

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Introduction

With increasing urbanisation, there is a need to understand the complex ways in which housing impacts physical and mental health and wellbeing, illnesses and health inequalities.[1] Children growing up in poor quality homes, such as those that are excessively cold or with damp and mould, are particularly vulnerable to health impacts due to their developing organs, and emotional and cognitive function.[2] These health impacts, such as the development of anxiety, depression or asthma, can endure for their lifetime with implications for their educational attainment and life outcomes. Adults living in poor quality homes are more likely to develop long-term cardiovascular, respiratory and musculoskeletal conditions. They are also more likely to take time off work and typically have poorer mental health. Housing communities with multiplicity of health risk factors present particular challenges when in concentrated geographical areas in cities.[3]

There have been notable actions to improve housing conditions in England. Housing plans were once a responsibility of the Ministry of Health and local public health departments. The 1919 Housing, Town Planning, &c. Act required local authorities to prepare housing and town planning schemes and establish a public health and housing committee. The 1930 Housing Act brought about the clearance of poor housing conditions in city slums. The 1946 New Towns Act initiated a postwar programme to build millions of homes to meet housing need and address overcrowding. The majority was social housing, including prefabricated homes to deliver the scale required.[4]

This chapter profiles a snapshot on drivers that influence urban housing conditions and environments, such as housing need, affordability, location, type, tenure, density, quality and space requirements. We note the complexity of this agenda and hope this chapter can provide a useful contribution to ensure better targeting of interventions to improve housing and health in cities.

Drivers of housing need in cities

Drivers of housing need in cities such as those related to demographic trends, type, tenure and affordability can determine the approach to planning housing projects. Where urban housing is built can affect health risk factors arising from issues such as space constraints and air and noise pollution.[5] Although there are varying demographic profiles in each English city, cities have a

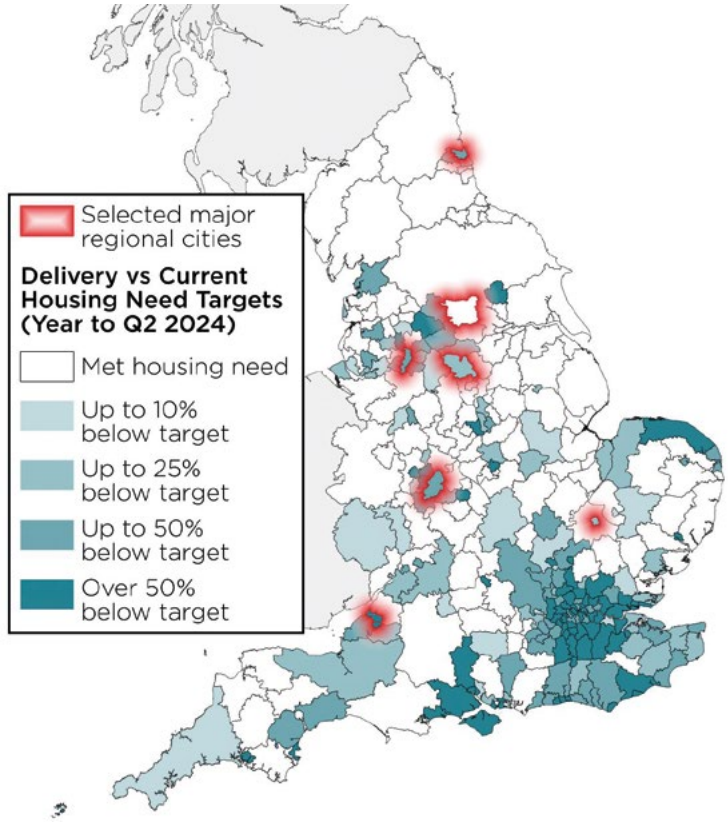
generally younger population living in urban centres, with families and the older population further out due to a range of societal and housing availability factors, increasing burdens of health from living longer, changing models of social care and key worker housing needs.[6] Addressing these challenges will require the system to better plan for, finance and deliver home adaptations, affordable housing, specialist accommodation, independent and lifetime homes. This includes bringing more empty homes in cities back into use.

Of the 13,046,000 hectares (8.7%) of land in England that is built on, 169,598 hectares (1.3%) is developed for residential purposes.[7] New housebuilding activity continues to add to the existing housing stock every year. There were 234,400 net additional dwellings in 2022 to 2023 including developments in larger urban areas such as London and Manchester.[8]

Housing need

Local authorities are required to undertake an objective local housing need assessment on the size, type and tenure of housing needed for different groups in the community, and to meet this need as much as possible through the planning system.[9] In turn, this assessment helps each local authority to determine suitable, available and achievable land supply and sites for housing, which form the basis for the area's long term housing plan. Cities make up 43% of housing need but also account for 90% of housebuilding shortfall against this need, which can have knock-on effect on provision and access to affordable housing (Figure 4.37).[10]

Figure 4.37: Map of housing need and housing delivery rates, highlighting major cities



Source: Savills Research, analysis of Ministry of Housing, Communities and Local Government data

Housing stock and type

England has an existing housing stock of 25.4 million homes.[11] Based on the English Housing Survey, much of this was built before 1980 – 18.1 million homes (72%). 6.7 million homes (27%) are located in urban centres and 2.2 million homes (9%) in the most deprived areas.[12] While 5.4 million (21.7%) households in England live in a house or bungalow, more households live in a flat, maisonette or apartment in urban areas. In London, for example, more than half of households live in a flat, maisonette or apartment (54.0% or 1.8 million).[13]

Living in different housing types can have varying physical and mental health impacts on people with different health conditions in relation to accessibility in and around the home, neighbourly amenity and condition of the home.[14] In cities, health in homes needs to be understood in the context of different challenges for people living in an apartment complex or mixed-use housing developments.

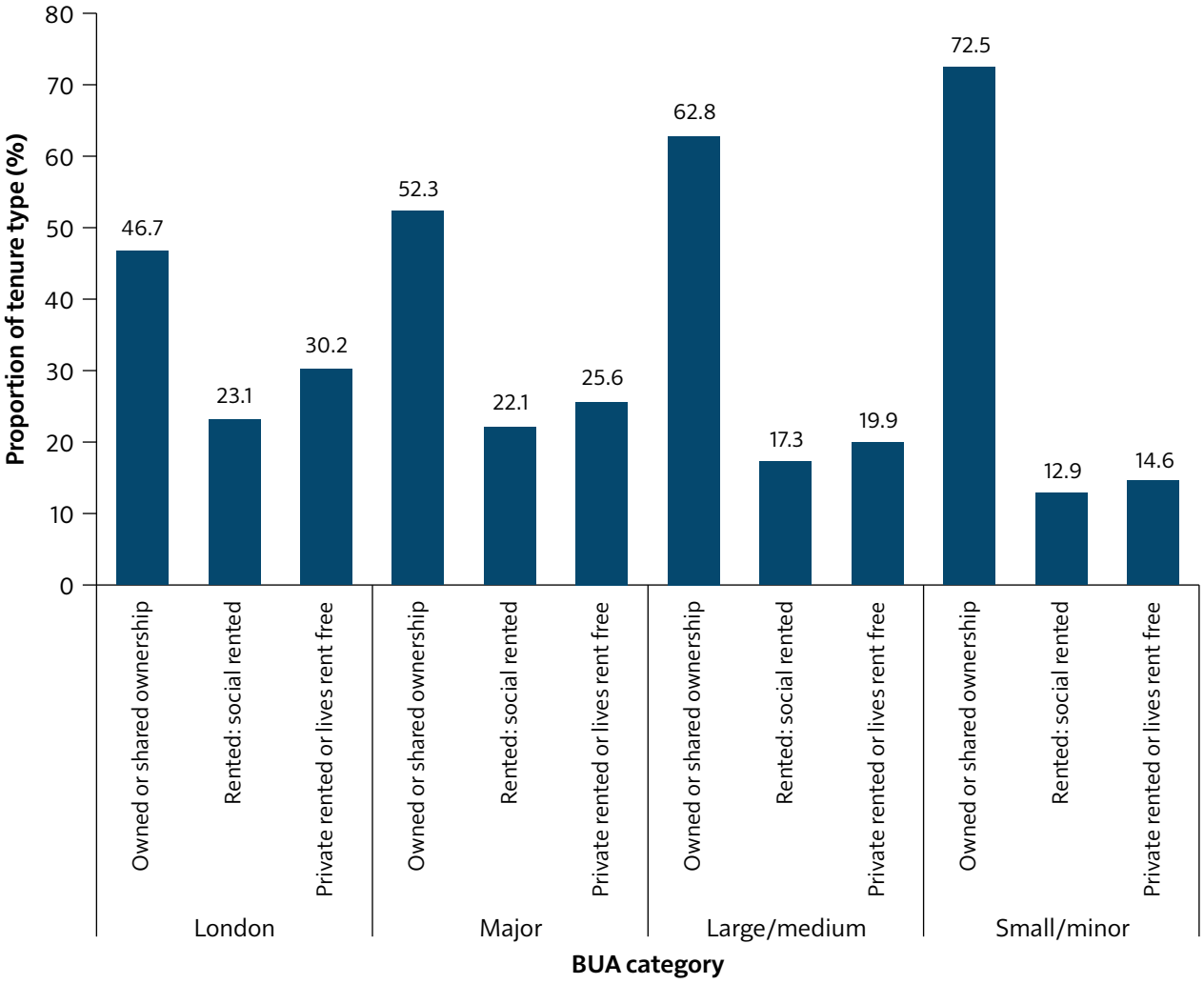
Housing tenure

The English Housing Survey presents a breakdown of housing tenure.[15] Owner occupation remained the largest tenure group with 15.8 million households, representing 65% of all households in 2022 to 2023. This tenure group typically includes a higher proportion of older occupants whose age puts them at increased vulnerability to the health impacts of poor housing.

The social rented sector accounts for a smaller but significant proportion at 4 million households (16%). Councils are required to consider disability or medical needs in social housing allocation through a housing medical assessment in accordance with Local Government and Social Care Ombudsman advice.

The private rented sector (PRS) accounts for 4.6 million (19%) of households. In built up areas (BUA) such as major cities there are greater proportions of households in the PRS than the national average, as seen in Figure 4.38. Residents in the PRS experience health issues associated with affordability, overcrowding, social movement and connectivity as well as those associated with housing defects and hazards which are more prevalent in this tenure. Although PRS residents are usually a younger and healthier demographic profile,[16] it is important to note that poor housing conditions can significantly impact the health of children and adults without any pre-existing conditions.[17]

Figure 4.38: Percentage of household type of tenure by BUA category



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021" and "Coastal communities, characteristics of built-up areas, England and Wales: Census 2021"

The demand for built to rent (BTR) housing products has seen increases in supply in London, Manchester and other regional urban centres with a total of 263,694 BTR homes built by 2023.[18] BTR mainly caters to more affluent renters within the 25 to 44-year-old range with similar demographic profiles as those living in the PRS but with more couples and sharers.[19] While still only accounting for a small proportion of housing supply, with its growing popularity and developer interest, some believe BTR can play a greater role in the portfolio of housing solutions. There is potential for displacing affordable housing provision compared to build to sale developments.[20]

Affordable housing

Lack of affordability due to housing costs and inadequate provision across the range of affordable housing products can have an impact on mental health outcomes such as those associated with housing insecurity, homelessness, overcrowding or living away from social networks.[21] Urban housing policy that addresses access to affordable housing, including social

housing for vulnerable groups, can lead to improvements in social, behavioural and health-related outcomes.[22]

In 2022 to 2023, 63,605 affordable housing units were completed, the majority of which were delivered in local authorities classified as urban, with cities such as Birmingham and Leeds having an 18% increase in supply.[23] Building sufficient affordable housing can provide the most immediate and direct benefits for low-income households such as helping to reduce the cost of renting or buying a home so there is more household budget to afford daily essentials, such as food and heating. Overall housing affordability is an issue in terms of housing spend as a proportion of income and there is disparity between urban and rural areas.

Housing conditions

Housing standards

The quality of the existing housing stock in England is typically benchmarked according to whether it meets the Decent Home Standard (DHS), which is the statutory minimum standard for social housing. It covers aspects of the home such as structural defects, trip and fall hazards, thermal comfort and basic kitchen and bathroom facilities.[24] In 2022 to 2023, an estimated 3.5 million homes (14%) failed to meet the DHS with implications for occupants' health.[25]

Homes in city and urban centres are more likely to be non-decent (16.3%) than those in suburban areas (12.2%), but less likely than those in rural areas (20.1%). Certain dwelling types that are more common in cities are more likely to fail the DHS (for example, 16.9% of flats, as opposed to 14% of houses). Converted flats are particularly likely to be non-decent (29.6%).[26]

The Housing Health and Safety Rating System (HHSRS) is used to categorise the severity of hazards and is used as the primary means to take enforcement action against landlords.[27] In 2022 to 2023, an estimated 2.1 million households (8%) were living with a hazard categorised as presenting a threat to life or severe illness.[28] 9.4% of homes in city and urban centres contain these hazards, as compared to 6.5% in suburban areas and 13.7% in rural areas.

The poor quality of the English housing stock means many homes require significant improvements to prevent ill health. Well-designed housing interventions can positively impact a range of physical and mental health outcomes, play an important role in the reduction of health inequalities and deliver value for money in terms of improved health outcomes.[29]

Cold homes, fuel poverty and energy efficiency

Living in a cold home increases occupants' risk of developing cardiovascular, respiratory, and musculoskeletal conditions.[30] It also affects the severity of illness and risk of mortality for individuals with existing health conditions. National Institute for Health and Care Excellence guidance highlights the important role of the health and social care sector in identifying vulnerable households and the development of local cold homes strategies.[31]

In 2023, 3.2 million households in England lived in fuel poverty.[32] These estimates are based on the Low-Income Low Energy Efficiency (LILEE) definition, which can be used to identify

households that have a low energy efficiency rating and where the income of the household would be below the official poverty line if they were to meet their estimated energy costs. This includes 2.1 million households who are most vulnerable to the impact of cold homes (children under 5, adults over 65 and individuals with pre-existing health conditions, such as cardiovascular and respiratory disease). Whilst fuel poor households exist in both cities and rural areas, the absolute numbers and high density in some city neighbourhoods are cause for concern.

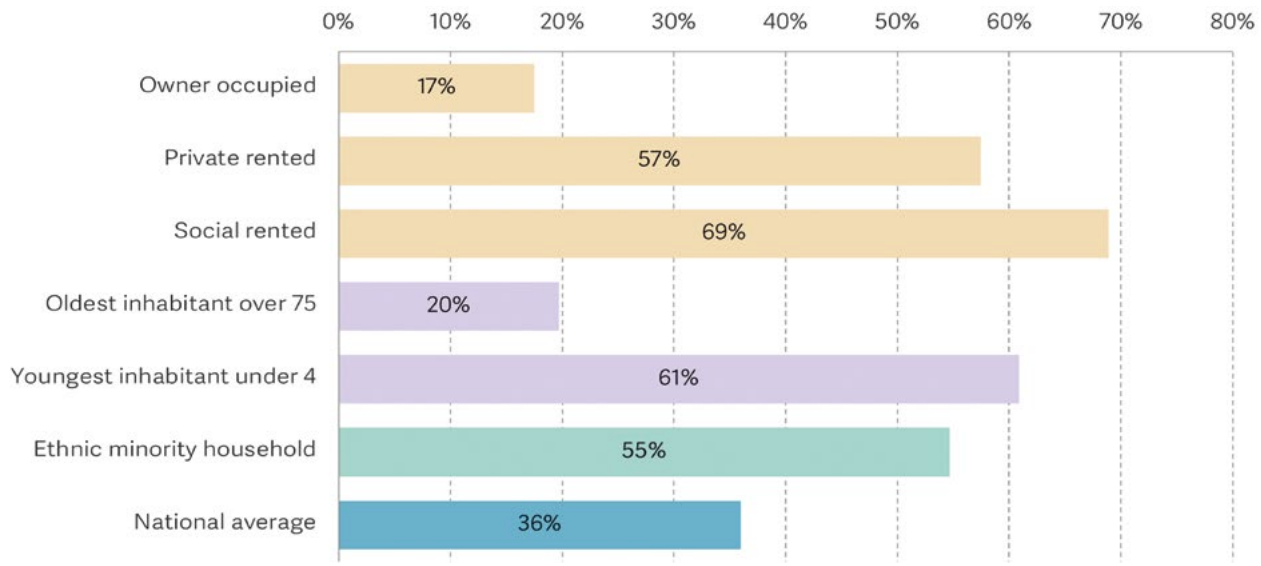
A study of European countries found that the UK had one of the highest numbers of excess winter death rates in Europe, a proportion of which is attributable to cold homes.[33] Housing energy efficiency is one protective factor against morbidity and mortality from excess cold. However, the UK's housing stock is some of the oldest and least energy efficient in Europe. Interventions to address this were found to be cost effective in terms of the health benefits gained.[34] Cold-related mortality is expected to increase over a 20-year period despite the warming climate, due to population ageing.[35]

Overheating

The UK Health Security Agency has published evidence on the health effects of high temperatures and overheating.[36] Prolonged exposure to high temperatures is associated with decreased productivity, poorer mental health and increased risk of heat-related death. People suffering from cardiovascular and respiratory diseases are more severely affected. Protecting households from high temperatures in their homes is particularly important as the frequency and severity of heatwaves is predicted to increase as our climate becomes warmer. The scale up of energy efficiency to address excess cold hazards and meet net zero targets also means some households may be at increased risk of overheating if the modifications to their homes have not been carried out with sufficient consideration of year-round building performance.

The risk of a home overheating is typically higher in cities due to the urban heat island effect. Certain housing types which are more prone to overheating, such as flats, are also more common in cities, further increasing their overheating risk.[37] Under the current climate, an estimated 55% of homes in the UK are at risk of overheating, with those in London and the south of England at highest risk. Under a future warming scenario of two degrees Celsius, around 90% of homes are considered at risk of overheating.[38] Occupant characteristics also impact home overheating risk (Figure 4.39).

Figure 4.39: Proportion of homes at high risk of overheating, by selected occupant characteristics



Notes: Properties deemed at high risk if they are flats with a footprint of less than 70 square metres, houses smaller than 50 square metres, or have 3 or more occupants in 5 or fewer rooms, in line with risk factors identified in the 2022 Climate Change Risk Assessment (CCRA). Ethnic Minority Household refers to the Household Reference Person.

Source: Resolution Foundation analysis of English Housing Survey 2020-21 data. https://www.resolutionfoundation.org/app/uploads/2023/08/Its-getting-hot-in-here.pdf

Indoor air quality and damp and mould

The Chief Medical Officer's 2022 annual report provided a significant overview of the effect of air pollution on heart disease, stroke, cancer and respiratory disease.[39] The build-up of internal pollutants within the home comes from sources such as laundry, cooking, cleaning products, paint and furnishings. Indoor air quality is further compromised by the ingress of external pollutants, such as nitrogen dioxide and particulate matter from vehicles, construction, and industry, concentrations of which are often higher in urban contexts. Indoor air quality is affected by ventilation. This means poor indoor air quality is a particularly pertinent issue in cities, where occupants may feel unable to open the windows due to external air pollution, noise sources, child safety or concerns for crime.

Poor ventilation, in addition to other factors such as excess cold, is also associated with the development of damp and mould. Living with damp and mould is associated with an increased risk of respiratory morbidity and mortality. Damp and mould issues are more prevalent in flats (4.9% of dwellings) than houses (3.9%) and more common in city and urban centres (5.6%) than suburban (3.3%) and rural areas (4.2%). These figures are based on surveyor assessments, with much higher incidence of damp and mould reported when occupiers themselves are asked. Damp and mould impacts are unequally distributed across the population. Households on low income, in receipt of housing support, from an ethnic minority background and those that include people with a long-term health condition or disability are more likely to live with damp and mould, as well as people living in temporary accommodation.[40]

Accessibility and inclusion

In 2022 to 2023, the English Household Survey estimated that approximately 36% of households in the England included one or more members with a long-term illness or disability, an increase from 34% in 2019 to 2020.[41] One in five households with someone with a long-term illness or disability and a need for accessible housing considered their accommodation to be unsuitable based on 2019 figures.[42]

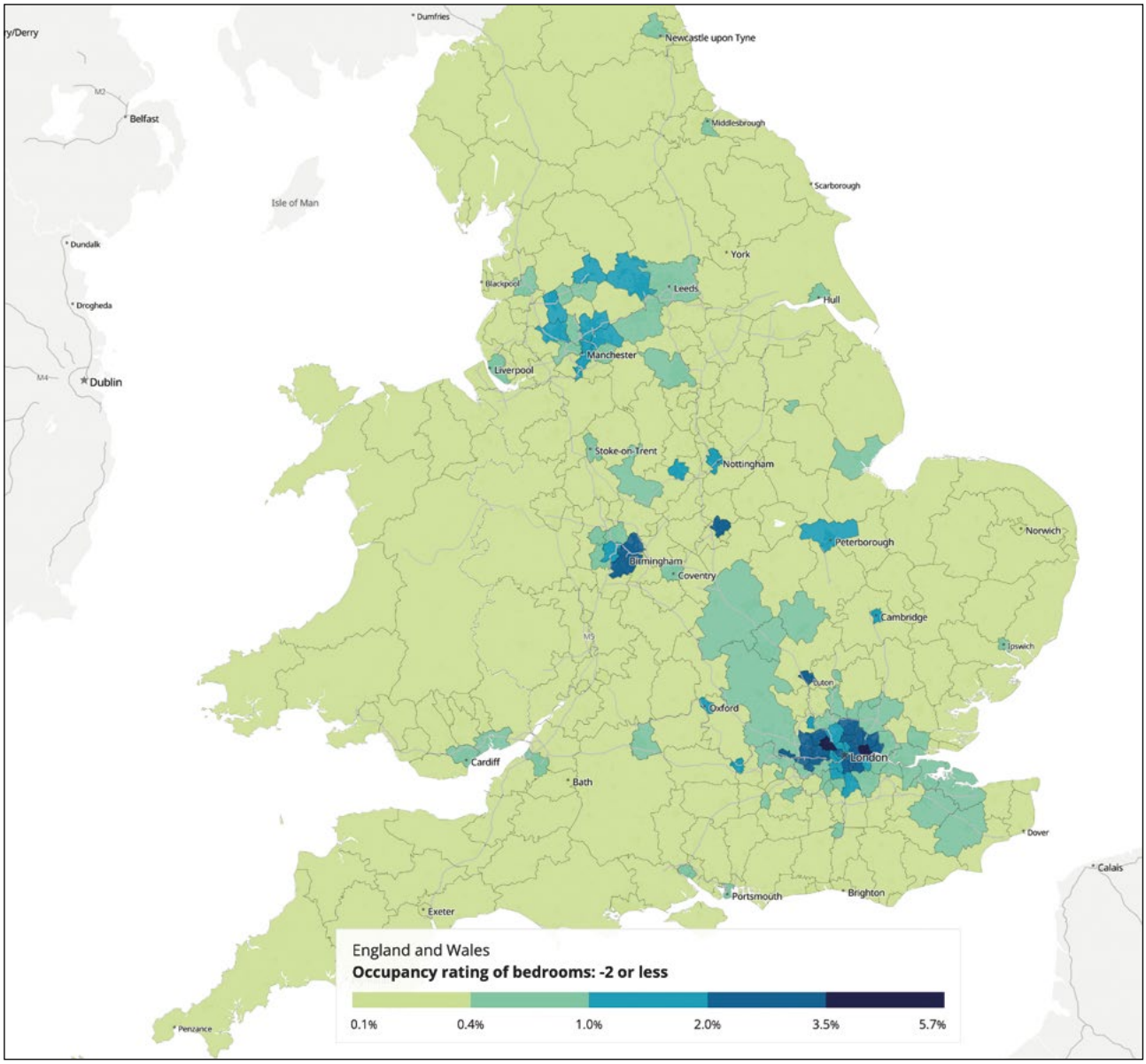
A recent House of Commons Committee report highlighted the impact that a lack of accessible accommodation is having on households, including the exacerbation of pre-existing physical and mental health conditions, a loss of independence and being housebound and waits for accessible social housing lasting decades.[43] Further to the implications for health and wellbeing, individuals living in inaccessible homes are four times more likely to be unemployed than those whose needs are met, or who are disabled but do not require accessible housing.[44]

There is an increase in the number of local plans in England setting a percentage of new homes to be built to an accessible standard, but more than half of all local plans still make no requirements for any accessible housing standard. The number of accessible homes planned per people in the population is higher in London (1 per 31 people) than the rest of England, with the lowest number planned in the West Midlands (1 per 656 people).[45] 68% of local authorities report that developers do not always comply with accessibility requirements but only 3% of local authorities had taken action against developers.[46]

Overcrowding

A WHO review identified that overcrowding is associated with an increased risk of infectious disease, poorer indoor air quality, poorer mental health and worse educational outcomes.[47] In 2021, across England and Wales, 4.3% of households (1.1 million) were overcrowded based on the Bedroom Standard.[48] London has the highest prevalence of overcrowding (8.9%) based on an occupancy rating of -1 with the lowest prevalence in the North East (1.8%). Severe overcrowding, as defined by an occupancy rating of -2, tends to cluster around cities (Figure 4.40)[49]. Overcrowding disproportionately affects different population groups with households with dependent children and households with multiple household members with a disability were also more likely to live in overcrowded accommodation.[50]

Figure 4.40: Occupancy rating for bedrooms



Source: Office for National Statistics. Occupancy rating for bedrooms London: Office for National Statistics; [Available from: https://www.ons.gov.uk/census/maps/choropleth/housing/occupancy-rating-for-bedrooms/occupancy-rating-bedrooms-6a/occupancy-rating-of-bedrooms-minus-2-or-less]

Home environments

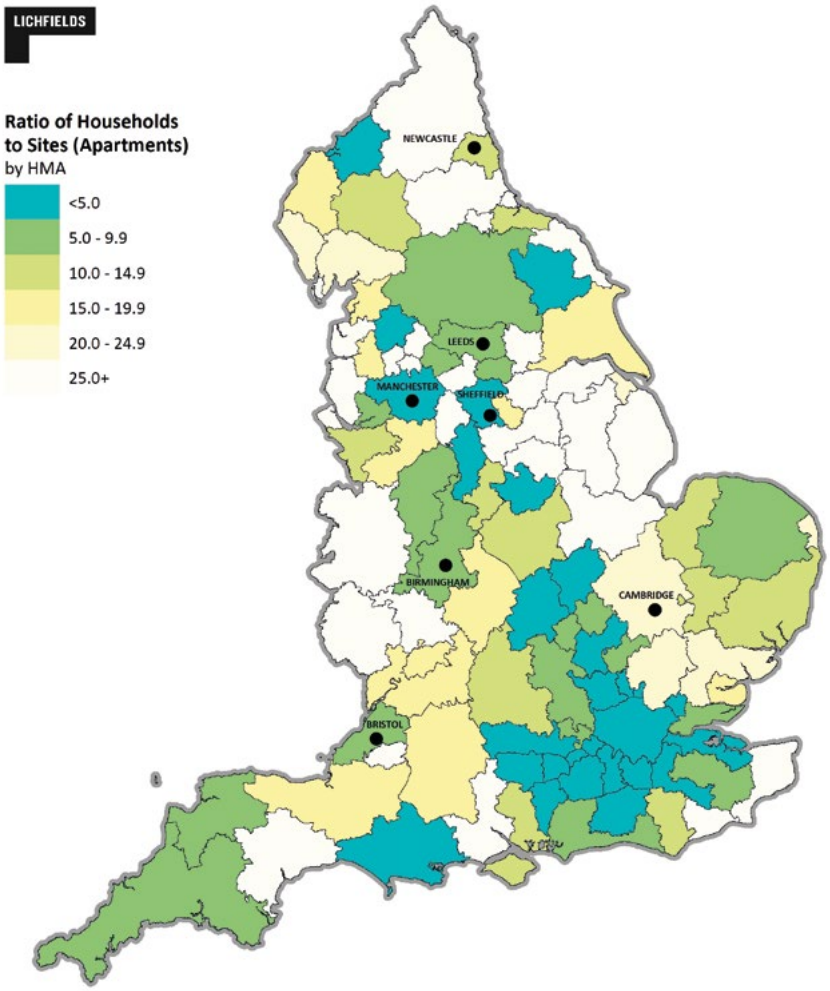
Location

There is significant need for housing, particularly in and connected to many of our cities, to provide homes close to jobs, shops and services and where the demand for homes is higher. The conditions in the immediate neighbourhood where homes are located can affect how people go about their daily lives in and around the home impacting on individual physical and mental wellbeing. If the home is located next to a noisy business in an inner-city mixed-use neighbourhood, it would potentially prevent households from opening their windows for ventilation and affecting, for example, sleep with possible health effects such as anxiety and

cardiovascular disease.[51] If a specialist care home is to be built on a flood-prone land, it could result in physical injury, infections or mental health effects from internal home damage during and after a flood event.[52] If affordable housing tenants live too far away from the labour market, there can be a knock-on effect on employment opportunities, income, poverty and welfare.[53]

Much of land identified by local authorities for development in cities is required to be prioritised on previously-developed land or brownfield land. Data shows net housing capacity is 1.4 million, 48% of which is estimated to be flats (Figure 4.41)[54]. Many urban local authorities are constrained by land availability and reliant on smaller infill or conversions, which may often not be in the most health promoting locations. Allocating the right home in the right location against the needs of different populations can have implications for how people interact with their home environment and subsequently impact on health outcomes, exacerbating spatial and health disparities.

Figure 4.41: Ratio of number of households likely to live in apartments to number of apartments on Brownfield Register (by Housing Market Area). A higher ratio signifies more households to each home on the register



Source: Lichfields, Land Promoters & Developers Federation. Banking on brownfield. Can previously-developed land supply enough homes where they are needed?; 2022. Analysis of MHCLG, Experian

Given their proximity to conurbations, brownfield locations generally benefit from better connections to employment and social infrastructure. The environmental and sustainability impacts of redevelopment can be comparatively less than development on greenfield land in more rural and isolated locations. But health research has also found people living in wards with a high proportion of brownfield land are significantly more likely to suffer from poorer health than those living in wards with a small proportion of brownfield land and suggested brownfield land may be an overlooked environmental determinant of health.[55]

Many new homes have been built through conversion of existing vacant premises such as offices and industrial units. Between 2015/16 and 2022/23, 102,830 new homes were delivered through these conversions with the majority in urban local authorities.[56] Though not at a significant scale, many conversions are being used for social housing purposes accommodating vulnerable residents and those with specific health needs. Research has found these housing conversions have created poor quality home environments such as lack of access to natural daylight, and are linked to the health, wellbeing and quality of life outcomes of occupiers.[57] The benefits of natural light are well documented, from vitamin D production (conversely a lack of vitamin D has been associated with depression and obesity) to enhancing sleep patterns, mood, focus and productivity.[58]

Housing design quality

There are a wide range of housing design considerations that have been shown to affect health and wellbeing and homes should be designed or retrofitted with a holistic view to how the home may affect health and wellbeing.

The quality of design features of the internal and the wider home environment in urban settings, such as orientation of rooms and windows to access natural daylight or home security measures close to a busy street, can impact on people's day-to-day living and therefore have a significant role in shaping healthy behaviours. For major housing regeneration in city centre sites, opportunities exist to achieve housing design quality and placemaking at scale.[59]

Evidence from one study, applying the Building for Life standards, showed the majority of assessed housing schemes to be mediocre or poor, although urban and suburban housing schemes generally performed better.[60] Experience from the NHS England Healthy New Towns programme has shown housing schemes that follow healthy design principles offer many opportunities to enhance the health and wellbeing of those who will live in them.[61]

Achieving well-designed places in cities will require design interventions that apply to new housing and the existing housing stock. These interventions can be adapted to meet specific health needs through dementia-friendly, age-friendly, child-friendly and crime prevention housing designs, which can be required in local authority development plans.[62]

Housing density

Housing density varies significantly by location, with higher density expected in cities. Housing density is generally defined as a measure of homes per hectare. Many cities in England such as London, Greater Manchester, Sheffield, Leeds and Bradford, are surrounded by protected

greenbelt land to protect urban sprawl and provide opportunities for access to open countryside for the urban population. National and local housing policy seeks to maximise the efficient use of previously developed land and optimise the use of each site. Increasing housing density can result in both positive and negative health effects.

There are positive outcomes from building to higher density to help sustain accessible and viable neighbourhood services and amenities close to where people live.[63] But poor design of very high density can have the opposite health effect. There are housing design implications for high density homes in providing accessibility for those with disabilities, and addressing fire safety, security and crime concerns. The relationship between housing density and loneliness was observed in a UK Biobank study with more pronounced effect observed among those aged 50 to 58 and in men.[64]

Studies show people living in large cities receive less daylight than they need for good health and well-being as housing density increases due to shading and overshadowing from taller buildings.[65] Inadequate natural light, which may result from a flat conversion, is known to affect falls risk, sleep, mental health and productivity. Current national policy gives authorities flexibility in applying requirements relating to daylight and sunlight. Further research is needed to better understand the influence of density on health predictors such as demographic and socio-economic characteristics in urban settings.[66]

Private outdoor spaces around the home

Housing is more than just within the four walls of a structure. The amenity spaces around housing can also determine the quality of home life and living. Having access to private outdoor space can have a positive impact on household behaviours in the home, productivity, adaptability and general health. Private outdoor space refers to outside space in the form of a garden, roof top terrace or balcony.

The health and wellbeing effect of access to space and environmental quality can also be profound on specific population groups such as children and in areas of deprivation as research has shown in urban areas in Greater London and West Yorkshire.[67] The Office for National Statistics found 1 in 8 households had no access to a private or shared garden during COVID-19 lockdowns, rising to more than 1 in 5 households in London with people from minority ethnic groups more likely to have no access to outdoor space at home.[68]

Summary

The Government aims to boost housebuilding and encourages brownfield-first development. This means adopting appropriate housing solutions in cities that retain focus on improving health outcomes of those living in new and existing homes. Local authorities, housing and health bodies have the necessary powers to achieve healthier homes. These powers include tools to secure well-designed homes, take action against poor housing conditions, help bring empty homes back into use and conduct housing medical assessments which have shown effectiveness in addressing the causes and outcomes of unhealthy homes.

There are collective responsibilities for health and wellbeing boards, integrated care systems, local authority housing and planning departments, housing associations and combined authorities for the urban population, including for:

- Local health systems to consider the importance of improving housing conditions to prevent and reduce the burden of ill health through the inclusion of housing in joint strategic needs assessments informing integrated care strategies and joint local health and wellbeing strategies.
- Local housing needs assessments to have identified the changing demographic profile in cities and accounted for housing and health needs over the life course.
- Local housing land availability assessments to be informed by assessments of health impacts to identify and optimise the health and wellbeing benefits of urban housing growth and regeneration.
- Local plans and housing strategies to have set out mechanisms to improve housing conditions to prevent and reduce the burden of ill health, as informed by integrated care strategies and joint local health and wellbeing strategies.
- Local housing and health partnerships to be established with registered providers of affordable housing, housebuilders and allied health professionals to set the conditions for delivering and managing essential services to meet the housing needs of individuals, carers and their families.
- Local housing and health systems to work more closely together, with a focus on building workforce capability on housing and health, and the provision of a platform to signpost vulnerable households to access local and national support.

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4.4 Cities and homelessness

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Homelessness is an enduring public health crisis

Homelessness is not a new phenomenon. Structural, societal and economic causes of homelessness date back centuries in England. Industrialisation, rapid urbanisation and associated housing shortages in the Victorian era, catastrophic unemployment during the Great Depression of the 1930s and a chronic shortage of affordable housing in the post-World War II period all saw growing numbers of people experiencing homelessness. Today, although homelessness is increasing in urban and rural areas, it is concentrated in England's major towns and cities. In 2023, homelessness affected an estimated 1 in 51 people living in London, and 1 in 71 in Birmingham and Manchester.[1]

Homelessness encompasses a spectrum of living situations, from insecure or inadequate housing to temporary emergency accommodation in shelters, to people sleeping rough on the street.[2] Although homelessness in all its forms is harmful to health, it is the people at the extreme end of this spectrum, rough sleeping or housed in transient settings, who experience the most severe health harms. This chapter is informed by 2 decades of experience outreaching health services to people at the extreme edge of homelessness across London. It focuses on their health needs and how, with the right approach, positive health outcomes can be achieved.

Ousainou Sarr, a peer outreach worker with National Health Service (NHS) Find&Treat, was diagnosed with tuberculosis (TB) by the service in 2011 after losing his job and becoming street homeless. He acquired TB in London and was part of the largest outbreak of drug-resistant TB ever documented in Europe. He now uses his experience to encourage people currently facing homelessness to access the service. 'If it wasn't for Find&Treat, I wouldn't be here today'.

Decriminalising homelessness

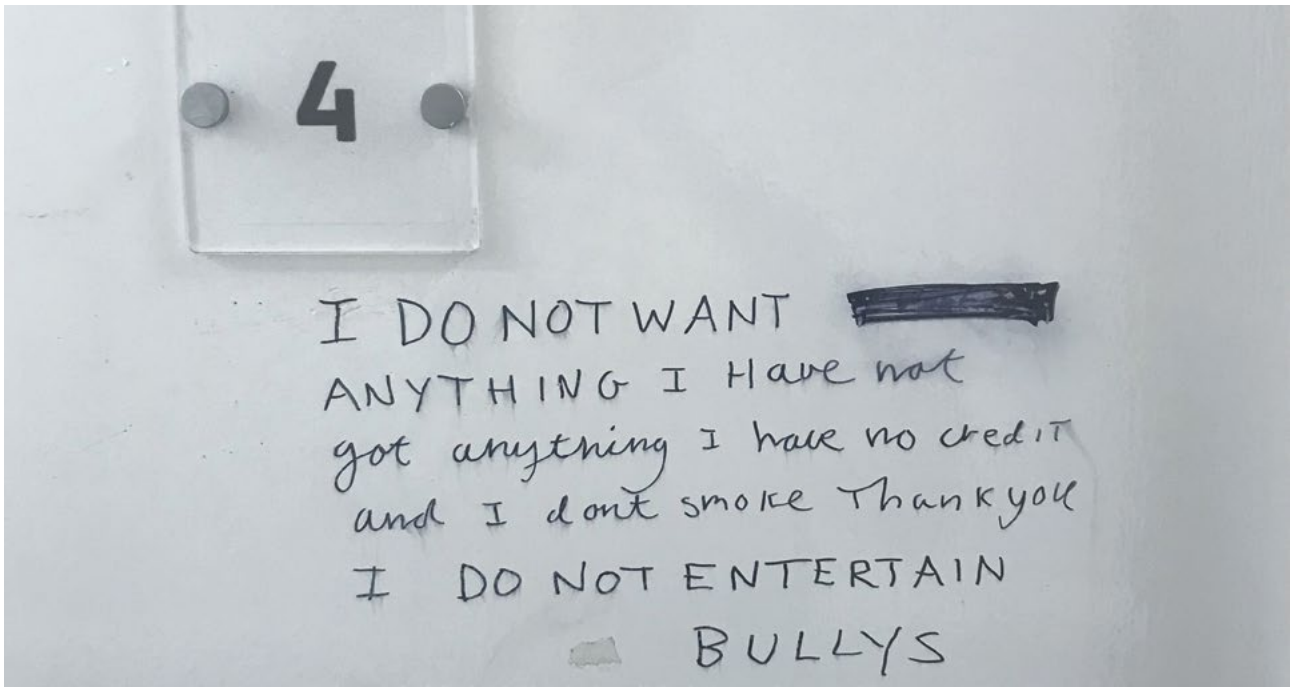
Homelessness is still a criminal offence in England. The 1824 Vagrancy Act was introduced in response to a huge increase in urban homeless and displaced 'penniless poor' following the Napoleonic wars (1815), the Industrial Revolution, and many thousands 'forced' off the land following the Inclosure Acts and the Corn Laws. The Vagrancy Act gave authorities the power to ban, 'move along', or punish with hard labour anyone begging or sleeping rough in England. After a sustained campaign led by national charity Crisis, parliament voted in 2022 to repeal the Act, but this repeal remains in process and the Act is still technically in force today.[3] Legislative progress has been made elsewhere in recognising the need to proactively support people experiencing homelessness: The Homelessness Reduction Act 2017 'Duty to Refer' requires certain public bodies to refer people who are experiencing or at risk of homelessness to a local authority with the goal of early intervention and assistance. However, the impact of 'Duty to Refer' has been stymied by a national chronic shortage of affordable and appropriate housing options, especially in our major cities.

Everyone In

In March 2020 the COVID-19 pandemic prompted government to take the unprecedented step of 'Everyone In'. This national public health response asked Local Councils to house anyone at risk of or currently sleeping rough as the country entered 'lock down'. Previous studies had demonstrated a high prevalence of long-term health conditions among rough sleepers that were likely to increase the risk of severe COVID-19. Almost 1 in 10 former rough sleepers medically assessed in temporary hotel facilities in London were classified as extremely clinically vulnerable due to advanced respiratory disease. More than 40% had one or more clinical risk factors making them eligible for influenza vaccination and at increased risk following SARS-CoV-2 infection.[4]

For many in the homeless sector, the unconditional offer of accommodation was seen as an opportunity to end homelessness at scale. 'Everyone In' had the potential to build on evidence-based success stories such as in Finland, where long term homelessness has reduced by two thirds since 2008 through a human rights-based Housing First model.[5] In England, 'Everyone In' helped an estimated 37,000 people stay safe through the pandemic. Health needs assessments which ran alongside the initiative revealed the complexity of needs and the opportunity to intervene and improve health outcomes for this population. Research conducted by St Mungo's found that more than a third (35%) of those assessed in emergency hotel accommodation in London said their physical health had improved since moving into a hotel.[6] Researchers from King's College London found that others appeared overwhelmed by the support they received when they moved into the hotels: 'the relief and the disbelief that they were actually in a hotel room where they had a shower, a bed to sleep in, and somewhere that was warm and dry and where they could keep themselves to themselves. There was a big desire to rest, recover a bit and take stock'.[7]

However, the results have been short-lived with only 1 in 4 people housed under the scheme moved into settled accommodation of 6 months or more.[8] Meanwhile, depleted social housing stock, major cuts to social welfare, falling funding for homeless services and spiralling living costs continue to fuel England's homelessness crisis. In this resource-constrained environment, families with children are prioritised for emergency housing while single homeless people remain bottom of the list. Available housing options, including homeless hostels, can be inhospitable and challenging environments for individuals already facing multiple physical and mental health stressors, as illustrated by this message left on a door in a homeless hostel.

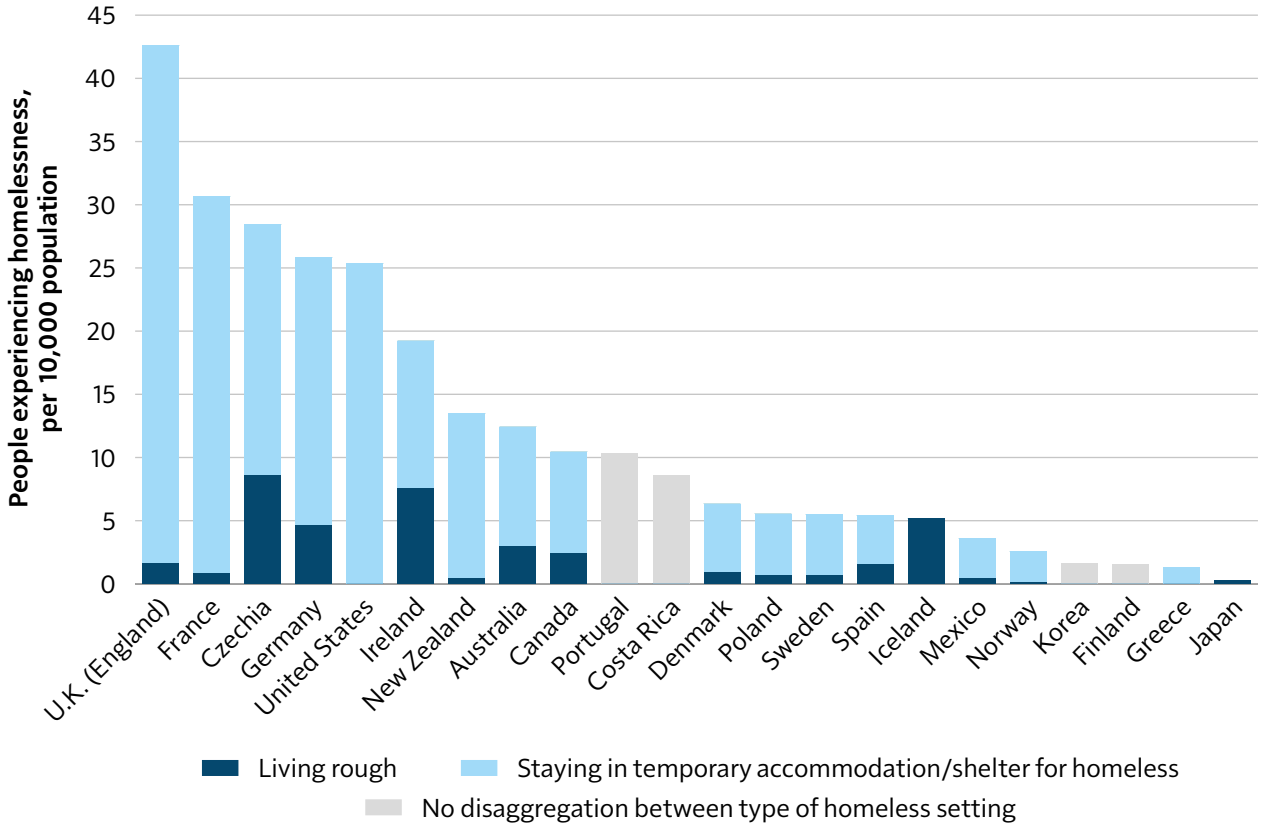


This message was written on the door of a homeless hostel for single men. Homeless hostels, one of the few housing options available for single homeless people, are often inhospitable and challenging environments for people already facing multiple life stressors.

England homelessness surpasses rest of Europe

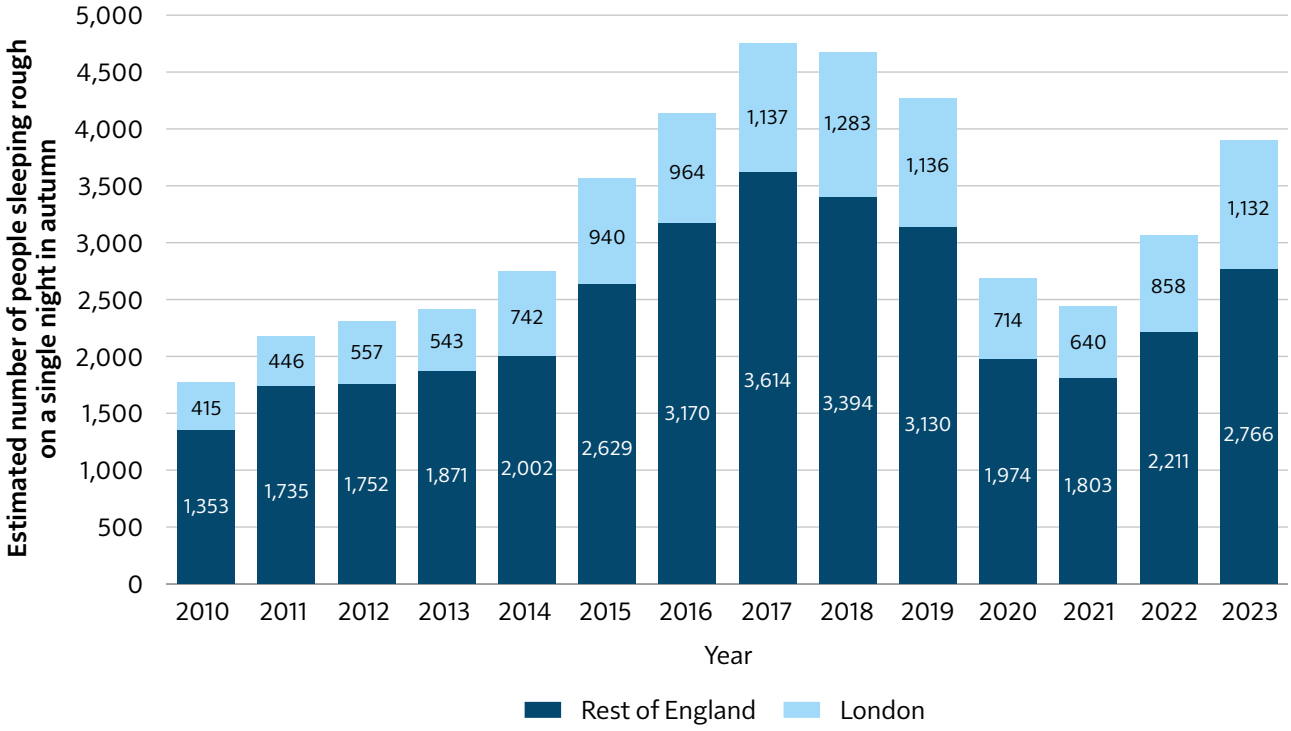
The results are stark. In 2023, England had the highest reported rate of homelessness of any Organisation for Economic Co-operation and Development (OECD) country (42.6 per 10,000 population) as illustrated in Figure 4.42.[9] An estimated 309,000 people were considered homeless nationally, a record 140,000 of whom were children.[10] This is an overall increase of 38,100 compared to 2022. On a single night in 2023, 3,898 people were counted rough sleeping, which is a quarter more than the previous year, as illustrated in Figure 4.43.[11] The majority were reported in urban areas (Figure 4.44). However, homelessness is extremely hard to measure and this is likely an underestimate. Street counts only capture people at a point in time on a given day, and don't reflect the larger numbers affected over the course of a year as people move in and out of rough sleeping. The Combined Homelessness and Information Network (CHAIN), a multi-agency database recording information about people sleeping rough in London, reported around 10,000 people sleeping rough in London alone between April 2022 and March 2023.[12] An estimated 20,000 people were living in homeless hostels and around 280,000 people were housed in temporary accommodation including B&Bs, refuges or private, council or social housing, continuing a year-on-year increase since 2011.[13]

Figure 4.42: People sleeping rough or staying in temporary accommodation or homeless shelters per 10,000 population in OECD countries, 2023 (point in time data)



Source: OECD Affordable Housing Database, OECD. 2024 [cited 2024 Aug 23]. Available from: https://www.oecd.org/en/data/datasets/oecd-affordable-housing-database.html

Figure 4.43: Estimated number of people sleeping rough on a single night in autumn in London and the Rest of England since 2010.

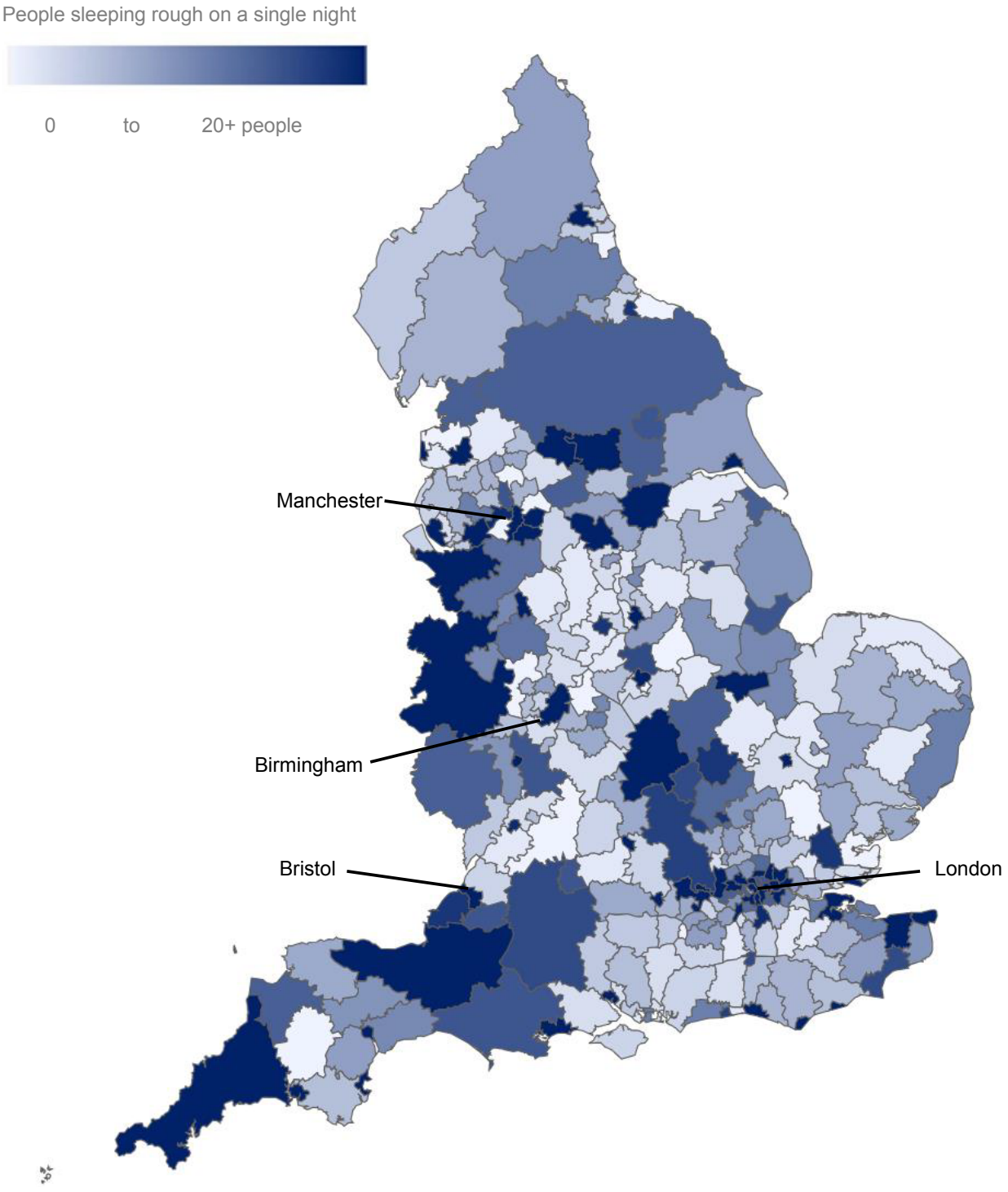


Note: The 2020/21 dip in numbers of people rough sleeping is related to the Covid-19 pandemic response, when local authorities were requested to house those at risk of and currently sleeping rough, an initiative known as 'Everyone In'.

Source: Department for Levelling Up, Housing & Communities. Official Statistics, Rough sleeping snapshot in England: autumn 2023 https://www.gov.uk/government/statistics/rough-sleeping-snapshot-in-england-autumn-2023/rough-sleeping-snapshot-in-england-autumn-2023#enquiries. Published 29 February 2024

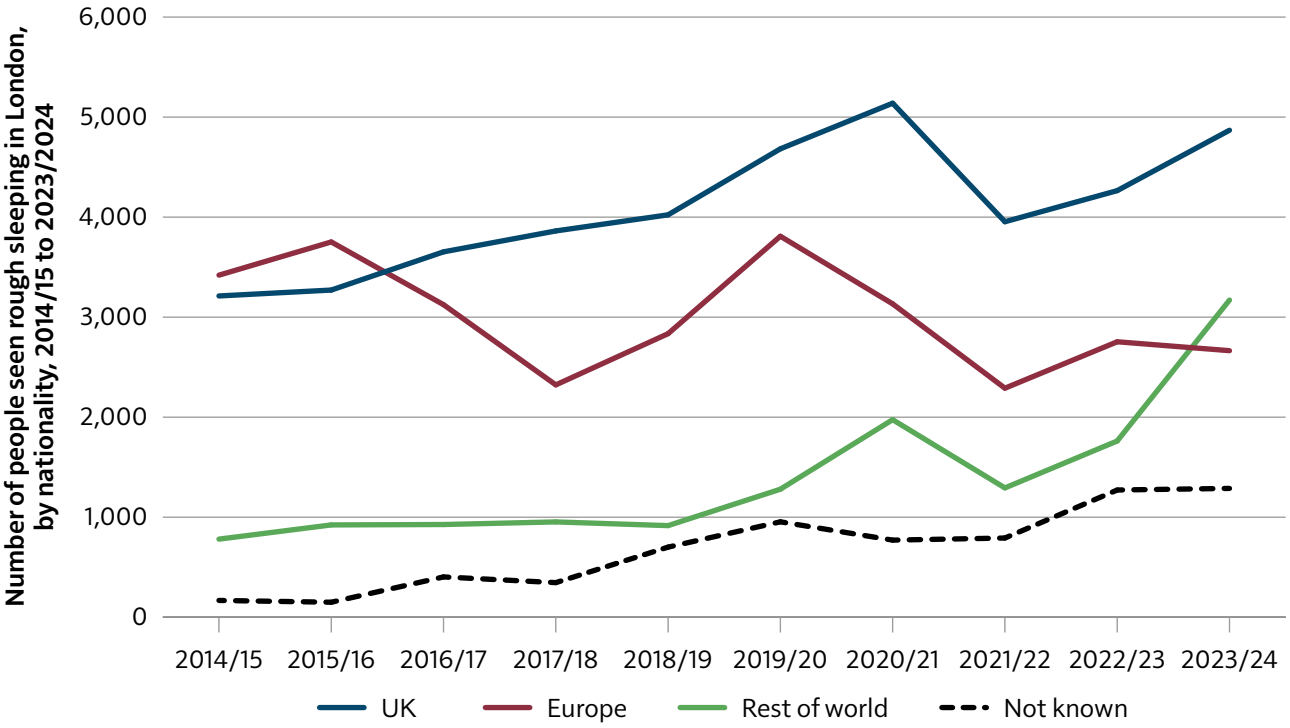
The 2022 official count of 'visible' rough sleepers in England found that most were UK born, male and over 26 years old.[14] However, women experiencing homelessness are far less likely to sleep on the streets because of inherent dangers: 9 in 10 rough sleepers in England have experienced violence or abuse on the streets and more than half have experienced physical violence.[15] Women and others who end up sleeping in alternative or 'hidden' settings, squatting and sofa surfing are often unrepresented or missed out altogether from official homeless counts. While most people recorded as sleeping rough in London are UK-born, there are also increasing numbers of rough sleepers from countries outside of Europe (Figure 4.45).

Figure 4.44: Map of the number of people estimated to be sleeping rough on a single night in autumn 2023



Source: Department for Levelling Up, Housing & Communities. Official Statistics, Rough sleeping snapshot in England: Autumn 2023, DLUHC 29 February 2024

Figure 4.45: Nationality of people seen rough sleeping across Greater London, 2014/15 to 2022/23



Source: Rough sleeping in London – Greater London Full Report, CHAIN, Greater London Authority, 2024. Available from: https://data.london.gov.uk/dataset/chain-reports

Trajectories to the street: causes of homelessness are complex but preventable

Poverty and homelessness are inextricably linked. Poverty in childhood is an especially powerful predictor of homelessness as an adult.[16]

Causes and consequences of deprivation, including poor physical and mental health, adverse childhood experiences, domestic abuse, poor educational attainment, unemployment and leaving care, prison or the armed forces, are all risk factors for homelessness. People who experience these causal factors often face discrimination related to protected characteristics including race, sex and disability. These complex and interlinked risk factors mean that populations who are homeless often overlap with other marginalised groups including those who have experienced imprisonment or addiction.

Despite evidence that early intervention works to prevent many of these risk factors, such initiatives are often underfunded and deprioritised. For example, SureStart, launched in England in 1999 to provide holistic support to disadvantaged families with children under the age of 5, was shown to improve GCSE results and decrease the proportion of children reporting special educational need or disability (SEND) in later years. SureStart was found to be cost effective and even cost saving: around 8% of costs were offset by reduced SEND needs and for every £1 spent, children experienced benefits worth £1.09, solely through school outcomes. This does not represent wider cost benefits of reduced welfare spending, increased tax revenue and

reduced hospital admissions. Yet funding cuts mean that most SureStart centres have now closed.[17]

Homelessness is an economic crisis

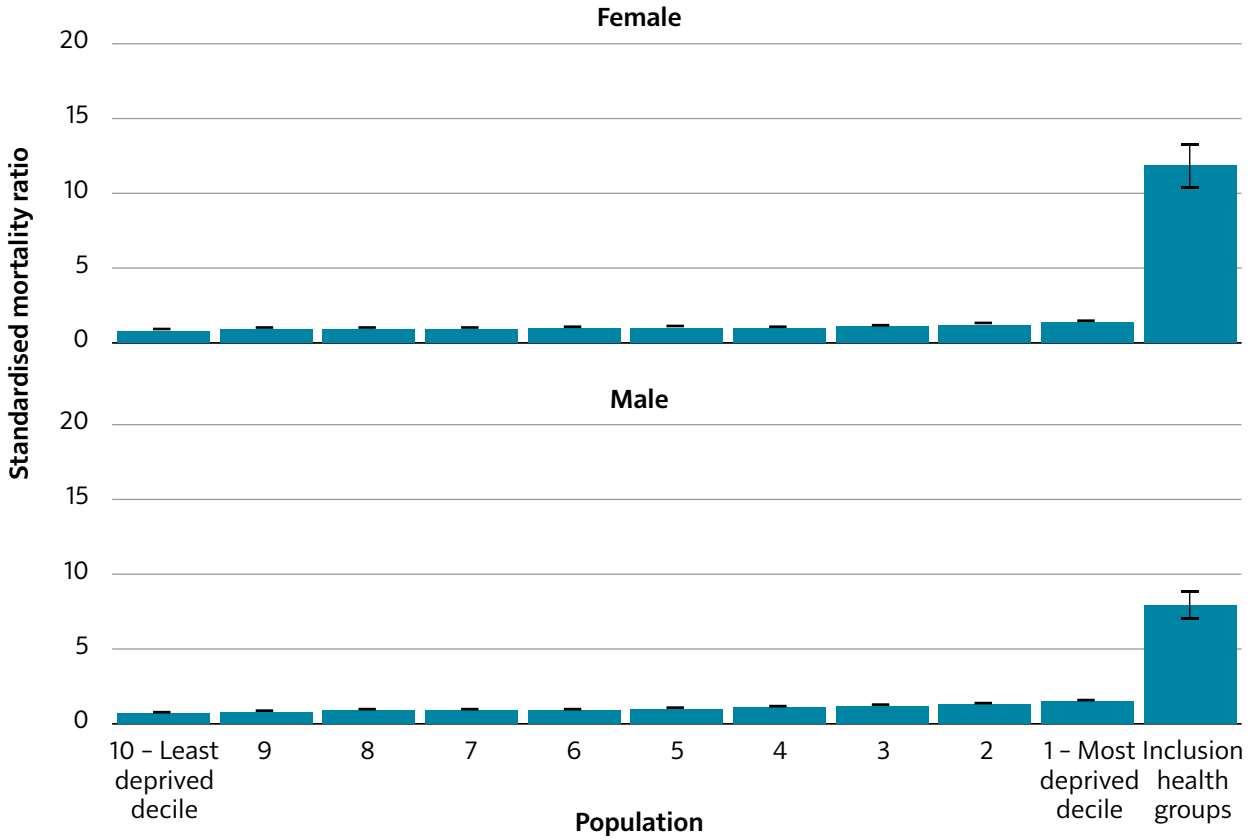
Homelessness is an economic crisis, costing the public sector, including the NHS, criminal justice system and homeless services, an estimated £38,736 per person per year (based on 2019/20 prices). Preventing homelessness would be cost efficient and potentially cost saving: in 2020/2021, housing the estimated 11,580 single homeless rough sleepers in England for a period of one year was estimated to save as much as £115.8 million.[18]

Homelessness creates extreme health harms

Homelessness causes extreme health harms characterised by early onset co-morbidity and poor disease control. Women are worst affected, inverting patterns of disease and premature death typically seen in a general population.[19] Critically, a large proportion of illness is preventable and treatable, with around 1 in 3 homeless deaths in England caused by conditions amenable to treatment.[20] Homeless groups continue to experience multiple barriers to healthcare, including stigma and discrimination, administrative hurdles, inflexible, fragmented services and poor communication.

In comparison with the slope in health inequalities seen across all groups in society, the difference between health experiences of the homeless (and other marginalised groups) and the housed is more like a cliff, as illustrated in Figure 4.46.[21]

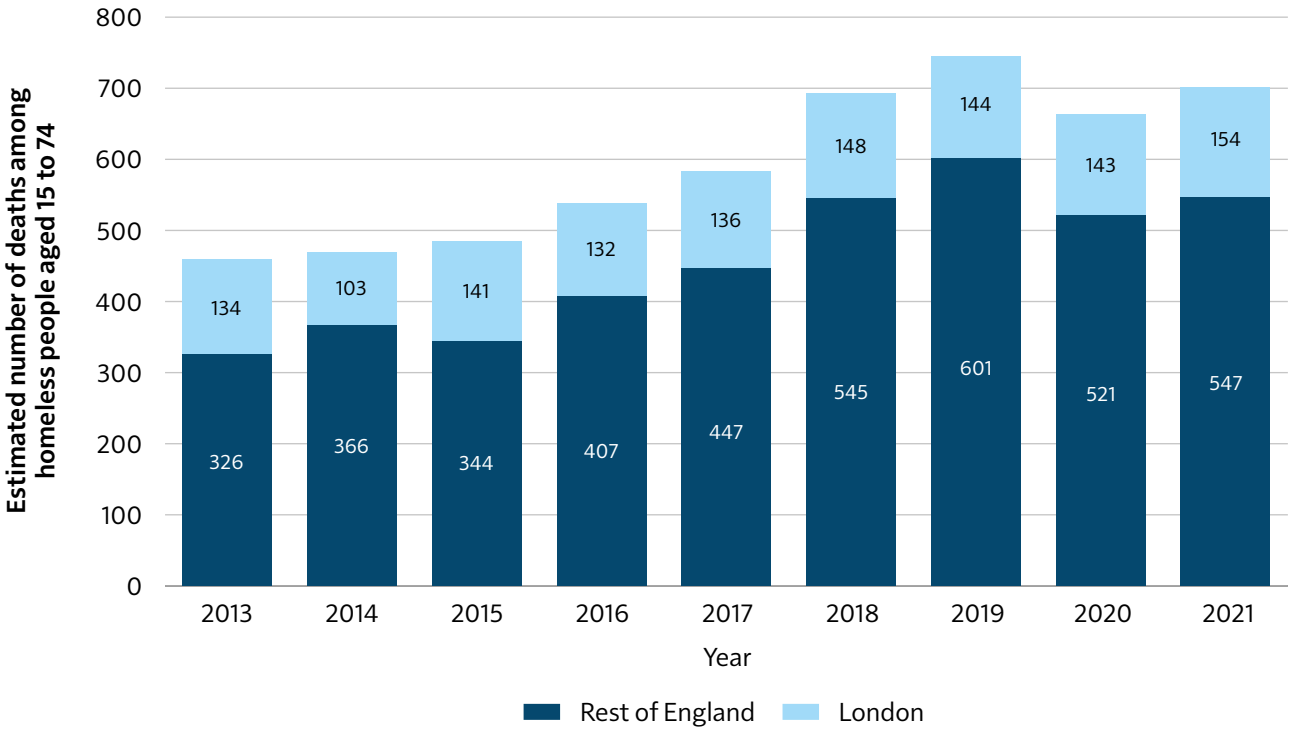
Figure 4.46: Standardised all-cause mortality ratio for inclusion health groups, compared to the general population by deprivation decile



Source: Office for Health Improvement and Disparities: SPOTLIGHT https://analytics.phe.gov.uk/apps/spotlight/ Data used to produce indicator available at: Office for National Statistics Deaths by underlying cause, deprivation decile areas, 5 year age groups and sex, England and Wales, 1981 to 2015; Office for National Statistics Populations by deprivation decile areas, 5 year age groups and sex, England and Wales, 2001 to 2015; Aldridge et al. 2018

Globally, death rates for people experiencing homelessness and other marginalised groups are up to 12 times higher for women and 8 times higher for men compared to the general population.[22] In England, the average age among reported homeless deaths was 43 in women and 45 in men, which is 30 years younger than in a general population.[23] Half of these homeless deaths are related to drug poisoning, alcohol and suicide. In a study of emergency department (ED) presentations among homeless people in England, nearly 1 in 5 people who presented with drug and alcohol-related problems died. This compares to one in 1,000 deaths among homeless people attending ED with any health-related problem.[24] Availability of synthetic opioids such as nitazenes are likely to be a particular concern in this population.[25] Other research highlights that one third of homeless deaths are due to treatable or manageable conditions such as tuberculosis, viral hepatitis, coronary heart disease, respiratory disease and cancer.[26] This presents a clear opportunity for effective healthcare intervention but nationally the number of estimated homeless deaths continues to rise. Official estimates show an increasing trend since 2013, with 1 in 5 deaths occurring in London (Figure 4.47).[27] The Museum of Homelessness provides a more up to date picture with 875 deaths reported in 2022.[28]

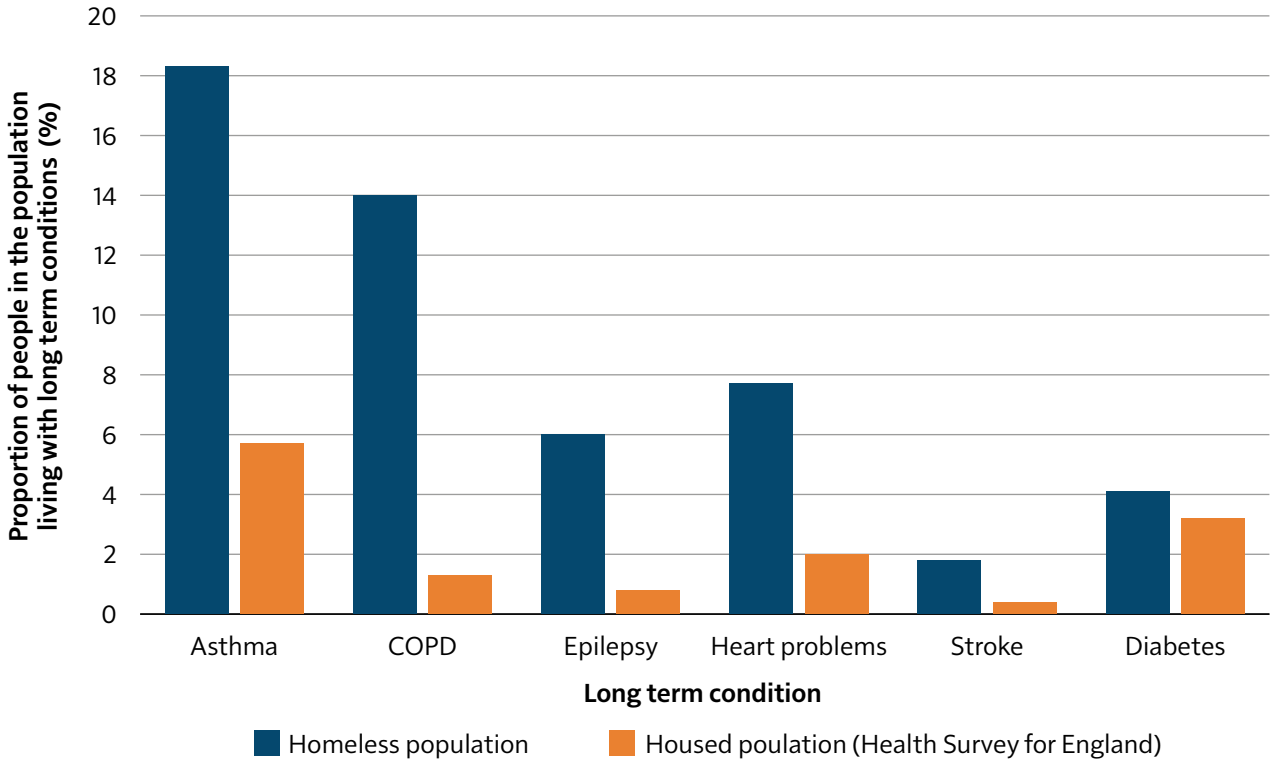
Figure 4.47: Estimated number of deaths among homeless people aged 15 to 74 in London and England, 2013 – 2021



Source: Deaths of homeless people in England and Wales – Office for National Statistics [Internet]. Office for National Statistics. 2022. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsofhomelesspeopleinenglandandwales/2021registrations

The disproportionate burden of extremely poor health experienced by homeless populations is well evidenced across England's major cities. In London and Birmingham, a study found far higher rates of long-term health conditions including asthma, chronic obstructive pulmonary disease, epilepsy, stroke and heart disease among homeless compared to any other socioeconomic group, as illustrated in Figure 4.48.[29] Other studies point to the extremely high risk of hospitalisation and death from *Streptococcus pneumoniae*, influenza and COVID-19 among people experiencing homelessness. For example, estimated hospital admission rates in homeless males for influenza and pneumonia in England in 2017/18 were 5 times higher when compared to a general male population.[30]

Figure 4.48: The proportion of people living with a long-term health condition among a homeless population compared to a housed population (%)



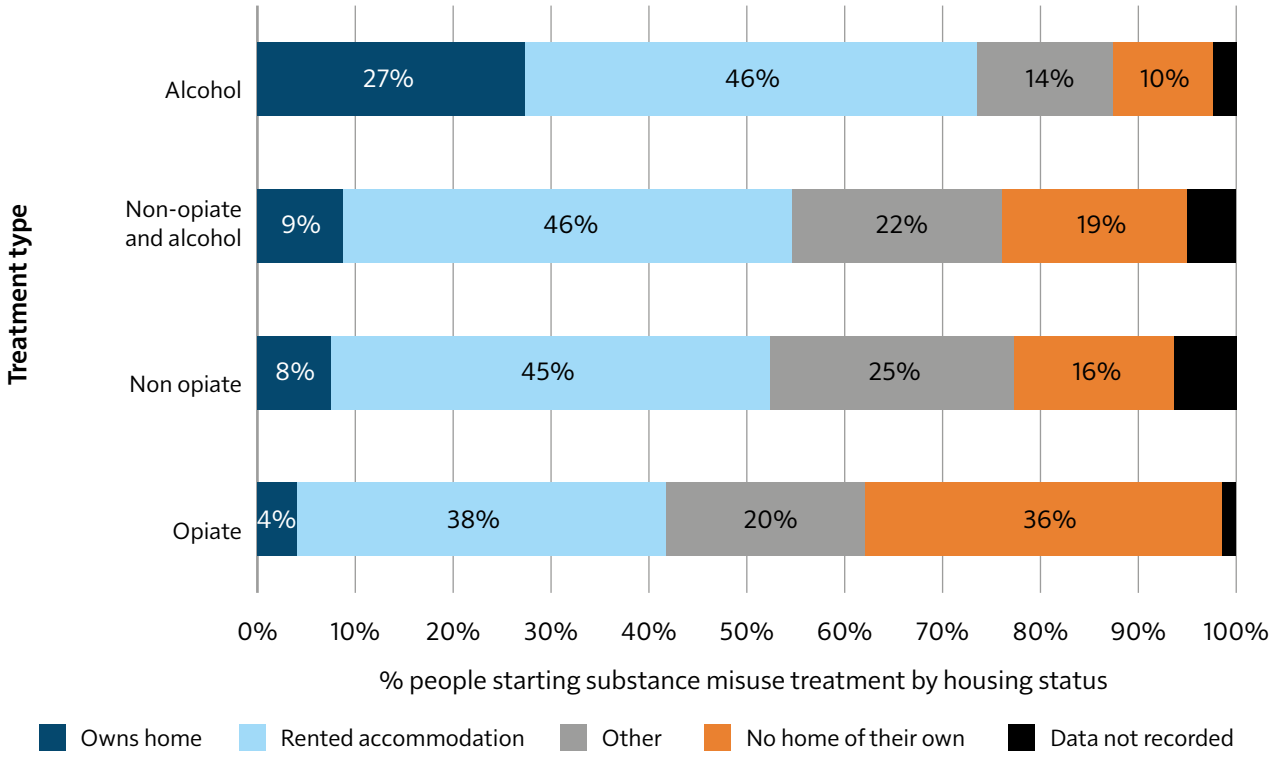
Source: Lewer D, et al, BMJ Publishing Group Ltd. 2019 (21)

These high rates of long-term health conditions are linked with early onset frailty, a condition usually associated with aging. Residents of a homeless hostel in London, with an average age of 56, were found to have on average 7 long term conditions each and frailty levels comparable to those of 89-year-olds in the general population.[31] In recognition of high rates of multimorbidity in all people experiencing homelessness, the UK's Joint Committee on Vaccination and Immunisation has agreed that a universal offer of influenza and pneumococcal vaccine is reasonable.[32]

Mental health conditions are also implicated in the causes and consequences of homelessness. Four out of 5 people with experience of rough sleeping in England reported at least one mental health condition, including psychosis, anxiety and depression, and over half had experienced suicidal thoughts.[33] Traumatic brain injury, associated with poor health and cognitive impairment, was reported among around half of people experiencing homelessness in a Leeds-based study.[34]

Substance misuse often serves as a survival strategy in response to poorly managed mental health conditions and stressors associated with homelessness. Treating substance misuse is therefore exceptionally difficult unless housing needs are addressed at the same time. The scale of the problem is clearly illustrated in data from England's National Drug Treatment Monitoring System which showed an estimated 1 in 5 people starting treatment for drug or alcohol misuse in 2022/2023 had no home of their own, as illustrated in Figure 4.49.[35]

Figure 4.49: Housing status of people starting treatment for substance misuse in England, by type of treatment, 2022-2023



Source: Office for Health Improvement and Disparities. Adult Substance Misuse Treatment Statistics 2022 to 2023: Report [Internet]. GOV.UK. 2023.

People who are homeless also face a high risk of exposure to infectious disease. In England, tuberculosis rose by over 10 per cent in 2023 to 4,850 cases, with London accounting for almost 1 in 3 cases. Around 1 in 6 cases of TB had at least one social risk factor, including homelessness, alcohol or drug misuse, imprisonment, mental health needs or asylum seeker status.[36] London also experiences the highest rate of hepatitis C virus infection, with around one third of cases notified in the capital in 2022 and at least one in 10 new confirmed cases in people with a history of homelessness.[37]

Adopting proportionate universalism to address extreme health inequities

Evidence shows that addressing extreme health inequities is achievable when commissioners apply the principles of proportionate universalism. This approach can support targeted strategies for care that is accessible, available and commensurate with need. Developments in incorporating health equity into cost effectiveness analysis have the potential to enhance understanding of how interventions impact homeless groups. For example, using distributional cost effectiveness analysis to capture impact in terms of both equity and efficiency.[38]

The National Institute for Health and Care Excellence (NICE) guidance on Integrated Health and Social Care for People Experiencing Homelessness brings together evidence on what works best in delivering effective services for people experiencing homelessness. Following careful consideration of the evidence, NICE concluded that services should be peer-led and, where

practicably possible, outreached.[39] There is robust national and global evidence that delivering outreach services can eliminate most of the barriers to care faced by people who are homeless. Outreach brings a level of flexibility not possible in traditional healthcare services, building trust with service users and helping prevent people from falling through the gaps in care. Critically, the NICE evidence review also found that peers who are experts by experience of homelessness offer a unique perspective of barriers and facilitators to healthcare, including stigma and discrimination. NICE therefore recommends that peers should be involved across service design and delivery to maximise service uptake and impact. This includes peers directly delivering health and social care interventions.

Research also shows that services are more effective if they are patient-centred, empathetic, non-judgemental and inclusive. Inclusive services, which are not bound by restrictive eligibility criteria, have the potential to address health inequalities and engage with people in a trauma-informed way that recognises that people's engagement with services is influenced by previous traumatic experiences and socioeconomic circumstances.

Challenges associated with living circumstances which act as barriers to care or lead to disengagement are well recognised. NICE expert consensus is that these barriers can be overcome by services which promote shared decision making and continuity of care. This has been demonstrated through long term service provision and sustained commitment to funding. Re-engaging people with services at the point where they were previously engaged, helping patients to navigate healthcare appointments and not penalising people for missing appointments are also recommended as evidence-based solutions to improving healthcare access.

The NICE evidence review also found that integration across multidisciplinary services can effectively address the health harms of homelessness and address upstream causes to prevent people falling into homelessness and destitution in the first place. Criminal justice, domestic abuse, housing, health and social care and the voluntary, community and social enterprise sectors can all contribute to identifying people experiencing homelessness and providing consistent and holistic care.

There is no shared directory of services working with homeless populations across England, which contributes to fragmentation and failure to scale best practice. Models of effective care include specialist multidisciplinary outreach, hospital and primary care based services working in partnership with the voluntary sector. Across all these services, integration is essential to address underlying causes and consequences of homelessness. For example, multidisciplinary teams in specialist primary care services include experts by experience, healthcare professionals, social workers, housing officers, outreach practitioners, voluntary sector professionals and staff with experience in accessing benefits. Services provided include needs assessments to inform care plans and support to individuals transitioning between settings such as rough sleeping, supported housing, health and custody services. Specialist hospital and community health services, including drug and alcohol teams, work together to promote wraparound care. For example, by preventing hospital discharge to the streets, providing intermediate and long-term care and ensuring face-to-face practical safeguarding support.

Evidence based principles for delivering effective health and social care to people experiencing homelessness

- **Peer-led:** services designed and delivered by people with lived experience of homelessness (peers) are more effective in engaging people with care
- **Outreach:** overcomes almost all barriers to care, by taking services directly to people in need
- **Integrated:** specialist multidisciplinary teams support integrated, coordinated care to address multiple needs
- **Joint commissioning:** building strong partnerships across health, housing, social care and criminal justice sectors is vital to address the social determinants of health
- **Sustainable:** longer term funding for multidisciplinary services over wide geographic footprints supports care continuity and recovery, and reduces variation in access to quality care

Source: Integrated health and social care for people experiencing homelessness. NICE [Internet]. www.nice.org.uk. 2022. Available from: https://www.nice.org.uk/guidance/ng214

Adapting health service models to meet the needs of people experiencing homelessness

Find&Treat (University College London Hospital) is an NHS pan-London peer led integrated outreach service tackling TB, blood borne viruses, sexually transmitted infections and vaccine preventable diseases among people experiencing homelessness and other marginalised groups. Find&Treat embodies principles of accessibility, trust and persistence, and is designed with and delivered by people with lived experience of homelessness.

Find&Treat's mobile peer-led outreach service creates healthcare opportunities in non-traditional settings, inverting power asymmetries associated with buildings-based models of healthcare. State-of-the-art, rapid diagnostic technologies allow outreach teams to screen for tuberculosis, blood borne viruses and sexually transmitted infections simultaneously and diagnose and initiate treatment in a single encounter on the street, in hostels or other homeless settings. A mobile cold chain facilitates administration of vaccines in locations suited to the client. This care model enables Find&Treat to reach over 10,000 homeless and other marginalised groups every year.

Find&Treat embeds peers across service design and delivery to reduce stigma, overcome distrust of services and establish consistent, long-term relationships that achieve positive health outcomes. Peers also become role models and are supported out of homelessness through training, education and employment. This peer-led model is dependent on strong partnerships with voluntary community and social enterprises (VCSEs), including Groundswell, the Hepatitis C Trust and the Naz project.

Find&Treat also works with an extensive network of up to 300 NHS, VCSE and specialist partners including accommodation settings for patients with no recourse to public funds. This emphasis on an integrated, multidisciplinary approach offers the opportunity to work with patients in a holistic way to identify and address wider health-related needs, including mental health, addiction, housing, benefits and employment. For example, homeless TB patients embarking on long-term treatment are housed and provided with holistic care and support, ending social exclusion and increasing their opportunities for treatment success. In this way, Find&Treat aims to bring socially excluded populations 'in from the cold' and provide them with the opportunity to thrive. A Return to Care service specifically targets patients who have been lost to follow up from standard NHS services, often for not having a regular postal address, not having enough 'phone credit, or not receiving communication in understandable language. So far, through its model of identifying 'lost' patients via searches of local homeless datasets, contacting patients via phone, text message or in person, and communicating in a relatable way, Return to Care has reengaged over two thirds of patients requiring treatment with care.

NHS Find&Treat peer workers Ous, George and Bean lead a mobile outreach infectious disease service for people experiencing homelessness and other marginalised groups in London

James Rock, a peer practitioner employed by Find&Treat, takes a sample for blood borne virus testing (left) and performs a liver scan to detect cirrhosis. State of the art, rapid diagnostic testing enables a one-stop-shop approach whereby clients can get tested for multiple infectious diseases in a single encounter.

Improving health is feasible and cost effective

The Find&Treat experience demonstrates that providing high quality healthcare to homeless and other marginalised communities is vital, feasible and cost-effective. A 2011 evaluation found that the Find&Treat TB service improved quality and quantity of life for patients (measured in quality adjusted life years, QALYs) and was cost effective up to £26,000 per QALY gained (measured in incremental cost-effective ratio) compared to alternative care models.[40] A more recent cost effectiveness study found that outreach hepatitis C testing and treatment services were similarly cost effective.[41] There is a significant research gap looking at the economic value of integrated services for homeless populations. However, the individual and societal impact of extremely poor health experienced by these groups suggest that any intervention which addresses health needs in a holistic way has the potential to be cost effective.

Find&Treat's experience is that providing high quality care for homeless populations is vital, feasible and cost-effective.

Meeting needs and addressing gaps

The experience of Find&Treat is that mainstream services are not meeting the needs of homeless people. Instead, increased NHS pressures appear to be contributing to decreased flexibility in approaches to care and homeless individuals are written off as 'did not attend' or 'lost to follow up' when they often do not have the means to communicate with healthcare providers. Find&Treat has also witnessed a worrying drop in engagement with services as homeless people transition from 'visible' homeless accommodation to the 'invisible' private rental sector. Specialist inclusion services exist and are adopting recommended principles to support positive outcomes, but they appear to be increasingly overstretched and under-resourced.

However, despite the growing homelessness crisis, there is room to remain positive. Evidence-based, effective solutions to address health issues and promote a wider societal approach to ending homelessness exist. Evidence shows that much of the morbidity and mortality experienced by homeless groups is preventable or amenable to treatment. Research from specialist homelessness services indicates that a holistic approach to addressing the causes and consequences of homelessness can help prevent trajectories to ill health. Peer led, mobile outreach services have been shown to support access to early diagnosis and timely treatment and enable people to engage with mainstream healthcare service. These services, tailored to the needs of homeless groups, have the potential to overcome multiple barriers to care and to reverse trends in early onset morbidity and premature mortality.

Political will and policy commitments to address the underlying causes of homelessness, including affordable housing, can achieve change and transform the homelessness landscape, as evidenced by 'Everyone In'. What is needed now is renewed commitment and sustained funding to prevent homelessness and address the extreme health inequities experienced by those affected.

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4.5 Student health in cities

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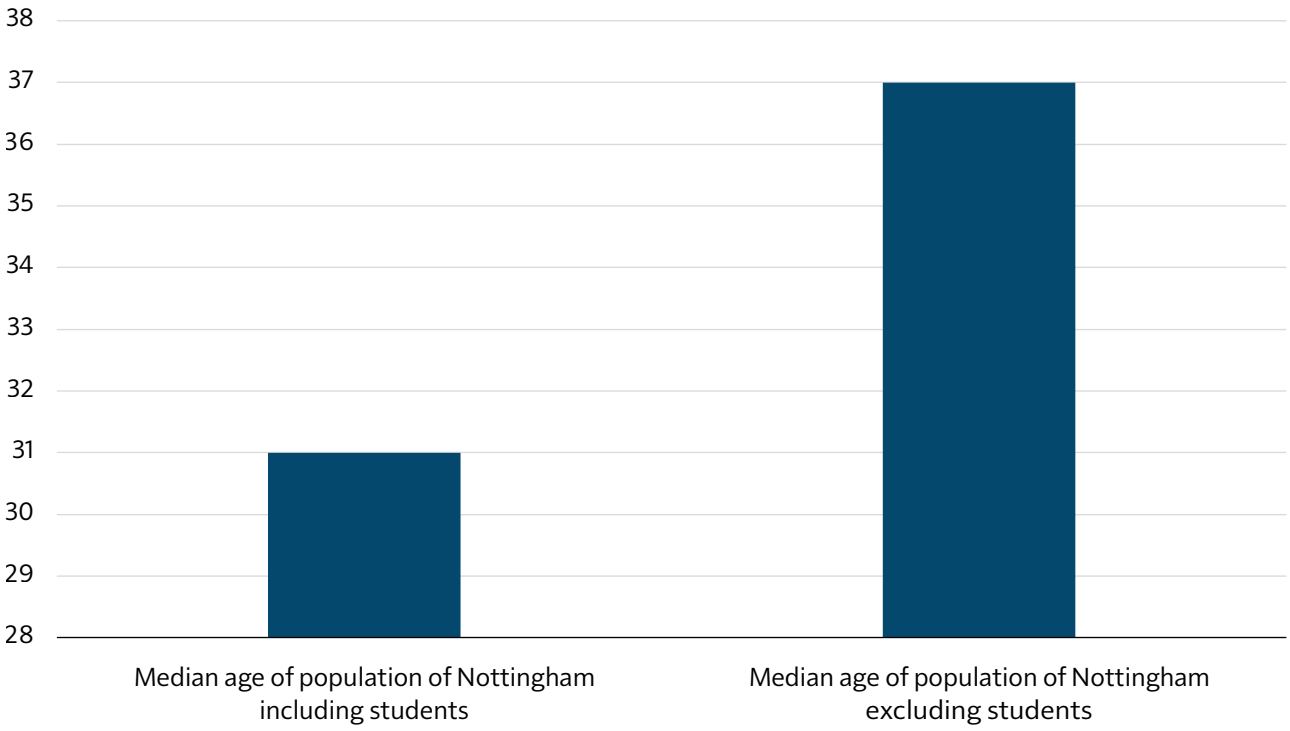
Demography

Students in higher education (HE) exert a significant effect on the composition of the population of the major built up areas (BUAs) in England.[1] Using information provided by the 2 Nottingham universities to Nottingham City Council, Figure 4.50 shows how the median age of the population of the city is significantly lowered by the HE students that live there.

Figure 4.50: Comparing median age of population of a major BUA with and without the inclusion of students

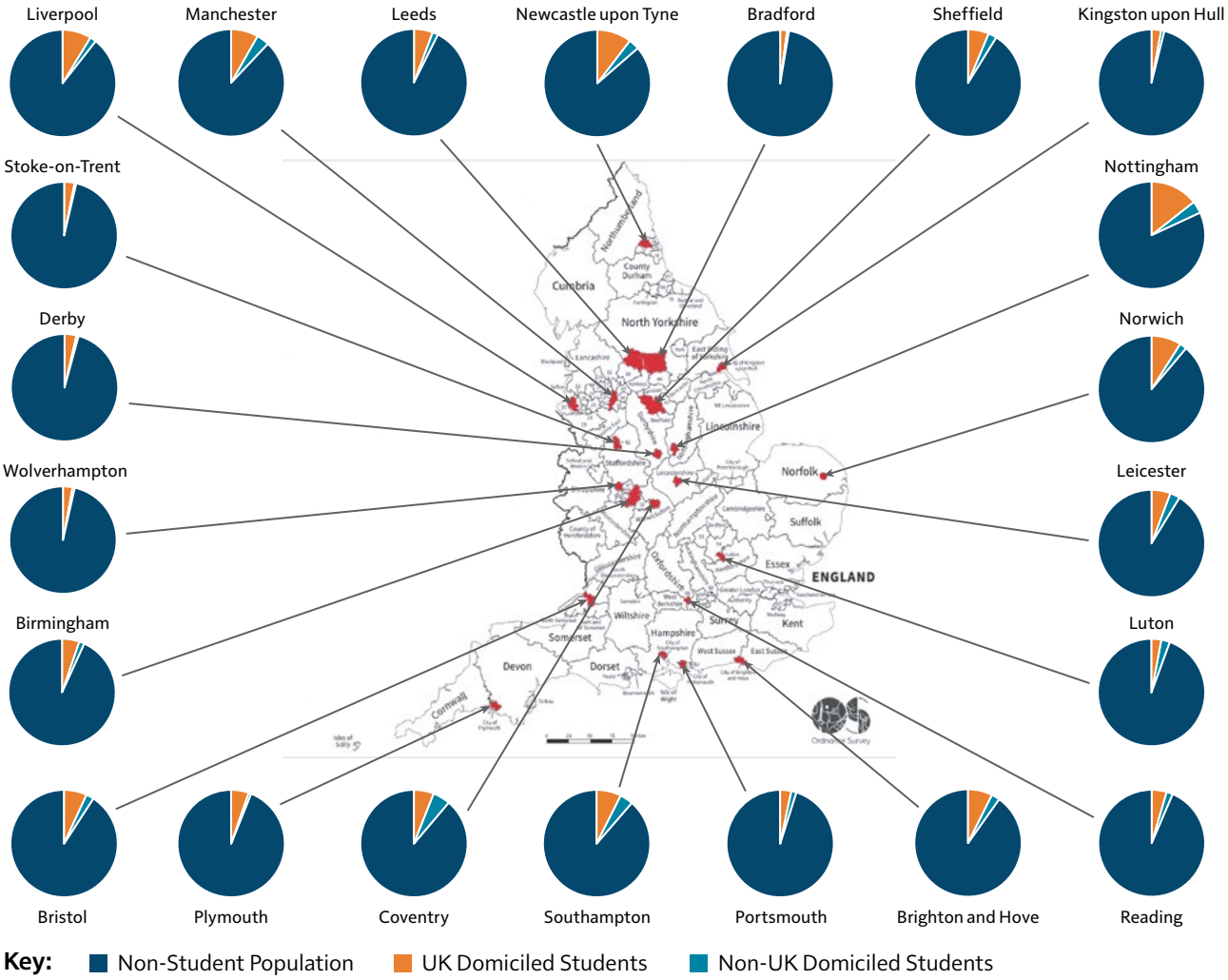


Source: Nottingham Insight

Students are a highly mobile population and contribute to the 'churn' in these cities by regularly moving into and out of area. One may suppose that they would foster the atmosphere of vibrancy and rejuvenation often associated with BUAs, but it is also conceivable that their transience and relative separation from the static population could have negative effects on community cohesion and inward investment.

Data obtained from the Higher Education Statistics Agency (HESA) for academic year 2021/2022 (the most recent currently available) can be compared with Office of National Statistics (ONS) census data for the year 2021 to examine the proportion of the population of major English cities that are HE students. HESA data maps to local authority (LA) boundaries rather than ONS major BUA boundaries. Care must be taken when comparing these populations as there is a risk of falsely diluting the student component if LA boundaries include suburban areas further away from the HE institutions. Figure 4.51 shows the location of the cities, and the relative proportions of UK domiciled HE students and non-UK domiciled HE students within the total population of the LA in which they are situated. Domicility has been defined as the address of the student prior to the commencement of their course as supplied to the HE institution.

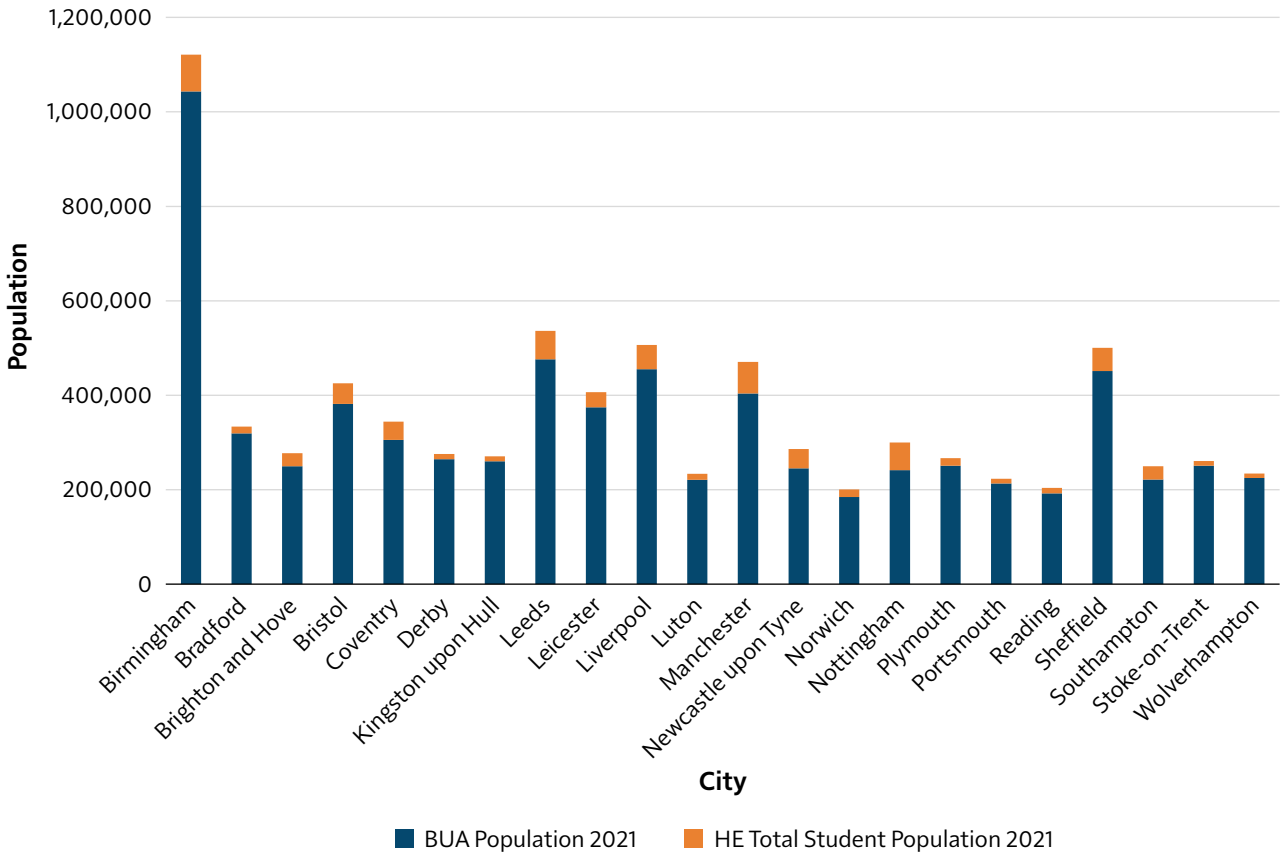
Figure 4.51: Showing the location of the major student populations in England (excluding London) in 2021 (Contains public sector information licensed under the Open Government Licence v3.0)



Source: ONS and HESA

Figure 4.52 shows the total HE student population of LAs according to data from HESA for 2021 but this time uses ONS census population data from 2021 to provide the denominator which is the total population of major BUAs in England (excluding London).

Figure 4.52: Showing the composition of the populations of the major cities in England (excluding London) as numbers of HE students and non-students.



Source: ONS and HESA

In an ONS report from 2021, it was suggested that 57% of students were registered with healthcare services in their term-time LA but that for many the contact details held by these services may require updating.[2] This might have implications for health, especially with regards invitations for preventive services, and could also impact the management of long-term conditions and medications. There is no simple solution to this problem but increasing use of electronic health service registration and digital services such as the NHS app are likely to mitigate the negative consequences. Prompt registration with local primary care services that specialise in the care of young people (for example, university health services and other GP practices adjacent to institutions) should be encouraged to ensure they have access to appropriate advice and support at the earliest opportunity.

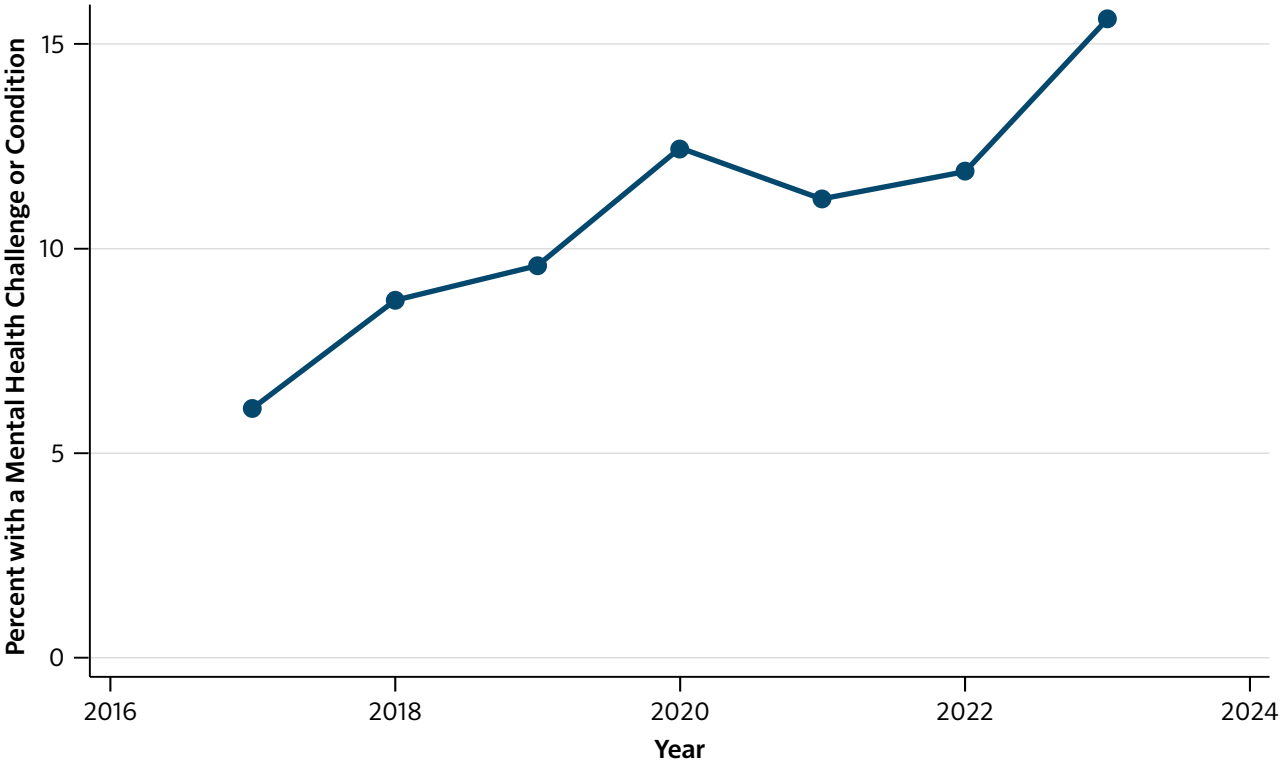
When considering factors that may impact the health of students who live and study in major cities, it is important to remember that not every student will move away from home to study on a typical campus university. Some may choose to attend an institution nearer home and may continue to live with their family. Socioeconomic and cultural factors that affect such decisions may also be reflected in the health and wellbeing of the individual. Likewise further and higher education institutions exhibit marked variation in what might be considered their health promoting potential. Some may be situated on campuses where lots of young people are brought together in concentrations which allow specialist supporting services to develop and healthy choices to be facilitated (for example, sports centres, transport infrastructure). Others

will be more dispersed across the cities themselves and this may somewhat counter intuitively reduce feelings of isolation in the student population, with a greater range of support groups and amenities available to young people living in local communities that include non-students.

Mental health

The mental health of students at UK universities was the subject of a report published by The Centre for Transforming Access and Student Outcomes in Higher Education (TASO) and the Policy Institute of King's College London in September 2023.[3] Using a large survey dataset it paints a picture of progressive decline in student mental health since 2017 (Figure 4.53) and increasing disillusionment with academic study that predates both the pandemic and the economic crises of recent years.

Figure 4.53: Proportion of UK undergraduates reporting mental health difficulties (reproduced with permission TASO and Policy Institute of Kings College London)



Source: TASO and Policy Institute of Kings College London

The findings are not specific to students in English BUAs of course but the concentration of this population group in these areas suggests that the effect on student health in cities will be considerable. In particular, women, LGBTQ+ people and students from lower socio-economic backgrounds are more likely to experience mental health problems, which also increase in prevalence with the number of hours of paid work that a student undertakes. Given the additional expenses usually incurred when living in major BUAs, the importance of financial pressures as a factor in mental health and wellbeing should not be underestimated.

Another important factor is alcohol and drug use. The scale of the problem is difficult to estimate for many reasons including a lack of consensus regarding what may amount to problematic use. Anecdotally, many of us who work with young people and ask them about this aspect of their lives have noticed increasing proportions who avoid drugs and alcohol completely. An online survey of 931 students from November 2022 found that 10% reported current drug use, with cannabis being the most frequently identified. 74% of respondents felt that drinking and getting drunk were part of university culture but 83% said they did not have to get drunk to have a good night out.[4]

A recent paper in Nature addressed the question of how we can make cities mental health friendly for adolescents and young adults.[5] The authors point out that "*Urban life shapes the mental health of city dwellers, and although cities provide access to health, education and economic gain, urban environments are often detrimental to mental health.*" Life skills for personal development, valuing and accepting young people's ideas and choices, providing safe public space for social connection, employment and job security, centring youth input in urban planning and design and addressing adverse social determinants were the priorities identified in this multinational sequential survey of young people, researchers, practitioners and advocates.

Physical health

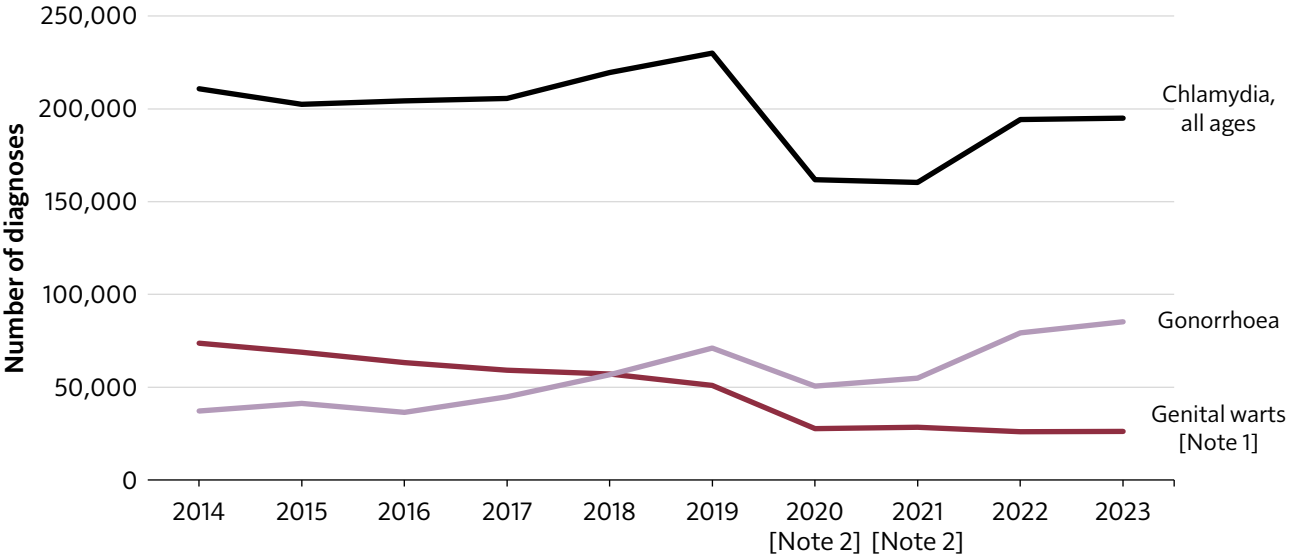
The risk of infectious diseases in students is elevated by close contact with peers from across the globe such as might occur in university residences and student accommodation and may also be impacted by waning immunity following childhood vaccination. The immunisation history of international students may be unclear or unknown and coverage against vaccine preventable disease among all students is likely to be suboptimal.[6] MenACWY, MMR and HPV vaccinations are available in the UK schedule and should be promoted to all young people attending university.

Of course, any long-term condition can affect younger people but on the whole the prevalence is lower in this group than in older populations except in the case of asthma. Higher levels of air pollution in BUAs and poorer standards of housing are likely to contribute to a greater burden of morbidity from this condition in students living in cities.[7]

Sexual health

A recent House of commons report observed that younger people, especially those from more densely populated areas, are at increased risk of sexually transmitted infection (STI).[8]

Figure 4.54: Number of new diagnoses of selected STIs among England residents accessing sexual health services 2014 to 2023



Source: UKHSA Sexually transmitted infections and screening for chlamydia in England: 2023 report July 2024[9]
Note 1: First episode.
Note 2: Figures reported in 2020 and 2021 are notably lower than previous years due to the disruption to sexual health services during the national response to the COVID-19 pandemic.

The committee associated the recent trend of increasing prevalence of STIs summarised in Figure 4.54 (especially noticeable in gonorrhoea, genital herpes and syphilis) with reduced spending on the commissioning of sexual health services at a local level. They note a fragmentation of these services "*across the health system … [making them] … complex to navigate. The Government should work with providers and commissioners to improve collaboration across reproductive and sexual healthcare to ensure effective cross-system support for young people and other groups at greatest risk of contracting an STI.*"

On a positive note, there has been a sustained decline in HPV infections and in the number of young people with genital warts as result of extremely effective vaccination.

Conclusion

University students living in major BUAs can experience all the same health problems as the general population, but some are more prevalent in this group, and others much less so. It is also important to note that further education students may face similar health issues and public health challenges highlighted in this chapter. Although further education colleges may be less concentrated in major cities, some of the solutions discussed in this chapter apply in that sector too. All these young people are just starting out on their journey into adulthood and independent living and have vulnerabilities as well enormous potential for productivity and benefit to society. Health services must remain relevant and accessible and will have to adapt to meet the needs and expectations of new generations. Specific areas on which policymakers should focus their efforts include:

- the use of technologies such as the NHS app and social media as portals for entry to health services, with secure linkages across the NHS to the updated demographic details of individuals
- making the urban environment healthier by improving housing and reducing environmental exposure to pollutants and toxins
- addressing the problem of access to support for mental health problems and the challenges of neurodiversity, especially given the mobility of the student population
- understanding the emerging patterns of drug and alcohol use exhibited by students living in cities as reflected in changing attitudes and developing techniques for identifying those at greatest risk of health problems in the future
- creating joined-up sexual health services for young people in cities that are accessible and supportive

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4.6 The impact of urban environments on mental health

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Introduction

Over half of the world's population (56%), approximately 4.4 billion people, live in cities or urban areas. This trend is expected to continue, with projections suggesting that by 2050, 7 out of 10 people will reside in urban settings.[1] In the UK, 85% of the population lives in urban areas,[2] with London now being classified as a megacity, home to over 10 million inhabitants.[3] Given that living in urban environments is the norm for people living in the UK, it is important that we understand any impacts this might have on mental health and how to mitigate any negative consequences of urban living.

Mental health risks in urban environments

The risk factors for mental illness are well known. Genetics, perinatal factors, childhood adversity, substance use (particularly starting in youth), exposure to lead and other toxins, stressful life events (for example, bereavement, job loss) and experience of trauma all increase the likelihood of developing a significant mental disorder. There is increasing evidence that people who live in urban areas are exposed to numerous environmental and social factors that increase their risk of mental illness. City dwellers experience higher rates of depression, psychotic disorders, post-traumatic stress disorder (PTSD), distress and paranoia compared to those in rural areas. There is also a strong association between urban living and schizophrenia.[4,5,6,7,8,9,10] Specifically, urban living increases the risk of developing depression by 20%, generalised anxiety disorder by 21% and psychosis by 77%.[11,12]

Crucially, the duration of exposure to urban environments during childhood and adolescence is a significant predictor of mental illness in adulthood.[13] Factors contributing to this elevated risk include reduced access to green spaces, high levels of noise and air pollution, social isolation, increased exposure to crime and social inequality. Conversely, urban living can also offer mental health benefits through enhanced educational, employment and social opportunities, as well as better infrastructure and access to specialised care.[14,15,16,17,18,19]

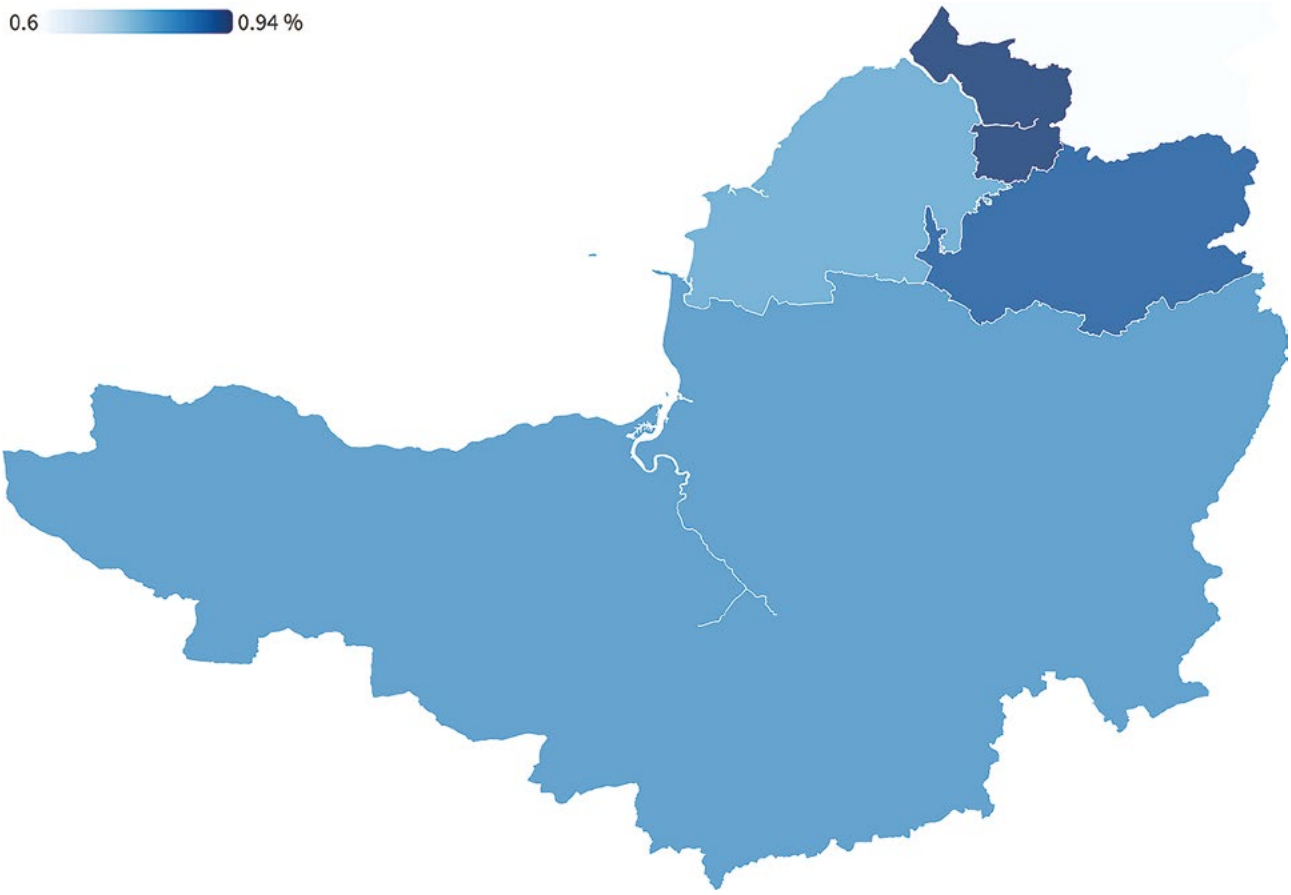
While the association between urban living and mental health issues is well-documented, it should be noted that the evidence has primarily come from studies in Northern and Western Europe. Also, despite the knowledge that most mental health problems arise before the age of

24, the impact of urban environments on young people's mental health remains unexplored due to insufficient funding and support for related research.

Urban environments tend to have higher proportions of younger people and much greater numbers of people from minoritised ethnic communities. The majority of mental health problems arise in youth – 50% before the age of 14, 75% before the age of 24[20] – and evidence shows that being from a minoritised ethnic group increases the risk of being diagnosed with a mental health problem in the UK. Thus, the demography of cities is such that the people living there are already at higher risk of mental health problems compared with other areas (see maps of severe mental illness (SMI) prevalence across urban and more rural environments).[21]

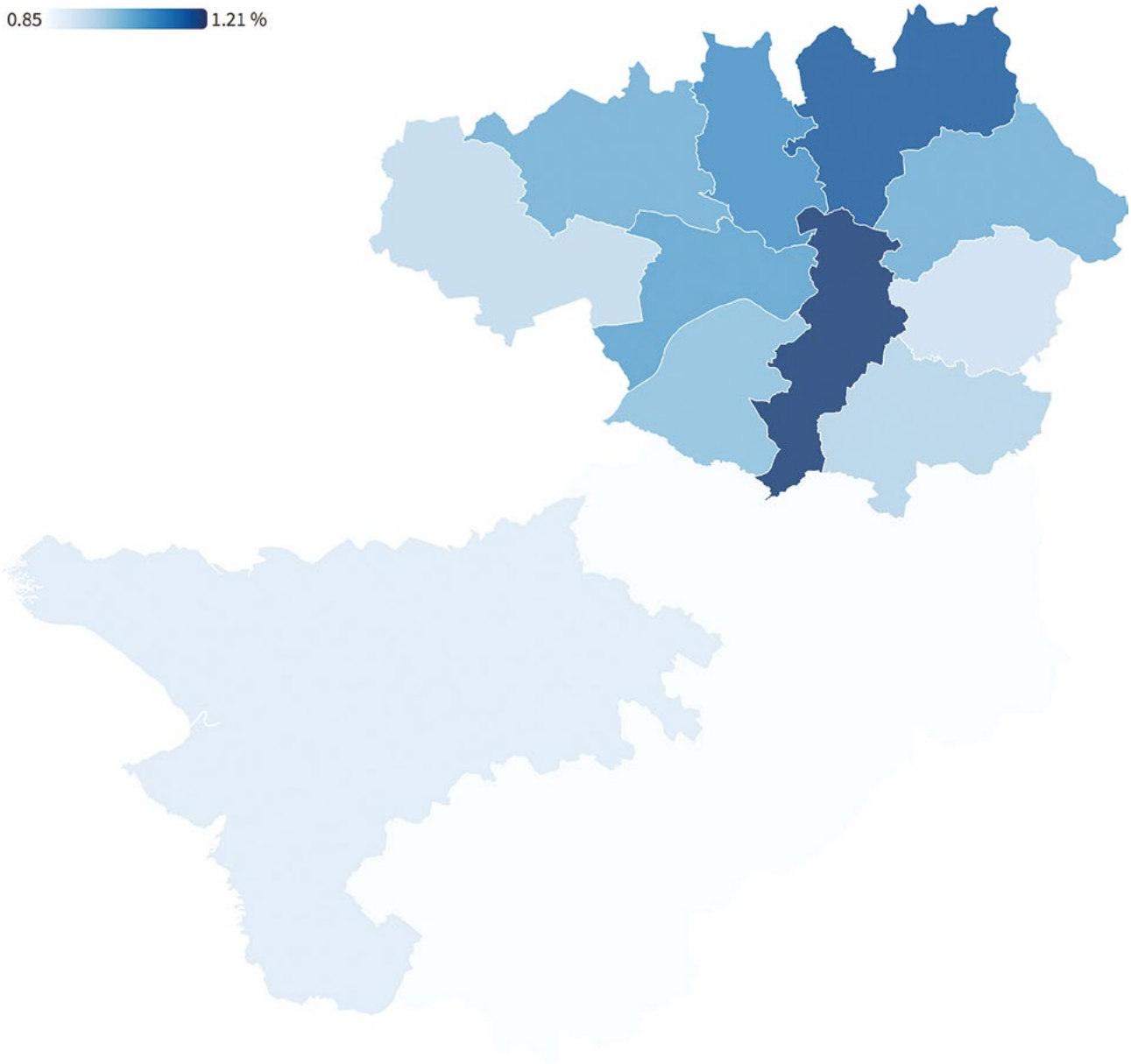
Figure 4.55:

a) SMI prevalence in Bristol, Somerset and select surrounding areas, 2023/24



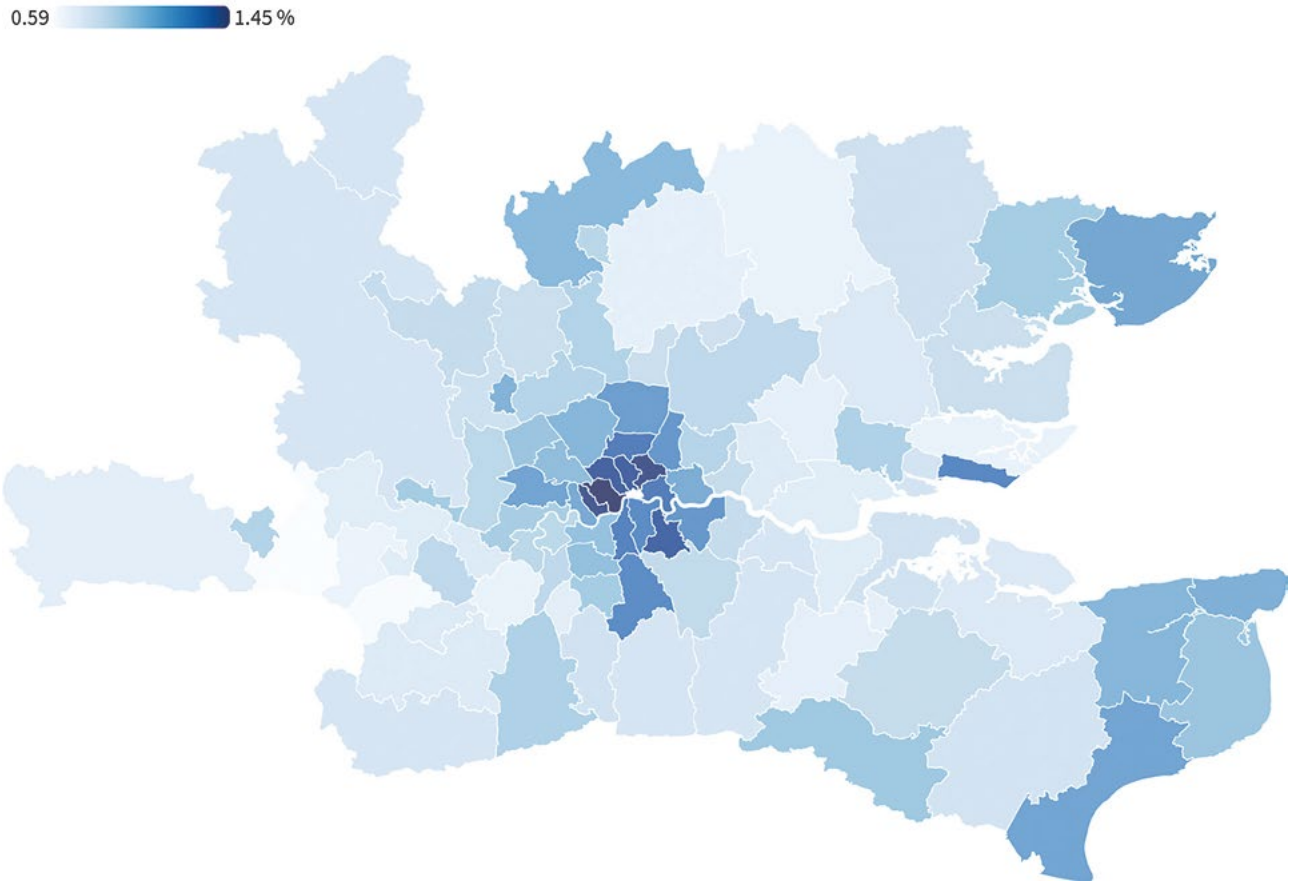
Sources: RCPsych analysis of NHS Digital QOF data, ONS Open Geography Portal

b) SMI prevalence in Greater Manchester and Cheshire, 2023/24



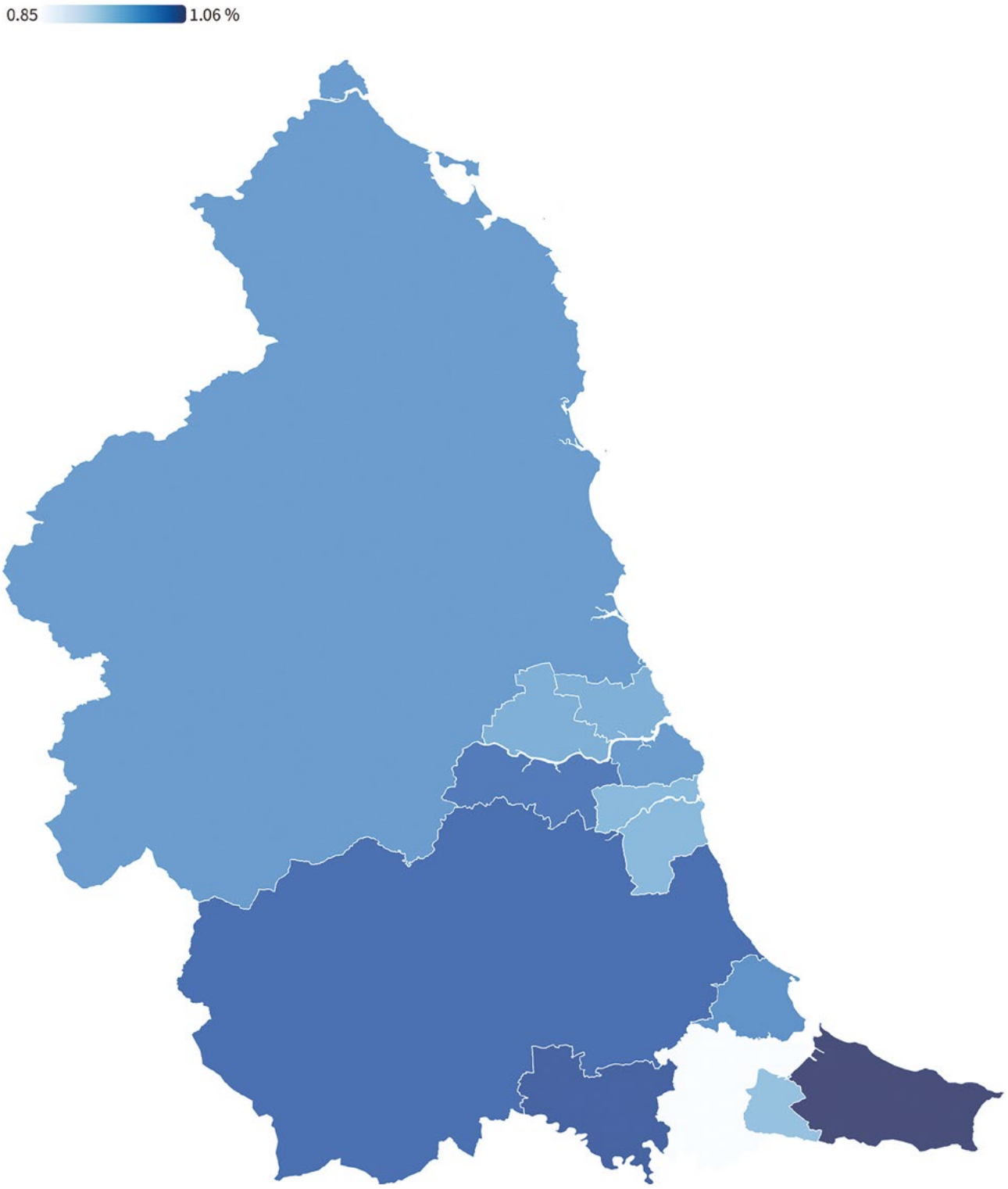
Sources: RCPsych analysis of NHS Digital QOF data, ONS Open Geography Portal

c) SMI prevalence in London and the Home Counties, 2023/24



Sources: RCPsych analysis of NHS Digital QOF data, ONS Open Geography Portal

d) SMI prevalence in Newcastle and surrounding areas, 2023/24



Sources: RCPsych analysis of NHS Digital QOF data, ONS Open Geography Portal

Rural vs. urban mental health

Mental health in adults (UK)

Using data from the UK Biobank, researchers analysed the relationship between urban environments and psychiatric symptoms among 156,075 participants aged 41-77 years. The findings revealed that:[22]

- Affective symptoms, such as loneliness, depressed mood and feeling fed-up, were associated with social deprivation, air pollution and urban land use.
- Anxiety symptoms were associated with dense urban build-up but proximity to green spaces and urban facilities were associated with fewer anxiety symptoms.
- Emotional instability symptoms (feeling miserable, mood swings, irritability, risk-taking) increased with urban terrain and building density but decreased with open spaces and amenities.

Mental health in adults (England)

Research conducted by the Department for Environment, Food & Rural Affairs (DEFRA)[23,24] found that:

- People in rural areas reported higher levels of well-being compared to those living in urban ones.
- There was greater satisfaction with local living environments among rural residents.
- There was a stronger sense of community and belonging in rural areas.
- There were slightly lower rates of reported loneliness in rural areas.

Mental health in children and young people (England)

According to the Centre for Mental Health:[25,26]

- Young people in rural areas had lower emotional and mental health needs but engaged in more risky behaviours such as smoking.
- Urban children reported higher rates of loneliness compared to those in rural settings.
- Challenges for rural youth included poor transport infrastructure, fewer local choices, social isolation and limited access to support.

Data from the Office for National Statistics (ONS) corroborated these findings, showing higher loneliness rates among city-dwelling children compared to those in towns and rural areas.[27]

International comparisons

Mental health in Europe

A literature review by Gruebner et al. (2017) concluded that city residents generally have higher risks for anxiety, psychotic, mood and addictive disorders than rural residents.[28] For example, a Danish study found a more than two-fold increased risk for schizophrenia among individuals who spent their first 15 years in major cities compared to those who had grown up in rural areas.[29] Similarly, mood disorders were more common in large German cities.[30,31]

Specific mental disorders

Some key international studies have highlighted the increased risk of city living on specific mental disorders, which are relevant to understanding the risk in England:

- **Depression and psychosis (Sweden)**: Sundquist et al. (2018) found that higher urbanisation levels were associated with increased incidence rates of psychosis (68-77%) and depression (12-20%), particularly in densely populated areas.[32]
- **Schizophrenia, depression, bipolar Disorder and autism (Denmark)**: A cohort study of all individuals born in Denmark from 1955 to 2006 indicated elevated risks for various mental disorders in urban areas, including schizophrenia (1.69 times more likely in urban areas compared with rural areas), mood disorders (1.16) and childhood autism (1.42). It is of note that intellectual disability was slightly less common in urban environments.[33]
- **Schizophrenia (Europe)**: A meta-analysis of European studies estimated that those living in the most urban environments have a 2.37 times higher risk of schizophrenia compared to those living in the most rural settings.[34]
- **Psychosis (UK)**: Research from the Environmental (E-Risk) Longitudinal Twin Study showed that an urban upbringing doubled the risk of psychosis in adulthood.[35]

Environmental factors affecting mental health

Air pollution

Cities have generally higher levels of air pollution than other areas. A UK-based study linked higher residential levels of air pollutants to increased mental healthcare service use among people recently diagnosed with psychotic and mood disorders. Specifically, increases in fine particulate matter ($PM_{2.5}$) and nitrogen dioxide (NO_2) were associated with higher risks of inpatient stays and community-based mental healthcare.[36] Similarly, a longitudinal survey in Southeast London found that higher exposure to $PM_{2.5}$, nitrogen oxides (NO_x), and NO_2 increased the odds of common mental disorders and psychotic experiences.[37]

Green space

A cross-sectional study using UK Biobank data demonstrated that exposure to green spaces had a protective effect against major depressive disorders. This effect was more pronounced among women, younger participants and those in socioeconomically deprived or highly urbanised areas.[38] This is of particular concern given the lack of green space in many cities, which often unequally impacts those in the most deprived areas.

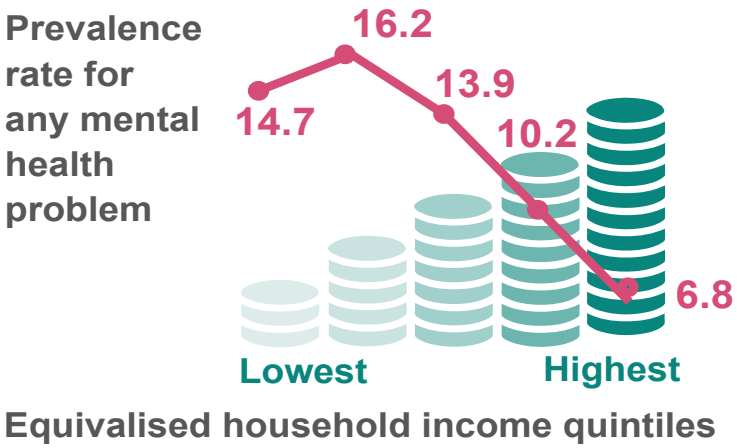
Demographic characteristics of urban dwellers and mental health

Poverty and deprivation - being poor and deprived

Research in East London found that social deprivation, income inequality and high population density were independently associated with increased incidence of non-affective psychoses.[39]

Poverty (relative and absolute low income) is related to but not the same as deprivation.[40] City dwellers are more likely to live in poverty compared with those living in rural environments, which puts them at higher risk of mental disorder. People with the lowest incomes are over 2 times more likely to develop a mental illness than those in the top 20% income bracket (Figure 4.56).[41]

Figure 4.56: Prevalence of any mental health problem by equivalised household income quintile



Source: Advancing Mental Health Equality 2019 (National Collaborating Centre for Mental Health)

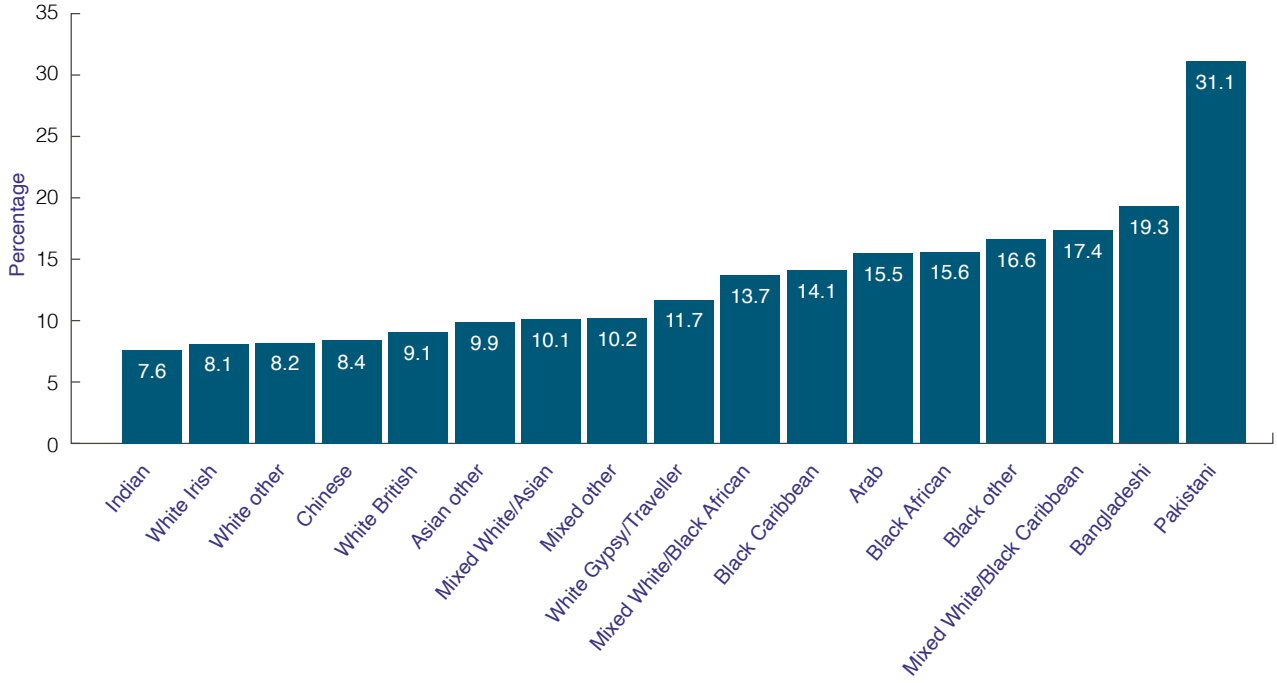
Those from poorer backgrounds are more likely to experience deprivation. The Index of Multiple Deprivation (IMD) is a measure of overall deprivation based on seven domains – income deprivation (poverty), employment deprivation, education deprivation, skills and training deprivation, health deprivation and disability, crime, barriers to housing and services and living environment deprivation.[42] All of these areas are negatively correlated with mental disorder. Although individuals living in relatively affluent rural areas may be deprived, with rural deprivation being an important issue, deprivation is generally more prevalent in urban environments, with absolute numbers vastly higher (as described elsewhere in this report).

Twelve percent of those living in cities live in the 10% most deprived areas in the country, compared with only 1% of those living in rural areas living in the most deprived circumstances.[43] Because of the higher percentage of city dwellers living in deprived circumstances, there is a higher likelihood of mental disorder in this group, irrespective of the type of urban environment in which they live. This is effectively a cumulative impact.

Ethnicity and urban living

The double whammy of deprivation increasing the risk of mental illness in city dwellers is compounded in those from minoritised ethnic groups. While people from certain ethnic minority groups, in particular Bangladeshi, Pakistani, African, African-Caribbean, Gypsy, Roma and Traveller groups, are at higher risk of mental illness because they are more likely to be deprived, evidence increasingly indicates that they are also at greater risk of mental disorder as a result of their experiences of discrimination.[44] It is of note that the ethnic density of an area is protective against developing psychosis, with the risk of psychosis in minority group individuals being inversely related to neighbourhood-level proportions of others belonging to the same group.[45]

Figure 4.57: Percentage of ethnic group populations living in the 10% of most deprived neighbourhoods, England, 2019



Source: Raleigh and Holmes 2021 (The King's Fund)

Homelessness

Mental illness and homelessness are inextricably linked and, as described elsewhere in this report, homelessness and rough sleeping is an issue with disproportionate impact and prevalence in cities. Mental illness can cause anyone to lose their home, while housing insecurity and homelessness can trigger mental illness or make existing illness worse. Up to

80% of rough sleepers have a clinically significant mental disorder, often complicated by co-existing substance use. Major depression, schizophrenia, bipolar illness and other types of psychosis are much more prevalent in the homeless population than in the general population. The majority of people who are roofless have a mental illness and a significant proportion of those who are statutory homeless develop a mental disorder. People who are homeless tend to be younger and there are a higher proportion of people from minoritised ethnic backgrounds and much greater numbers of people with chronic illness/disability and substance use.[46]

Gender, urban living and mental health

Although women are 3 times more likely than men to present with a common mental disorder, such as depression or anxiety, growing up in an urban environment and immigration are more strongly associated with psychosis risk in men than in women.[47]

There are differences in the effect of urbanisation on mental health by gender. Women benefit more from urban greenness but are less likely to use urban greenness than men. This could be because of safety concerns, gender norms or expectations of societal roles. In addition, it has been suggested that this could also be explained by the fact that the quality and characteristics of these spaces are not designed and planned for women the same way they are for men. Therefore, urban greenness may unequally distribute mental health benefits in women compared to men.[48]

Substance use

It is estimated that 9.5% of 16-59 year olds and 17.6% of 16-24 year olds misused a substance in the year ending March 2023.[49] This reflects the common finding that drug misuse tends to start in youth and desists with age. Substance misuse is more prevalent in those in lower income households compared with those in higher income households, with 13.6% of those in households earning less than £10.4k reporting misuse of any substance in the previous year, compared with 10.1% of those with household incomes of £52k or more. Cannabis is the most commonly used substance (11.6% of those in the lowest income households, compared with 7.4% in the highest income households).[50] The East of England, especially the coastal rural communities reported the highest rates of cannabis use, although city dwellers tended to use more Class A substances. However, this is likely an underestimate of the problem in urban areas as the Crime Survey of England and Wales (CSEW) is limited by the fact that those with the most problematic substance use and certain groups, such as homeless people, are less likely to be represented but are more likely to live in cities.[51] Substance use is strongly correlated with the development of mental illness and cannabis and stimulant use are particularly associated with psychosis.[52,53,54]

Despite a higher prevalence of substance use comorbidity in men diagnosed with psychotic disorders, it appears that the association between substance use and psychosis risk may be stronger in women.[55]

Substance use is also the most significant driver of violence, acquisitive crime and antisocial behaviour in those with and without mental illness.[56,57] Data from the ONS and the CSEW

indicate that those living in urban centres are more likely to be exposed to substance use and the negative impacts of this, which includes significant detrimental impacts to mental health – as a direct result of the substance use or as an indirect result because of the criminogenic aspects of substance use.

Discussion

Most people in the UK live in a town or city. Urban environments are complex with simultaneously occurring interacting factors which may increase or reduce the risk of mental disorder. Depression and anxiety are the most commonly occurring mental disorder in urban environments, but the striking finding that urbanicity significantly increases the risk of schizophrenia is a compelling reminder of the need to design, develop and implement population health and planning policy such that it both prevents and mitigates against the features of urbanisation that increase risks to mental health.

Economic factors (unemployment, socioeconomic status), poor social situation (lack of social network support, loneliness), environmental exposures (toxins, air pollution, noise, light), are greater in urban environments and people who are at higher risk for mental illness are more likely to live in cities. Urban upbringing and city living impact stress processing in humans. City living and urban upbringing have been associated with increased activity in brain regions that regulate emotion, especially fear and aggression, reward-processing, memory and decision-making. Disruption in these areas is associated with negative emotional response and stress.[58] The interaction of the environment with genetics (epigenetic factors) may be particularly relevant to the increased risk of mental disorder seen in people living in the city.

However, evidence suggests the following could help prevent mental ill-health and mitigate against poorer outcome in mental illness:

- Designing urban environments such that they include green spaces which are welcoming to women and young people – codesign these spaces with those who will be using them.
- Designing city dwellings so that they are within close proximity of green space.
- Ensuring town planners pay attention to the density of the population in a particular area, especially with the increasing prevalence of vertical living dwellings.
- Strategies to improve community cohesion, encouraging those from similar cultural backgrounds to support each other, may be protective against severe mental illness.
- Ensuring that there is access to community assets and facilities, such as youth centres/day centres to encourage companionship and community support.
- Ensuring there is access to safe, warm and comfortable housing with good access to facilities.
- Reducing air and noise pollution.
- Reducing substance use, for example through awareness campaigns and improving access to treatment programmes for all classes of drugs, particularly those most likely to be associated

with the development of mental illness (cannabis and stimulants). This will improve both mental health and crime outcomes which will enhance the lives of city dwellers.

Conclusion

The literature and evidence reviewed in this chapter highlight the significant and widespread mental health challenges associated with living in cities.

While cities offer numerous benefits, they also present various environmental and social stressors that increase the risk of mental illness. As urbanisation continues to rise, it is crucial to address these issues through informed public health policies and urban planning strategies. Enhancing green spaces, reducing air pollution and mitigating social inequalities can help create healthier urban environments and reduce risk of mental illness as well as improve the mental well-being of city residents.

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4.7 Active travel in cities

Eleanor Roaf – PhD student, University of Manchester and retired Director of Public Health
Eve Holt – Strategic Director, Greater Manchester Moving (2020-2024)
Dr Jo Maher – NHS GP and Physical Activity Clinical Champion

Active travel improves health and lives through physical activity

"The health benefits of active travel cannot be overstated. People will live much longer happier lives. If they can have active transport and we can make it attractive enough. It's very clear that exercise is going to improve the health outcomes, both physical and mental, for very large numbers of people – virtually everybody is going to benefit from doing more exercise than they do"

Professor Chris Whitty, Chief Medical Officer

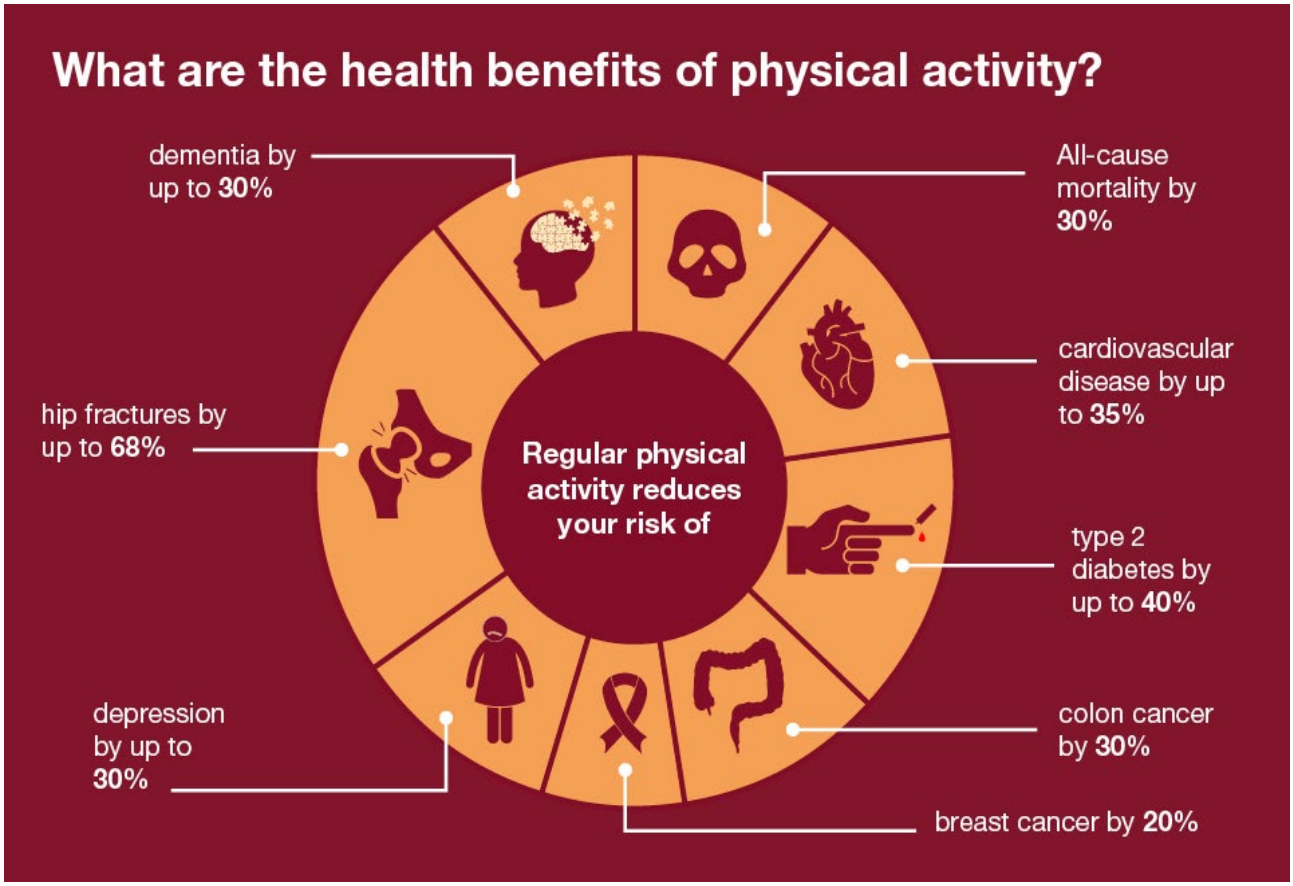
Active travel has been described as '**win win win'** by the World Health Organization, with a return on investment within 5 years.[1] Enabling people to travel actively for more of their daily journeys contributes to the health of a city's population, reducing inequalities, and the wider value of a city.

What do we mean by 'active travel'?

'Active travel' refers to journeys where physical activity is built into travelling, such as walking, cycling, and wheeling (e.g. using a wheelchair, buggy or scooters). It can include running, skateboarding and electric bikes.[2] There are arguments for widening the definition to include fully powered mobility aids such as mobility scooters and e-scooters, to encompass the diversity of physical exertion required by the user.[3] 'Walking' is used in this chapter inclusively of wheeling.

Being able to get to where we want, when we want, matters to us all. The great joy of living in a city is the concentration of social, cultural, educational and employment opportunities and facilities being able to access these quickly and easily is important to us, as can be seen by increased house prices on good public transport routes.[4] Physical activity is also essential and is described as a 'miracle pill' for improving population-level health and life expectancy[5,6] as shown in Figure 4.58 below. Supporting active travel to help people get to where they want quickly and safely is clearly beneficial.

Figure 4.58: The health benefits of physical activity



Source: Office for Health Improvement and Disparities, Physical activity: applying All Our Health, 2022

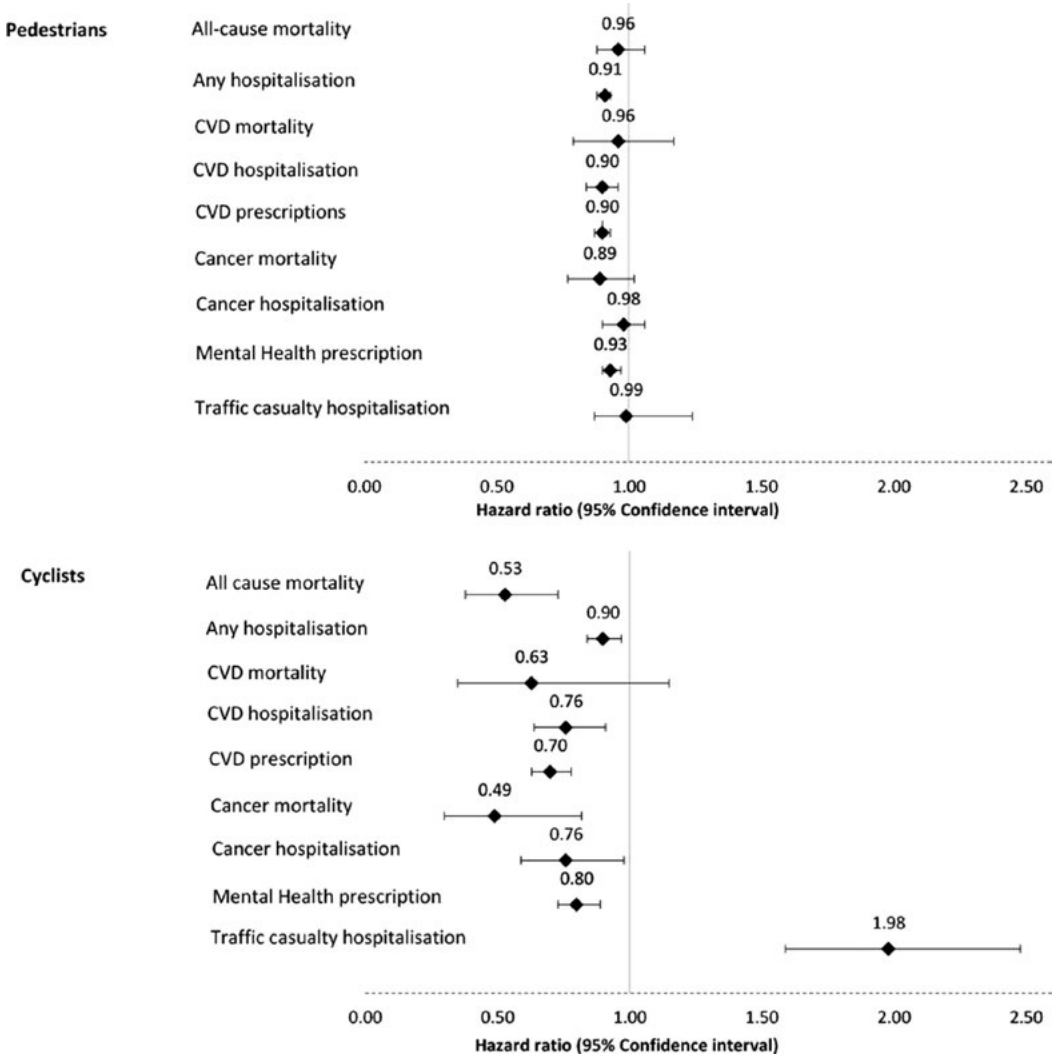
Getting about through active means brings many benefits, especially in cities, where space is at a premium and where people travel shorter distances than in rural areas.[7] Building physical activity into daily life through active travel is an accessible, time-efficient, habit-forming step towards a more active life.[8] Active travel can help people manage chronic health conditions including depression, high blood pressure and arthritis and is associated with a lower risk of cardiovascular disease (CVD), cancer and all-cause mortality.[9] It supports people to live longer and healthier lives[10] and reduces pressures on health and social care.[11]

The greatest health benefit for individuals and the population would be felt by increasing participation in active travel amongst those who are the least active – in the UK 26% of adults and 30% of children are classed as physically inactive.[12] Wider social-economic inequalities contribute to the risk that people will be less active. For example, in cities, poorer people are often priced out of areas with good public transport links.[13] Disabled people are also often further disadvantaged by public/active transport systems that are inaccessible to them. Including people with a wide range of disabilities, including physical, sensory and non-visible disabilities, in the planning of active and sustainable transport is essential if these access issues are to be addressed.[14]

Whilst both walking* and cycling contribute to lower all-cause mortality risk, there are some differences in the associated health benefits, as is shown in Figure 4.59 below. Walking is the most common form of active travel, as it is accessible to most people, convenient, low risk and low cost. For these reasons and more it was famously described as the "nearest activity to perfect exercise"[15] and is a particularly key contributor to women, people on low incomes and people from minority ethnic groups meeting recommended levels of physical activity.[16]

At an individual level, cycling for active travel provides even greater health benefits due to the increased physical exertion and heart rate required.[17] However, in the UK, for reasons that will be discussed below, many people do not currently feel able to cycle.

Figure 4.59: Health outcomes by mode of travel to work or study in Scotland



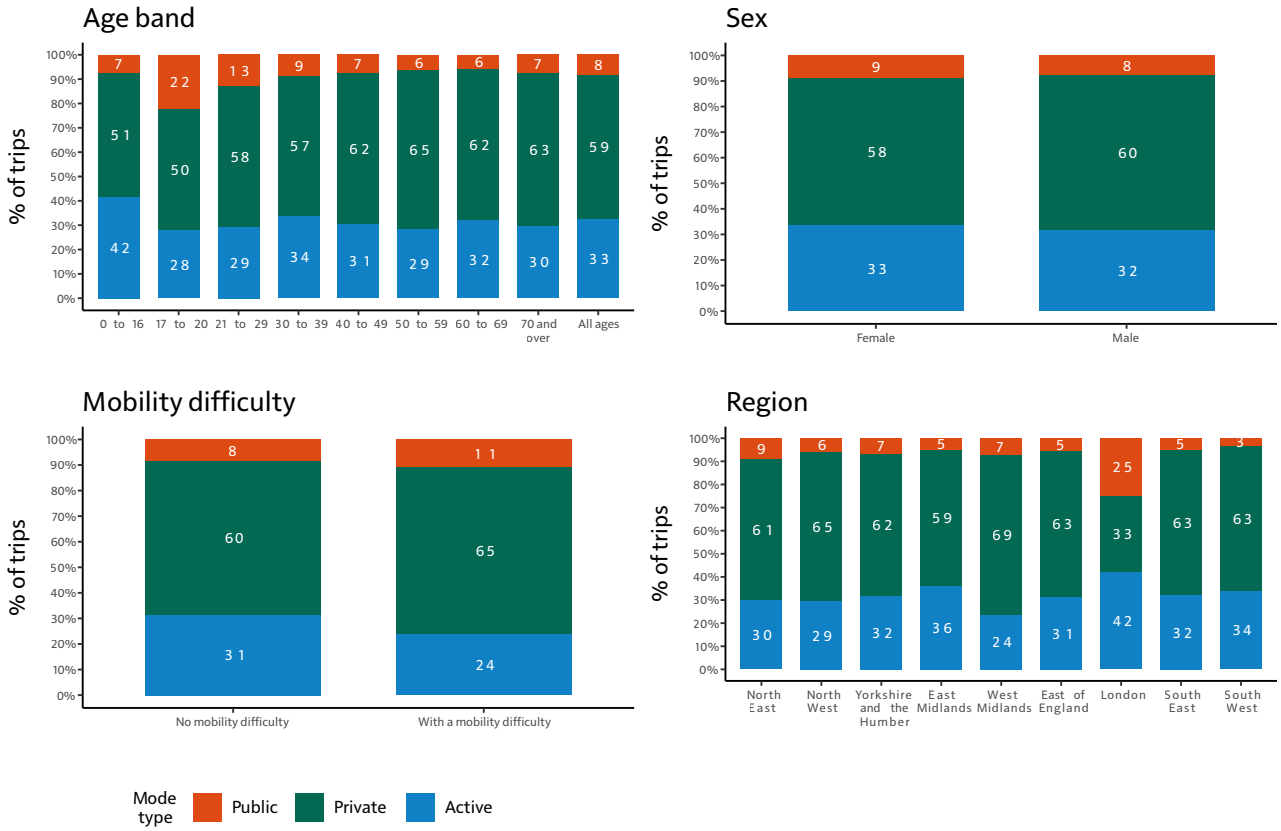
Source: Friel C, et al.. BMJ Public Health 2024[17]

* Walking includes jogging, non-motorised scooters, prams, pushchairs, and toy bicycles.

Barriers to and facilitation of active travel

Rates of active travel are influenced by many factors. Within cities, the quality of the built environment and infrastructure for walking, wheeling and cycling,[18] and a place's demographics, geography and spatial features are major determinants, as can be seen in Figure 4.60 below. These factors can have a greater or lesser impact depending on a person's mobility levels, journey type (e.g. if for shopping or caring purposes or for work), demographic characteristics, socio-economic circumstances, social networks and influences and perception of safety and journey length.[19]

Figure 4.60: Mode share of trips



Source: DfT[20]

Poorly maintained pavements, potholes and uncleared leaves make active travel difficult. In cities.[21,22] Obstructions such as pavement parking can make walking especially hazardous for older or disabled people, or those with pushchairs, and increase the likelihood of transport related social isolation.[23] A lack of benches on routes and access to toilets is another common barrier especially to older people. Fear of slips and trips on icy pavements puts people off walking and wheeling during cold periods, and disproportionately impacts older people and disabled people.[24]

The number of cars in urban streets lead to traffic noise and air pollution, making active travel unpleasant and especially difficult for some people e.g. with respiratory issues or other health conditions or neurodiversity.[18] People living in poorer parts of cities are subjected to greater air pollution, despite contributing less to this.[25]

Fear of harm on city streets, especially when it is dark, and street lighting is poor, reduces active travel, especially for women.[26] For example, a recent study in Greater Manchester found 68% of women compared to 20% of men reported feeling unsafe going out alone after dar.[19] Women are more likely to cite concerns about road danger and the lack of safe cycling infrastructure as a reason not to cycle.[27,28] Protected cycle infrastructure in towns tends to increase the rate of women cycling[29] which in countries with low cycling rates, is much lower than that for men.[18,30]

Image of women holding signs addressing barriers to walking, wheeling and cycling, as part of the Right to the Streets initiative. Stretford, Trafford, Greater Manchester, June 2023.

Source: GM Moving[31]

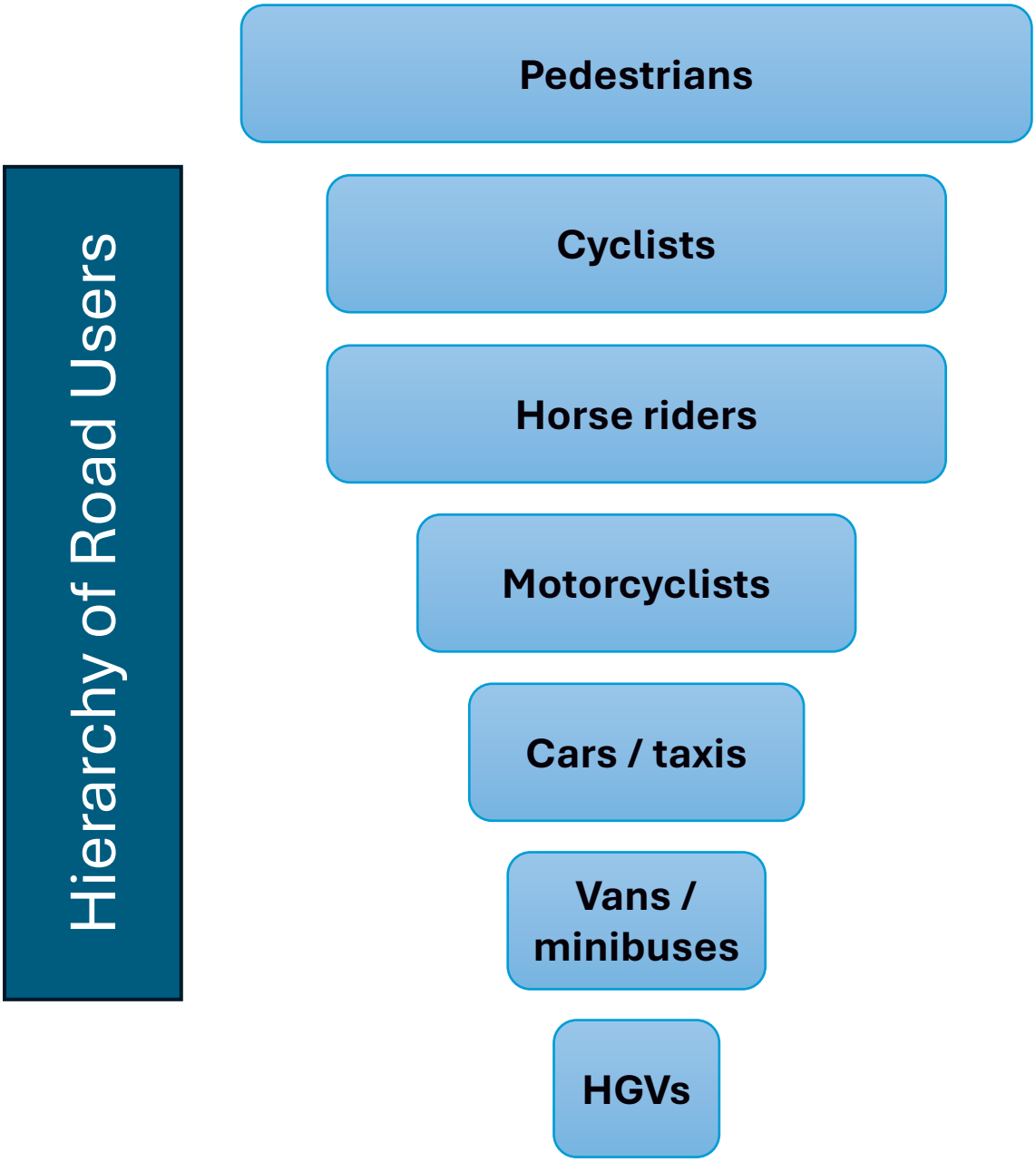
Image of Girls Who Walk, walking group. New Bailey, Manchester, December 2023.

Source GM Moving[31]

Children in the UK are an age group with higher rates of active travel,[32] but even in urban areas around one third of children aged 5 to 16 are driven to school and less than 5% cycle.[33] Parents, carers and young people are often concerned about driver behaviour and perceived risk of harm from other adults[21] and young people.[34] This restricts children and young people's freedom to travel independently and actively, and the individual development, opportunities and educational outcomes that they can gain from independent active travel, including their understanding and assessment of risk.[35]

Fear of cars and poor driving practices such as speeding are a major deterrent to active travel.[36] Whilst the hierarchy of road users in the Highway Code[37] (Figure 4.61) seeks to protect pedestrian and cyclists as the more vulnerable road users, this is not consistently applied in the design of infrastructure, or enforced. Some examples are when cars park in cycle lanes or when motorists assume they have right of way.

Figure 4.61: Hierarchy of road users



Data source: Motoring research[38]

Journey type and length

Most journeys in England are relatively short, with just over a quarter (26%) under 1 mile and 71% under 5 miles,[16] which are the journey lengths identified by the DfT as targets for active travel. However, social norms in England mean that the car is often used even for these very short journeys[16] (Figure 4.62) and the convenience of a car, coupled with lack of familiarity with public transport or active travel may lead to people not considering these as options.

Figure 4.62: Journey lengths by mode of transport

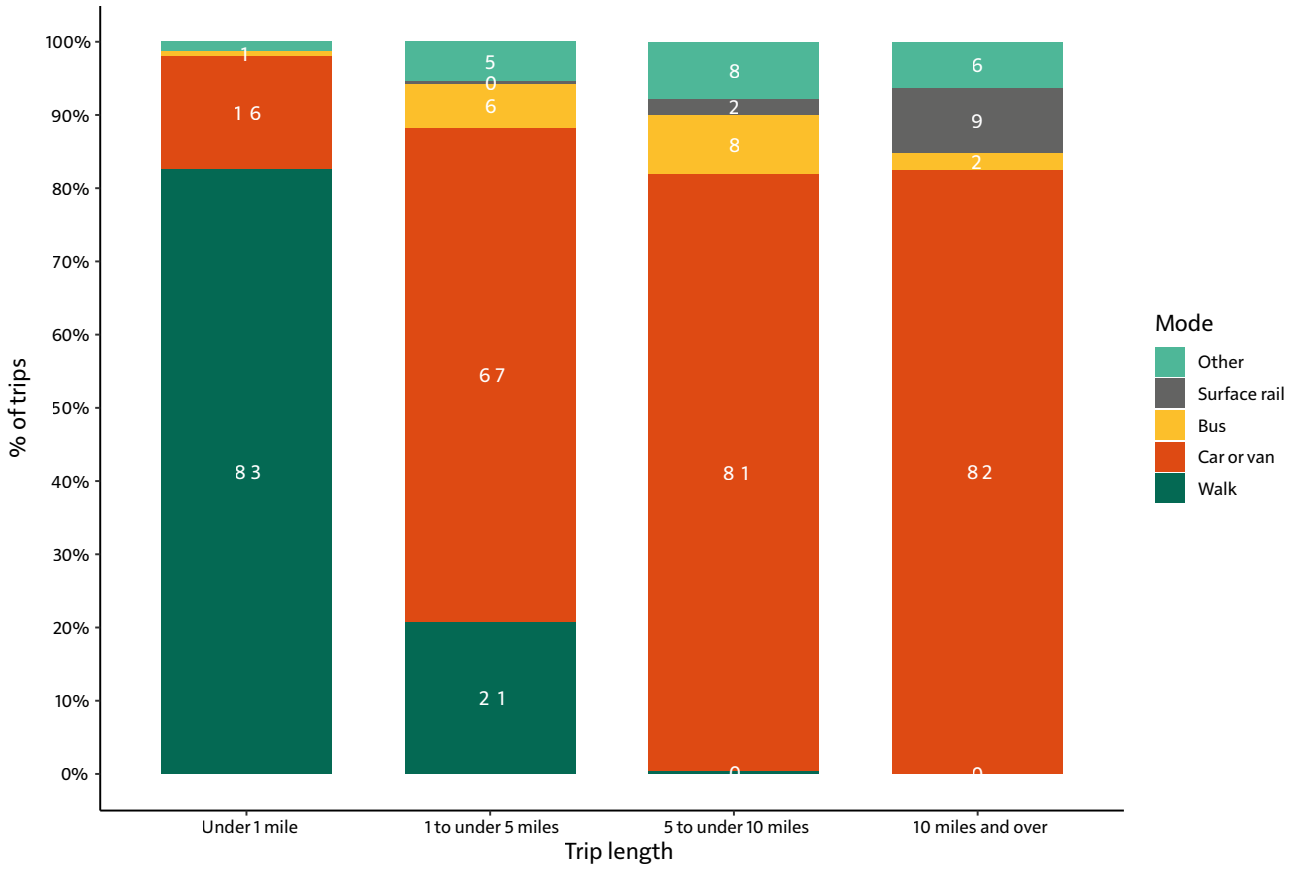


Chart reference: DfT[16]

Spatial inequalities exist in the provision of high-quality infrastructure[39] with some journey types more commonly underserved by active travel and public transport infrastructure as transport appraisal criteria are weighted towards investment in popular commuter routes to economic centres, rather than trips within or between neighbourhoods, which are more commonly taken by, older people, children, women and those with caring responsibilities.

Public transport is an important facilitator of active travel, as it extends the length and types of journeys that can be undertaken. In addition, public transport is an efficient way of using road space (Figure 4.65), and reduces the need for individual car ownership, as is shown in London thereby improving transport equity.[20]

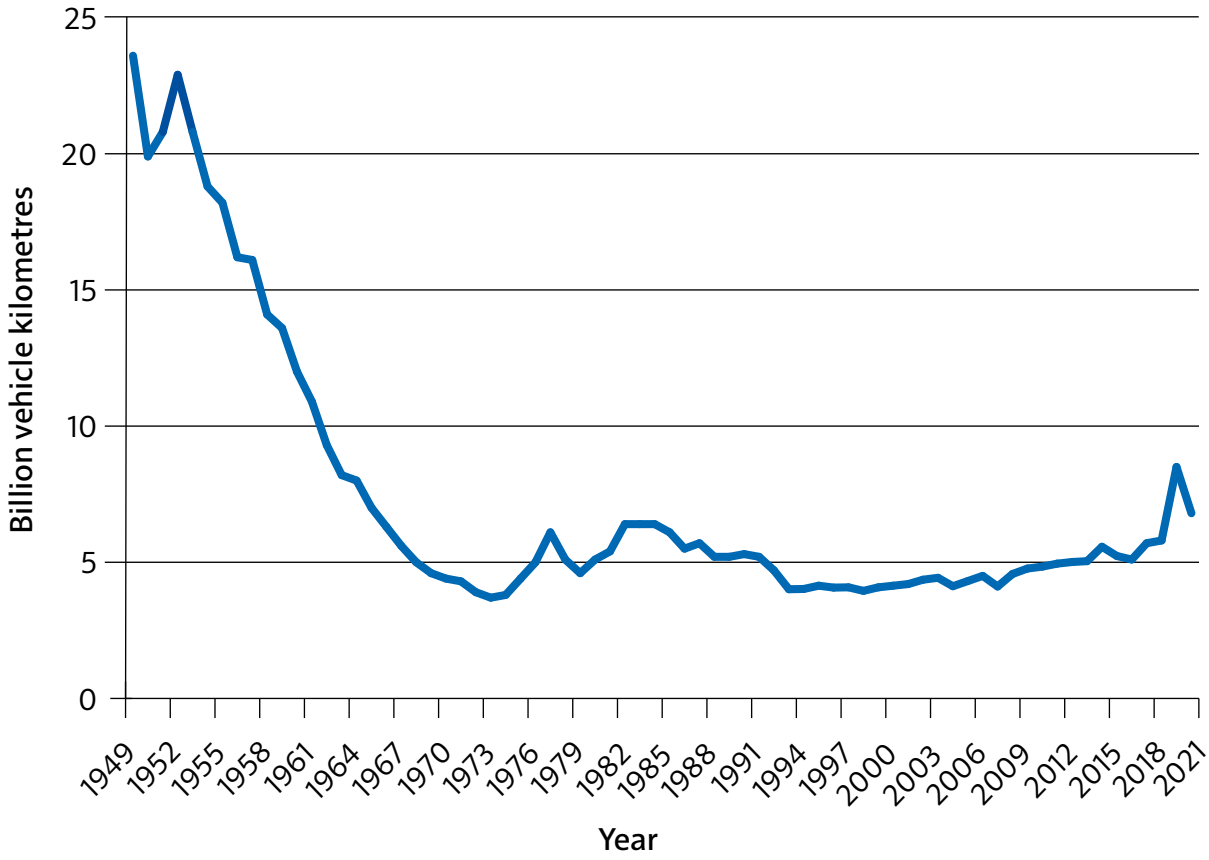
Group of people with cycles with signs showing benefits of walking, wheeling and cycling. Whitworth Park, Manchester.
Source: Transport for Greater Manchester (TfGM)

Active travel in cities

"A healthy city is one that continually creates and improves its physical and social environments and expands the community resources that enable people to mutually support each other in performing all the functions of life and developing to their maximum potential. World Health Organization[40]

Cities are the perfect setting for active travel, due to shorter length of urban journeys[7] and greater public transport connectivity in comparison to more rural areas. However, active travel rates differ significantly between different cities in the UK.[32] Cycling rates reached a peak in UK cities in the 1930s to 1940s but then declined rapidly after the Second World War as car ownership increased (Figure 4.63). This decline seems to have halted more recently but remains very low compared to other European cities, for example in Denmark or the Netherlands, despite often similar terrain and climate.[18] This highlights the potential for increasing active travel in UK cities.

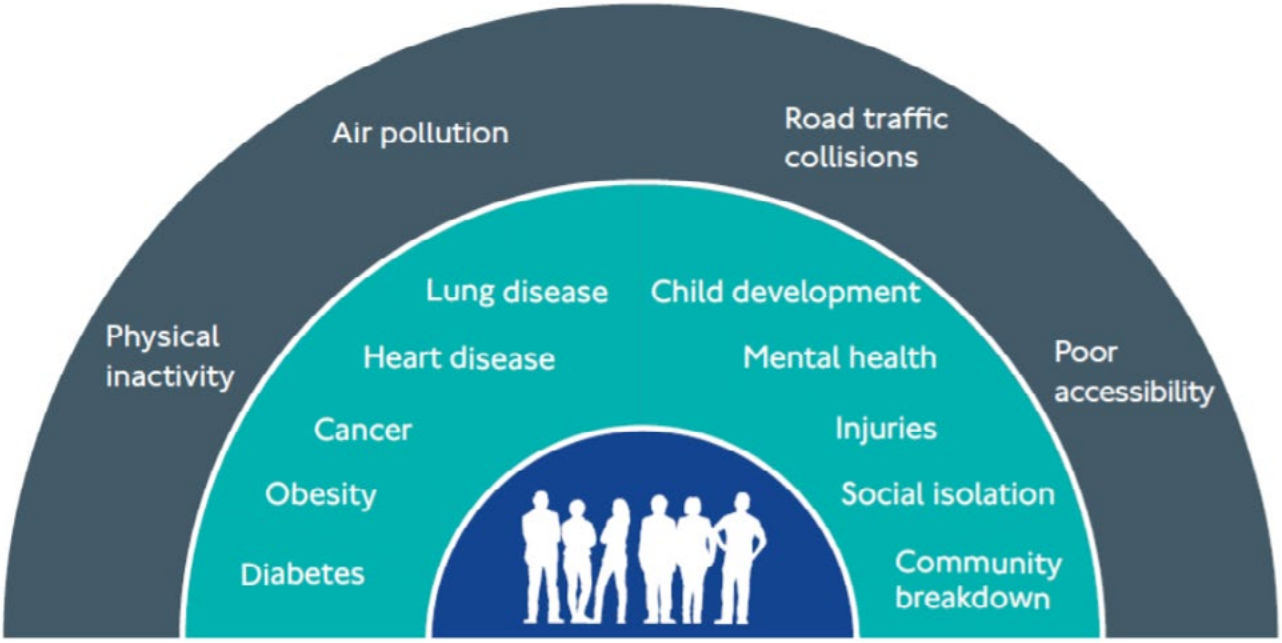
Figure 4.63: Distance travelled by bike, 1949-2021



Source: Figure: CMO Annual Report 2022,[41] Data: Department for Transport (2022)[32]

The benefits of increasing active travel are also brought into sharper relief in cities, as higher population density causes spatial and land pressures,[42] and the concentration of motorised traffic leads to higher levels of air pollution and other indicators of environmental degradation[43] as well as risks from road traffic collisions, as shown in Figure 4.64 below.

Figure 4.64: The impact of car dependency on health



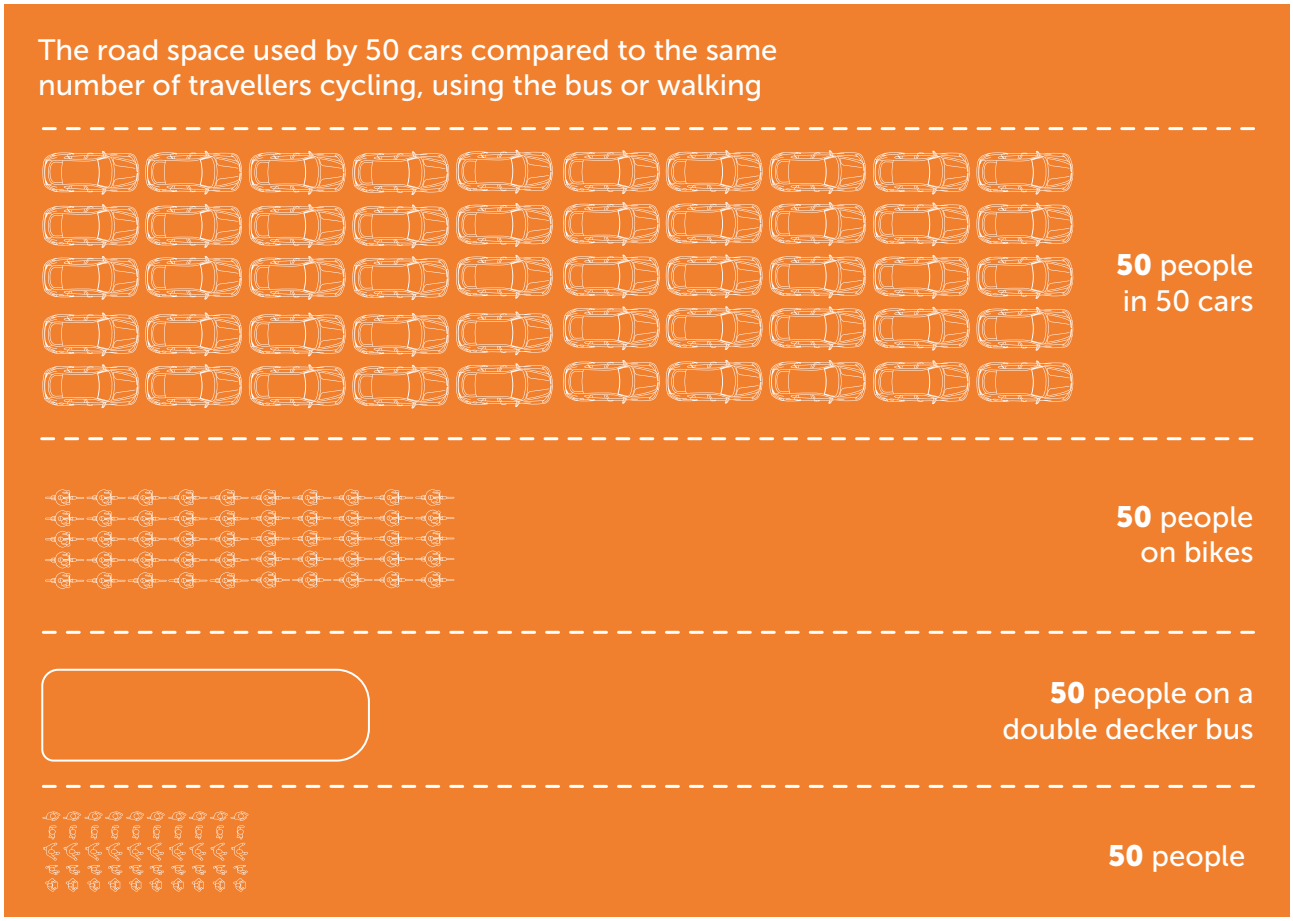
Source: Mayor of London & Transport for London[44]

Reducing private vehicle journeys and car dependency[†45] by increasing active travel reduces air[41] and noise[46] pollution and levels of carbon emissions[47] in cities. It also reduces traffic congestion, thereby increasing mobility, accessibility and speed of journeys, increasing productivity and economic benefits,[48] and health equity for households without access to a vehicle. Older and disabled people, young people, and those on low incomes are disproportionately likely to be in such households[49] and good public transport can improve their access to employment, education, leisure or social opportunities.[50] Some people on low incomes find themselves forced into car ownership because of a lack of other transport options, and have to cut back on other essentials, such as heating, food, or social activities, as a consequence.[51]

Over-reliance of private cars is an inefficient use of city space. Supporting people to use active or sustainable travel frees up space for more health and wealth generating activities, e.g. space for play, community amenities, socialising and green spaces, all of which improve the quality of life in our cities.[52] The dominance of motorised traffic puts pressure on our urban road system (as demonstrated in Figure 4.65 below), with space for both driving and parking cars. Arguably, space for parked cars is even more of an issue than for driving, as it is estimated that the average car is parked for 23 hours out of every 24.[53] In many urban streets, front gardens have been changed to parking spaces, with impacts on biodiversity and flood risk.[54,55]

† Car dependency is where the layout and design of cities cause cars to be prioritised over other forms of transport such as active or sustainable travel,

Figure 4.65: Road space used by 50 people travelling by different modes of transport



Source: Made to Move report by Commissioner for Walking and Cycling, Greater Manchester Combined Authority[56]

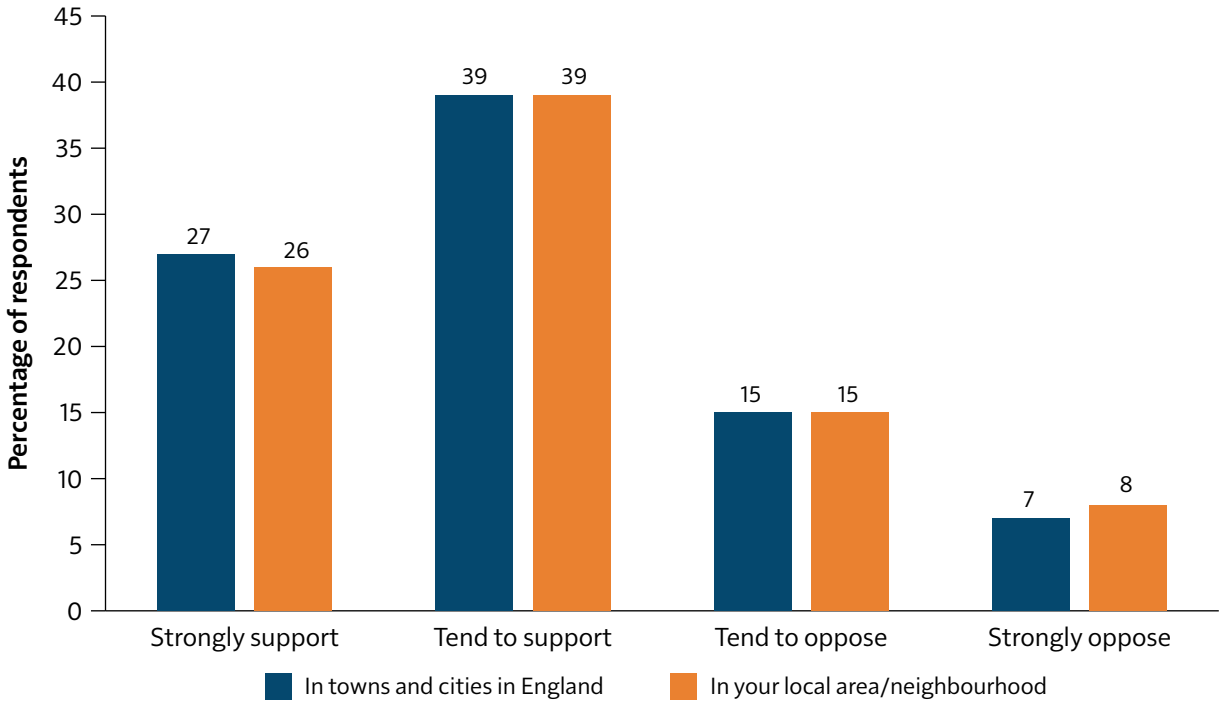
Active travel targets and interventions

The Department for Transport (DfT) has set 4 objectives for active travel including a target to increase the percentage of short journeys in towns and cities that are walked or cycled to 50% in 2030, and 55% by 2035.[57] Interventions are needed for these targets to be realised.[58]

The impact of interventions aimed at increasing active travel differs for different forms of active travel. For example, improving the environment to increase the 'walkability' of an area increases walking rates[59] but small-scale cycling infrastructure improvements without other supportive measures often lead to route substitution rather than an increase in cycling rates.[60] It's important, too, for any environmental changes to be wide-scale enough to improve people's whole journey and not just a part of it.[61,62]

Road space reallocation away from private cars (including removal of on-road parking spaces) has been shown to be one of most effective methods of increasing walking and cycling.[63] Although road space reallocation has become politically charged in recent months[64] most of the UK population are supportive of reallocating road space to increase walking and cycling as is shown in Figure 4.66 below.

Figure 4.66: Support for reallocation of space for walking and cycling.



Source: Department for Transport[65]

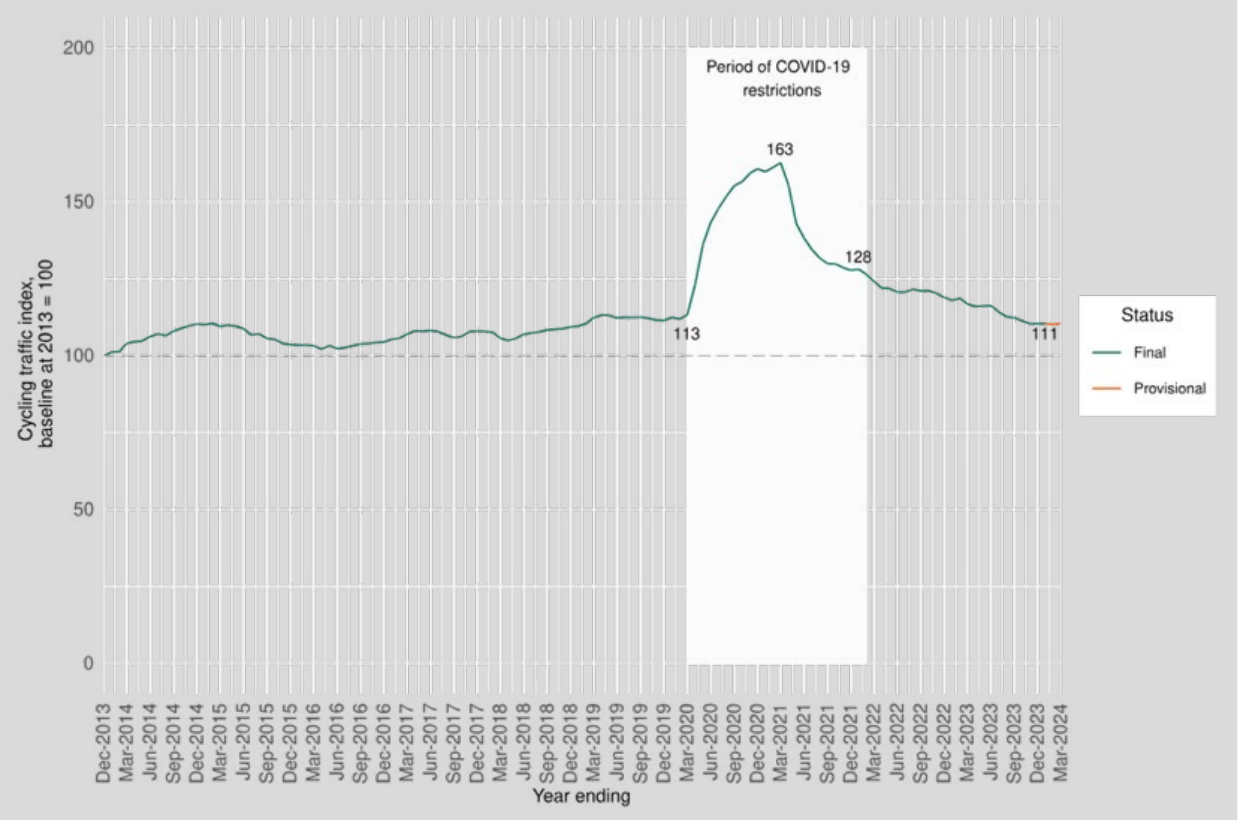
Changes in active travel rates during the pandemic, whilst not maintained, highlight the potential for significant shifts and point towards potential interventions for increasing participation.

Case Study: Walking, wheeling and cycling during COVID-19 pandemic

During the COVID-19 pandemic, work and travel restrictions led to a big reduction in driving.[66] Anecdotally, the reduction in traffic on the roads, and the difference this made in terms of a sense of safety, and the reduced air and noise pollution, was cited as one of the few positives of the pandemic, with people sharing stories of enjoying walking, wheeling and cycling in their local area.

The rise in cycling was particularly dramatic (Figure 4.67), but this has not been maintained, falling by 32.1% between March 2021 and March 2024. Since the pandemic, the use of motor vehicles has recovered quickly to pre-COVID-19 levels while public transport has not yet returned to its pre-pandemic levels.[67]

Figure 4.67: Cycling traffic, December 2013 to March 2024



Source: DfT Cycling Traffic Index[68]

Conclusion

As the health, economic, environmental and social benefits of active travel to the quality of life in our cities have become more widely recognised, there have been increased programmes, pilots and initiatives trialled in UK schools, workplaces, communities and health and care settings. Overall, multicomponent interventions including environmental or infrastructural changes have been shown to have the highest impact on active travel levels, with those covering larger areas having most impact.[58] Interventions that offer bikes (especially e-bikes[69] and adapted bikes) are also effective and can make active travel accessible to more people, including those on low incomes[70] or with health/mobility issues.[71] Future investment in active travel interventions should use this evidence and not invest in short-term behavioural only interventions.

Source: GM Moving Active Practices: Walk organised by a GP practice, New Islington Marina, Manchester, December 2023.

Reflections from a GP

Active travel as prevention and as treatment – a GP's perspective

Dr Jo Maher.

"*Patients should have rest, food, fresh air, and exercise – the quadrangle of health*" Sir William Osler.[72]

As an NHS GP in an urban practice, I witness first-hand how successful conversations on health promotion recognise the environment people live in. Our environment provides us with ways to make healthy changes or denies opportunities in disadvantaged areas.[73] This is true for patients and NHS colleagues. I have seen how active travel can have a significant role for people: both by moving more and reducing social isolation.

Health care practitioners' role in promoting physical activity is established[74] and there is growing evidence for specific benefits of active travel for both mental and physical health.[17] Talking about being more active can make a real difference. One in 4 people with a long-term health condition take action to do so after a conversation with their healthcare professional.[75,76]

There are existing active travel champions within the UK health care system, but support is not consistent across all settings. At present opportunities are missed to change behaviour towards a more active lifestyle; awareness and understanding on health benefits of physical activity amongst health care practitioners is not universal.[77]

The Moving Healthcare Professionals Programme recognises the role of both practitioners and the healthcare system they work in for promoting physical activity. This includes creating communities of practice and Physical Activity Clinical Champions. PACC is an evidence-based education approach to moving medicine, including active travel in training materials. Evaluation shows the program has been successful in improving the capability and motivation to promote physical activity by participants.[78]

There has been a massive shift in population to cities since the founding of modern medicine. How we articulate the importance of the essentials for good health needs to reflect how people live their lives and should include everyday walking and wheeling.

Realising benefits through whole system approach

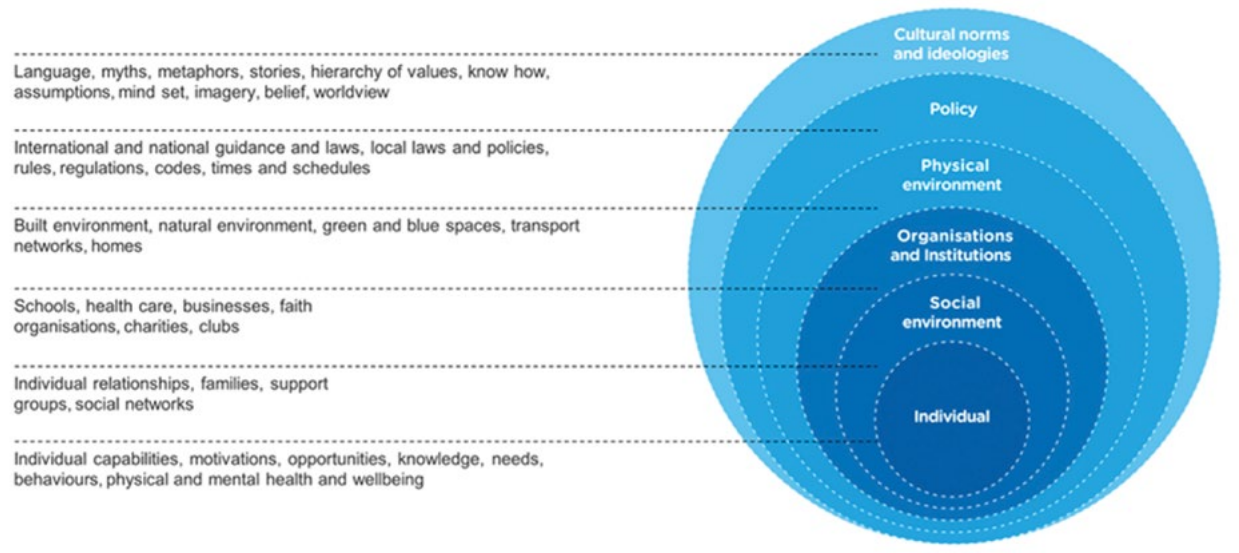
Case Study: Greater Manchester, taking a whole-system approach to moving

Since 2014, GM Moving has been leading a whole systems approach to physical activity, an approach advocated in international and UK policy.[79] People and organisations have been working together as a 'movement for movement', united behind a shared mission to enable active lives for all across the city region's population of 2.8 million. Its ambition is to enable all people and places to benefit from the multiple benefits that flow from an active life. See GM Moving strategy GM Moving in Action 2021-31.[31]

The evaluation of GM Moving is providing growing evidence and confidence that this approach is working. Sport England's Active Lives data[80] shows that Greater Manchester was decreasing rates of inactivity at 2.5 times the national rate pre-Covid and despite a dramatic dip in activity levels in the city region during the pandemic, activity levels are recovering quicker than nationally.[81]

GM Moving's whole-system approach has informed local, regional and national active travel policy recommendations. Figure 4.68 illustrates the application of the socio-ecological model to comprehensively align interventions across the system to increase active travel.

Figure 4.68: The socio-ecological model, adapted from Bronfenbrenner's ecology of human development



Source: GM Moving, 2021[31]

Source: McrKidicalMass

Manchester Kidical Mass cycle ride, May 2024.

Recommendations for urban policy makers

1. There is strong and consistent evidence of the benefits of active travel in cities across many policy areas. Health and wellbeing should be given greater weight in appraisal assessments of capital and revenue projects relating to urban transport.

2. Enabling active travel will reduce health inequalities in our cities. Collection of better disaggregated data on who is travelling where and for what purpose is required to ensure that we are supporting everyone to be able to travel actively.

3. We need to give equal weight to all the travel and transport needs of all our city dwellers. Changing the environment changes behaviour, so city planners need to reallocate road space away from cars and towards other more efficient and less polluting forms of transport. The negative impact of car dependency on physical and mental health, air pollution, road traffic danger, inequalities, carbon emissions and productivity must be clearly communicated to the public, with open discussions on what alternative systems could look like and the benefits these will bring.

4. The revision of the Highway Code is greatly welcomed, but extensive promotion of the changes is required, along with the reasoning behind the hierarchy of vulnerability. The risks that each group poses to each other needs to be clearly described, with the most attention being given to reducing the risks from those that pose the greatest dangers: that is, to changing the behaviour of car, van, and lorry drivers.

5. A more joined up approach is required, including both universal infrastructural changes and social/behavioural/policy interventions. These must cover larger areas with long term funding if they are to maximise their impact. All initiatives need to be sustained and placed-based designed and delivered through and with people and partners who are present in and rooted in that community.

6. Active travel must be everyone's business, and this requires:

   - support and training for health and care workforce to ensure they can effectively help both patients and colleagues to design active journeys into their everyday lives
   - a proactive approach by businesses and the integration of walking, wheeling and cycling as part of wider public transport networks
   - shared messaging, campaigns and integrated planning to support population level modal shift away from urban journeys by private car, towards more journeys via active and sustainable transport.

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4.8 Cities driving food systems change – The Birmingham Food Revolution

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Why the food system is a public health issue

> *"All living creatures are prisoners to the food system"* Henry Dimbleby, 2023

Food, as well as being necessary to sustain life, is a key part of our identity and can contribute to a healthy and fulfilling life. Our relationship with food is complex and is interwoven with our culture and heritage. Food helps us to connect with others and is a key part of our memories, festivals and celebrations. Yet, increasingly our food environment is harmful to our health and wellbeing due to lack of access to affordable, nutritious and varied food and too much access to and marketing of cheaper foods that are high in fat, salt and sugar.

Cities have specific challenges and opportunities related to healthy food, yet only a handful of cities in England have food strategies that consider this. Fewer still are taking a public health, whole system approach to one of the largest drivers of illness and preventable premature mortality. The role cities can play in shaping the food environment is covered in the latter part of this chapter using the example of Birmingham's Public Health approach.

Our diet has a significant impact on our health

The Global Burden of Disease study 2021 found that dietary risk factors such as high salt consumption and low fruit and whole grain intake were three of the top 15 risk factors for early death in the world.[1] Regular consumption of foods classified as high in fat, salt or sugar (HFSS) can cause weight gain, obesity and have negative health impacts.[2]

Fruit and vegetable consumption has well-established health benefits, while low consumption contributes to a number of chronic diseases including heart disease, stroke, cancer, and diabetes.[3,4]

Salt consumption has been long established as a risk factor for cardiovascular disease and whilst public campaigns in the early 2000s did reduce population consumption somewhat, it has remained significantly higher than recommended levels.[5]

For decades, we have had healthy eating guidelines and recommendations on levels of consumption for different dietary nutrients. However, there has been limited success in achieving significant improvements in dietary intake, reflecting that this is not a simple challenge of knowledge and understanding.[6]

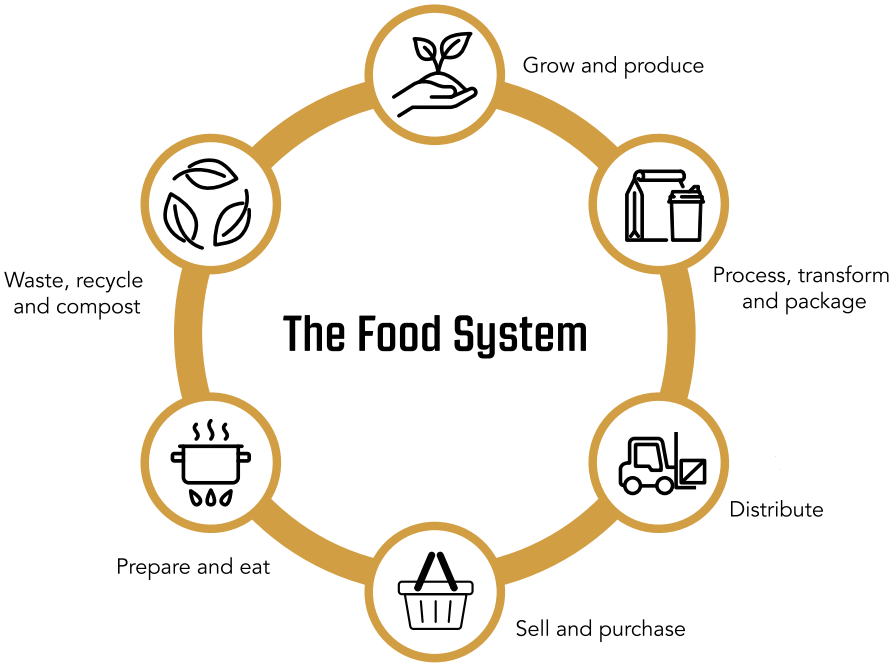
The food system shapes what we eat

Our food environment is responsible for shaping what we eat, how much we eat and how many nutrients we consume. The availability, affordability and marketing of food, as well as genetic and other social factors play a complex, interwoven role in how food impacts on our health.

The abundance and the nature of the food around us has changed over time, with us now being exposed to calorie dense, processed food which makes up the majority of our modern diets. In fact, we dedicate almost as much land to growing sugar (110,000 hectares) as we do to growing all of the rest of the UK's vegetables (116,000 hectares).[7] As humans, we are genetically wired to crave calorie rich food;[8] it is, therefore, unwise to think we can rely on education and willpower alone to curb our appetites and to prevent the many diet related diseases that constitute some of the biggest threats to public health.

The Food System (Figure 4.69) is a way of describing the multiple stages and layers of the relationships that make up our food; from the creation of food through agriculture and farming, its transformation into the products we see on our shelves, the retail market for food and its preparation and consumption at home and in restaurants and cafes and finally as food waste, ideally being recycled into fertiliser for the next round of food creation. The concept of the food system helps us understand why an individual's decision on what to eat is not as simple as it seems. Choices and lack of choices, are connected to a complex system where decisions at each stage of the food system have a direct impact on whether a person is enabled or disabled when it comes to having a healthy diet.

Figure 4.69: The food system[9]



Examples of parts of the food system:

Farming and production
Transformation and processing
Transport and logistics
Energy and resources
Retail and sales
Employment
Skills and education
Healthcare
Third sector including charities
Research and innovation
Marketing and communication
Regulation and enforcement
Finance and investment
Waste processing and recovery

People living in poverty have poorer diets

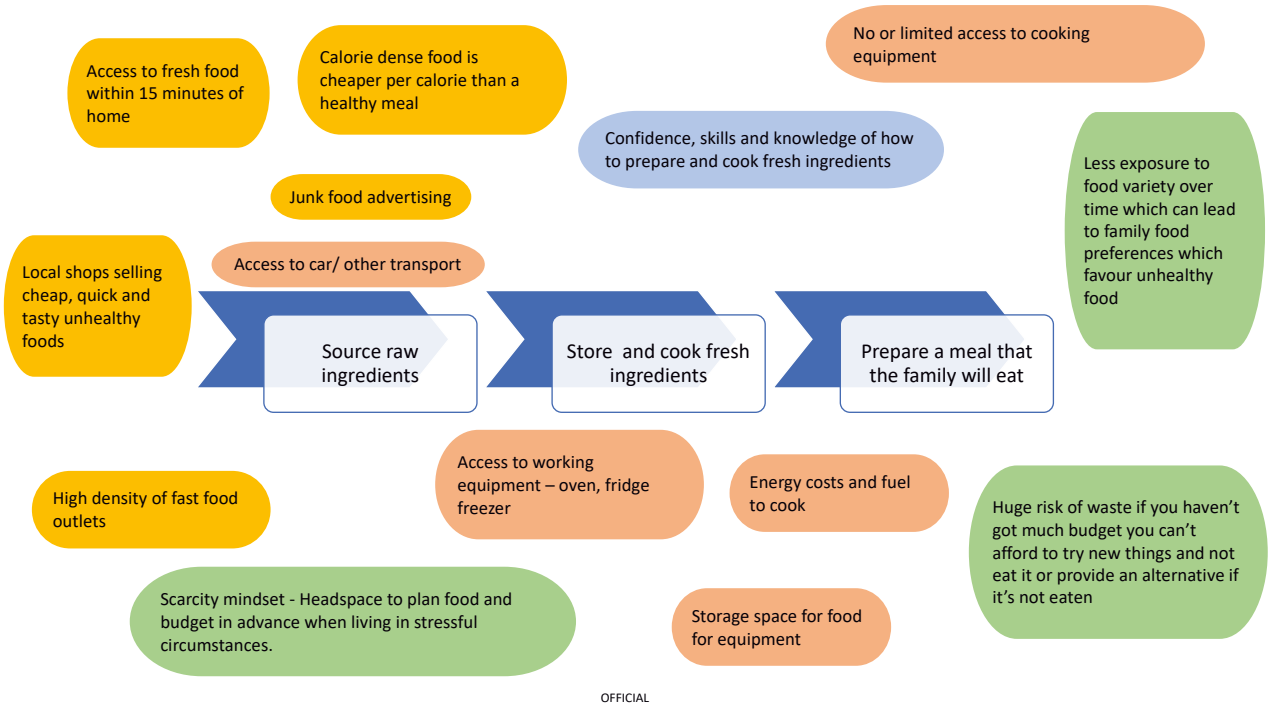
This dimension of access, affordability and choice is perhaps most strongly demonstrated in the reality that poor people have poorer diets. Michael Marmot made the point in his 2020 report that the poor diet of people in poverty is not due to poor choices but it is a direct result of living in poverty.[10] People living in poverty are, therefore, more likely to have diets that are high in sugar, fat and salt and low in fruit, vegetables and whole grains than more affluent communities.[11,12]

Children and families in the most deprived areas are more exposed to the promotion of processed food and drink and a higher density of fast-food outlets which serve to normalise unhealthy diets.[13] Access to nutritious food is also not equally distributed in our population, healthy diets are expensive, and the price of healthy foods can be higher in poorer areas where there is also less access to large supermarkets selling more affordable healthy options.[14]

As a result, people experiencing food insecurity are at higher risk of being diagnosed with multiple chronic conditions such as heart disease, chronic pain and mental ill health and adults experiencing food poverty die an average 9 years earlier than those who are food secure.[14]

Figure 4.70 demonstrates just some of the structural, economic, practical and psychological barriers to families living in poverty to source, cook and eat healthy and nutritious food.

Figure 4.70: Barriers to people in poverty eating a healthy diet (Key: Yellow – structural; peach – economic; green – psychological; blue – practical



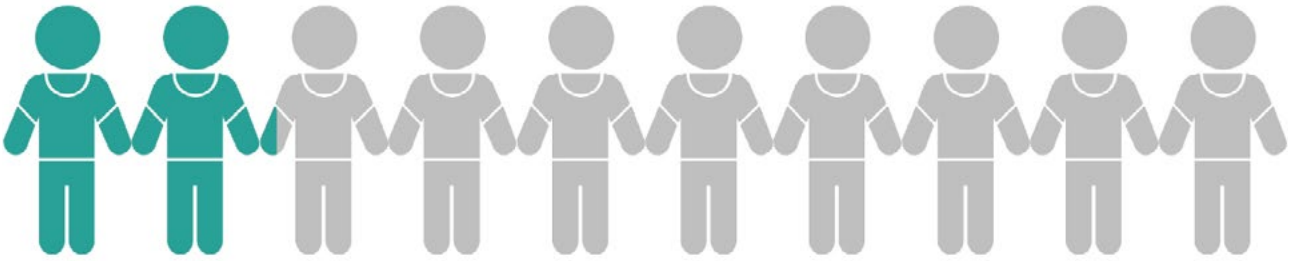
Diets are having an increasing impact on children

Two thirds of children in Birmingham are overweight or obese,[15] and consistently we see that urban areas have higher levels of childhood obesity across the UK. The Child Health Profiles from 2023[16] show that in Birmingham, 12 in every 100 children are obese when they start primary school (Figure 4.70), and this more than doubles to 28 in every 100 being obese by the time they leave in Year 6. This figure increases to 43 in every 100 children if overweight is included in addition to obesity. Furthermore, more children in Birmingham are underweight than the national average.[17]

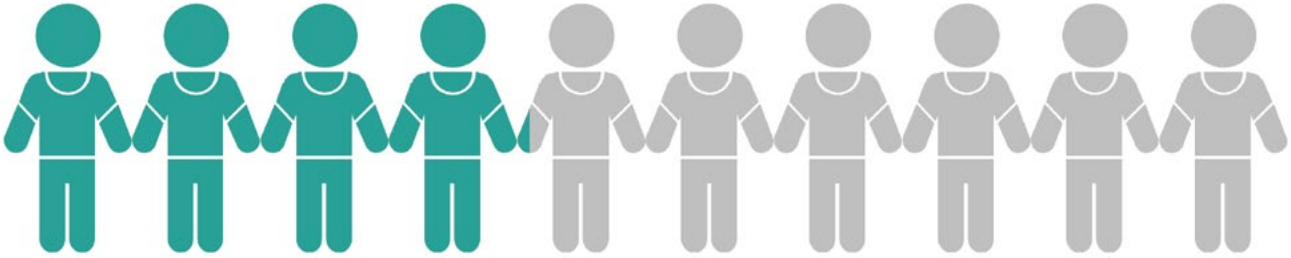
Many children in Birmingham experience nutritional deficiencies and tooth decay.[18,19] Malnourishment is not just associated with being underweight, obesity also co-occurs with malnourishment due to a high consumption of foods that are low in nutrients.[20] This is a worrying trend that is increasing in the UK and can have long term health impacts that continue on into adulthood.[20,21]

Figure 4.71: The number of children living with overweight or obesity in Birmingham. In Birmingham in 2022 to 2023, 21.3% of children in reception class (aged 4 to 5 years) and 41% of children in Year 6 (aged 10 to 11 years) were living with overweight or obesity.[17]

Reception class (aged 4 to 5 years)



Year 6 (aged 10 to 11 years)



Source: Obtained from the Office for Health Improvement and Disparities.

This demonstrates the importance of tackling the challenge of the food environment in a practical and pragmatic manner and something that cities, particularly given the disproportionate burden of poverty and obesity, need to consider.

The impact of the food environment is magnified in cities

The influence of the food system is in many ways amplified in cities. Cities are densely populated; more than 80% of the UK population live in urban areas[22] and urban areas tend to be more deprived than rural areas.[23] As deprivation plays an important interacting role in the relationship between food and health, the high level of deprivation in cities mean that cities are vulnerable to the negative health impacts of food and food insecurity. Furthermore, cities tend to be more ethnically and culturally diverse than rural areas, which can affect the requirements of the food system as different communities have different patterns, behaviours and needs regarding food.[24]

Cities have a high dependency on agriculture and food being sourced from outside city boundaries given the contrast between population and land use in rural and urban areas. Food supply chains are complex, and the size, deprivation and diversity of cities along with often poor rural-urban connections gives them little control over agricultural policy and can make them more vulnerable to supply chain disruption compared to rural areas, especially for fruit and vegetables.

At the same time, people in cities tend to have greater exposure to advertising and takeaways which may influence them towards HFSS foods. Thus, our food system is complex but generally

influences individuals towards higher consumption of HFSS foods and fast-food and lower consumption of fruits and vegetables. This contributes to high levels of poor health and chronic disease with, as we have seen, a stronger influence for people experiencing deprivation.

Birmingham is one of the largest local authorities in Europe and feeds over 1.15 million people each day, it is also a city which has a significant proportion of its population living in poverty. Like all cities, we don't have enough room to grow all the food we need to feed our population. Although we are a green city many of our residents don't have access to growing space, and gardening is not without cost or resource demand, so the capacity to supplement diets through home-grown produce is limited.

The approach to addressing the impact of poor diet on our health has traditionally relied on individual approaches such as weight management support and promoting uptake of fruit and vegetables rather than addressing the commercial and environmental determinants of eating behaviours. Birmingham City Council recognises that we cannot address diet related illness without changing the food environment. We view our current food environment very much as a public health problem. The Public Health team are, therefore, working with a wide range of partners from throughout the food system and with like-minded cities across the globe to fundamentally alter the food system at every level to ensure our citizens have access to affordable, nutritious and sustainable food.

"I can't afford five a day for my son; a multi bag of crisps costs £1" (Adult with a mental health condition, Birmingham Seldom Heard Voices Food Conversations)

"You can't go for a 15-minute walk anywhere without seeing a fast-food shop or advert." (Care Leaver, Birmingham Seldom Heard Voices Food Conversations)

The power of cities to transform the food system

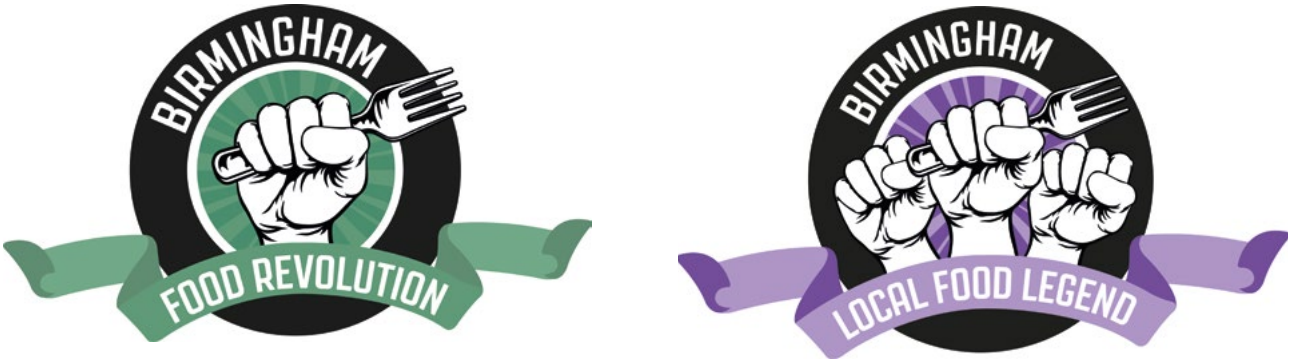
Alongside the challenges of food in cities, cities also present huge opportunities for food system transformation and many cities are increasingly working to address key food system challenges. Whilst the UK's food system is vast and highly complex with a nearly infinite number of actors, cities act as mini-systems which, although still complex, can act as testbeds for food system change and can be influential on national and international systems. There are often hundreds of stakeholders and actors within a city's food system. This provides an opportunity to establish co-ordinated action and bring together key players at the city level to change the food system, improve diets and improve health. Additionally, with 40% of the population living in just eleven city regions, focusing action to transform the national food system on these geographic areas would unlock a powerful driver for change.[22]

Birmingham is an example of this potential coming to life through the Birmingham Food Revolution, a strategy purposely designed as a social movement co-created with partners from community organisations, industry stakeholders, NHS, police, academics and from across the Council.

Led through a dedicated team within the Public Health directorate, the Food System Team's ambition is to coordinate the community and partners to regenerate the entirety of the food system. The team convenes the Creating a Healthy Food City Forum, a sub-forum of the Health and Wellbeing Board, which consists of many key actors in the food system across a range of different disciplines including the research, charity and food business sectors. This forum has strategic oversight and brings together a range of viewpoints on the food system to support and activate co-ordinated action.

The Food System Team has worked to drive a collective response to food system transformation that builds on the work of the many Local Food Legends in the city who have been trailblazing actions such as community dining projects, composting initiatives, surplus food redistribution, cooking classes, behavioural science research into eating habits, growing projects, getting more local food into the supply chain and more.

Figure 4.72: The Birmingham Food Revolution and Birmingham Local Food Legend logos; demonstrating the power of collective action and a brand to get behind to improve the food system



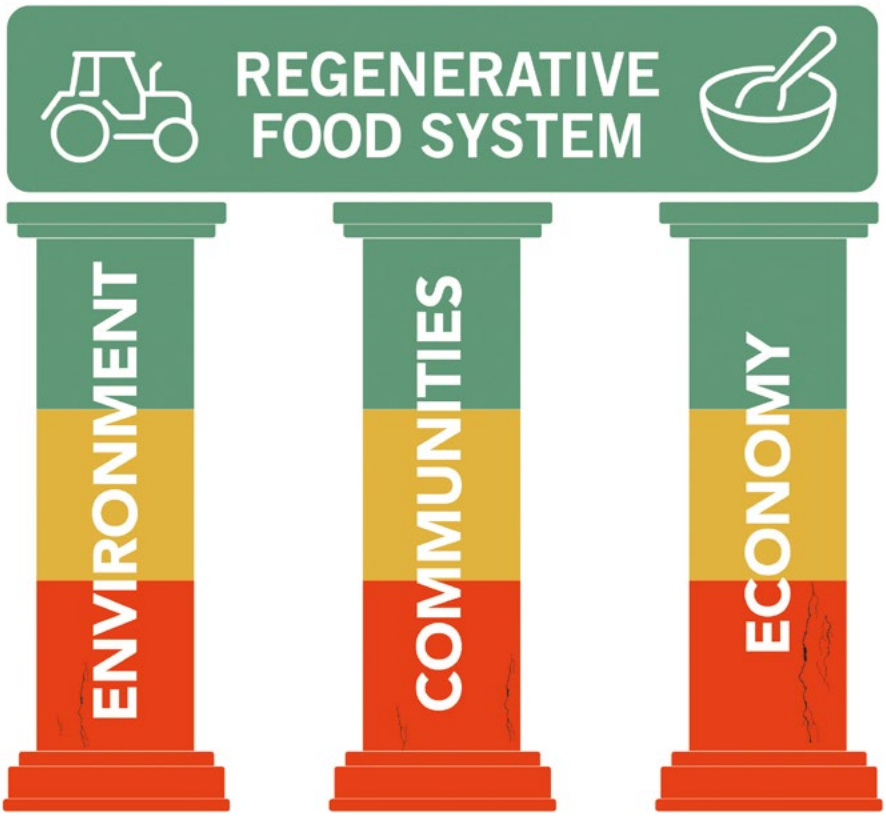
In 2023, Birmingham launched its Food System Strategy – the Birmingham Food Revolution – which was a culmination of three years of dialogue with partners and citizens, reflecting the diversity of the city and aiming to build on what was already there. The vision of the strategy is to create a fair, sustainable and prosperous food system and economy, where food options are nutritious, affordable and desirable so everyone can thrive.[9] Key in developing this strategy was identifying the long-term ambition of the strategy in what the city's ideal food system would look like, where:

- We consume a nutritious diet that helps us thrive
- Our diet doesn't cause us harm
- Our food system is ethical, fair and eliminates injustice from farm to fork
- We reduce harm to the world around us
- We empower people and overcome barriers to providing healthy and sustainable food options
- We respect and support diversity and choice

- We are resilient, and adapt, learn and evolve
- We celebrate what food brings to our city[9]

Given the impacts of food on health, food system action presents abundant and vital opportunities to improve health. However, benefits of food system action are not limited to health. The food system also has significant environmental impacts and so presents opportunities to act in ways that champion sustainability and are regenerative. Food systems account for 21-37% of total greenhouse gas emissions and are at the heart of many of the world's major challenges today including biodiversity loss.[25] Food systems are also key areas for action to achieve the Sustainable Development Goals launched in 2015 to be achieved by 2030, including reducing health problems, tackling poverty, protecting the environment and creating more equal societies.[26] Furthermore, the food system has a complex relationship with the economy, both being key in providing business opportunities and jobs but also with its health impacts affecting the economy in a variety of ways. Therefore, the Birmingham food system strategy is built upon the three pillars of environment, communities (incorporating health but also the cultural and social importance of food) and the economy.

Figure 4.73: Pillars of Birmingham's Food Revolution[9]



Given the complexity of the food system, the approach in Birmingham has involved breaking the food system down into 6 work streams and 4 cross-cutting themes**.** Each work stream/ cross-cutting theme has its own action group of key stakeholders who have co-created action plans aligned with their interests (Figure 4.74). The Big Bold City Tool and Food Action Decision Making and Prioritisation Tool have also been developed to aid evidence-based decision making and to maximise impact of actions.

Figure 4.74: Birmingham Food strategy workstreams

Cross-cutting theme	Objective	Example Actions
Food Skills and Knowledge	Empowering citizens with knowledge and skills in relation to the food system.	Healthy and sustainable eating guidance is being co-produced with communities and professionals to meet the needs of different cultures, communities and health conditions.
Food Behaviour Change	Developing the capability, opportunity and motivation for key behaviours that will enable long term change.	Behavioural science principles are being used within all projects and interventions to ensure we overcome barriers people face to behaviour change.
Food Security and Resilience	Increasing access to sufficient affordable, nutritious and safe food for all citizens, all the time, in every community, and at every age.	169 food aid projects across the city have been supported to purchase food as part of the emergency Cost of Living Response to increase access to affordable, nutritious food.
Food Innovation, Data and Research	Gathering insights and data and facilitating innovation, collaboration, learning and research across the food system.	The Mandala Consortium, a UKRI funded research project, is finding out how we can transform urban food systems and is focused on the city of Birmingham.

Strategic work stream	Objective	Example Actions
Food Production	Empowering and enabling citizens and local producers to grow food throughout the year and connect to the city's food system.	A growing map has been developed to help people find places to grow food in their local area including community gardens and allotments.
Food Sourcing	Increasing both supply and demand for local, environmentally sustainable, ethical and nutritious foods in the food system.	A guide to food labels and standards is being developed to support those responsible for sourcing food to identify nutritious, sustainable and ethical options.

Strategic work stream	Objective	Example Actions
Food Transformation	Transforming the food offer and diets to contain more diverse, nutritious and sustainable ingredients, and less fat, salt and sugar.	A Full of Beans campaign has been launched to increase supply, demand and consumption of beans and pulses across the city.
Food Waste and Recycling	Minimising food waste and unsustainable packaging throughout the food system and maximising the repurposing and redistribution of surplus.	A Surplus Food Hub has been set up at the Birmingham Wholesale Market to prevent waste and redistribute food to food aid projects across the city.
Food Economy and Employment	Facilitating a thriving local food economy for all and maximising training and employment opportunities.	A community researcher project explored access to healthy food in East Birmingham and identified barriers and opportunities for food businesses.
Food Safety and Standards	Improving food safety and standards for Birmingham's citizens and businesses.	Resources have been developed to support food businesses with donating surplus food to food aid projects whilst maintaining food safety standards.

Learning to improve city food systems together

For cities to really make the most of opportunities to improve their systems, they need to learn and work together. An important part of the food system journey in Birmingham has been our partnerships with other cities nationally and globally. In 2015, Birmingham became a founding member of the Milan Urban Food Policy Pact (MUFPP), a network of cities from around the world established to share city-to-city learning around food system transformation. This network provides opportunities to understand food system challenges and recommended actions that can address them. In 2020, we joined 10 other cities in Europe in Food Trails, a Horizon 2020-funded programme which aimed to translate the MUFPP's collective commitment to integrated urban food policies into measurable and long-term progress towards sustainable food systems. The 11 European cities, alongside universities and stakeholders, co-designed pilot actions to develop healthier, sustainable food policy actions. In Birmingham this supported initiatives including a campaign to increase beans and pulse consumption amongst school-age children (Full of Beans), a feasibility study of urban growing and food hub on a car park near the city centre (High Rise Harvest) and a pilot around supporting food waste separation, composting and recycling (Who Says This Is Rubbish). Our involvement with the BINDI project, Eurocities and the DELICE network has further helped in sharing and receiving best practice with and from cities.

We want to support other cities as they seek to improve their food systems. In 2024, Birmingham is piloting a UK Urban Food Forum (UKUFF) to provide a collaborative platform for urban Local Authorities in the UK to address challenges, share best practice, and innovate in the field of sustainable and healthy food systems. It draws inspiration from the MUFPP, emphasising the need for equity, inclusivity, and effective governance in food policy. The Forum's principles are grounded in equity and inclusivity across the intersectionality of society. UKUFF will support those looking to work more successfully cross-departmentally within their institution to ensure more effective and holistic implementation of food system strategies and policies in towns and cities across the country. Activities will be tailored specifically for the needs of policy officials working within the constraints of the local political system in urban areas, complementing rather than duplicating the work of other food-related groups and initiatives across the UK.

Summary

What we eat is essential to our health and wellbeing, and yet the response to the challenge of our obesogenic food environments has been largely focused at a national level. Birmingham demonstrates the potential for local authorities to lead innovative, co-produced approaches to addressing unhealthy food systems in ways that are embedded in the lives of local citizens and the realities of urban economic growth.

Birmingham's experience demonstrates both the challenges experienced by cities, and the opportunities for cities to address food systems to improve public health, the environment and the economy. Birmingham is striving to support cities to learn and work together to improve their food systems. Collaborative work, systems thinking and innovative solutions will be needed to address the significant health challenges caused by our food system, however, cities are well placed to begin to address this.

Case Study: Full of beans

- Public Health used behavioural science to increase supply and demand of beans and pulses at 70 Holiday Activities and Food Programme clubs (up to 4,200 children aged 5-16).
- Programme aimed to increase familiarity of beans and pulses in terms of growing, tasting and cooking.
- Beans and pulses are affordable and nutritious so increasing children's acceptance of these foods will help address health inequalities for those who are most deprived.
- Children are often drivers of change in families but can also limit change if they're not open to trying foods. Eating habits are developed in childhood and these are formative years.

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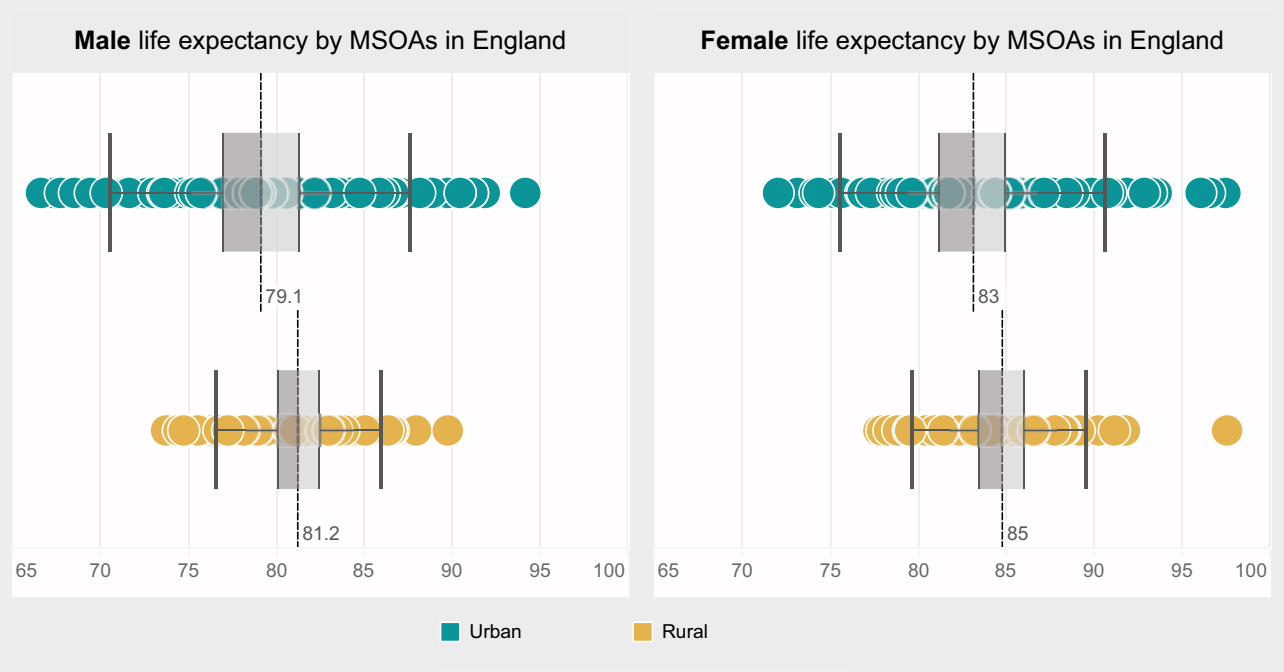
4.9 Inner city food environment

Authors: Carole Coulon, Louise Foreman, Bryony Hirsch, Leila Lawal, Matthias Lomas, Louise Luckhurst, Rachel Pidgeon, Joe Potter, Michael Rigby, Nikita Sinclair, Becky Steele and Nicki Whiteman – Children's Health and Food programme, Impact on Urban Health

Introduction: Impact on Urban Health and the Children's Health and Food programme

Living in inner-city areas carries distinct health challenges, many of which start early in life. People, particularly children, face unequal access to education, nutritious food, safe housing and safe spaces to play, exercise and socialise. This inequality is often linked to poverty and ethnicity – and has an impact on people's lifespan (Figure 4.75).

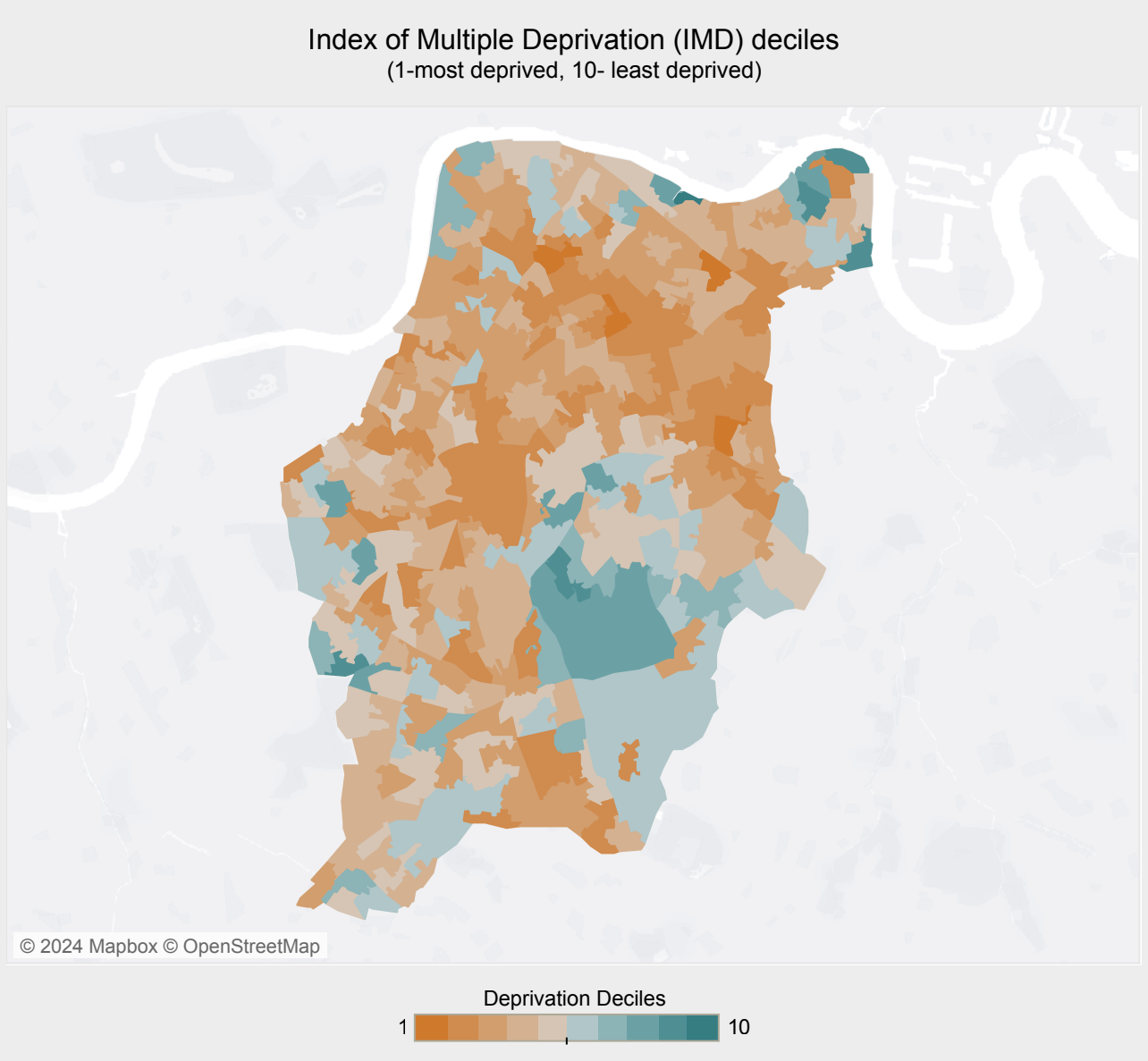
Figure 4.75: Lower life expectancy in urban neighbourhoods compared to rural areas



Source: Urban/rural classification – Office for National Statistics. Life expectancy at birth 2016-20 – OHID, based on ONS data.
Middle-Layer Super Output Areas (MSOAs) are geographic areas created for the 2011 Census of England and Wales.

Impact on Urban Health works in the London boroughs of Lambeth and Southwark. These inner-city boroughs are some of the most diverse areas in the world. They are densely populated (twice the London average) and have a high level of population churn. There is also a complex ethnic and social mix, including large Black and LGBT+ communities and over 300 different languages spoken. Like many London boroughs, affluence and poverty exist side by side.

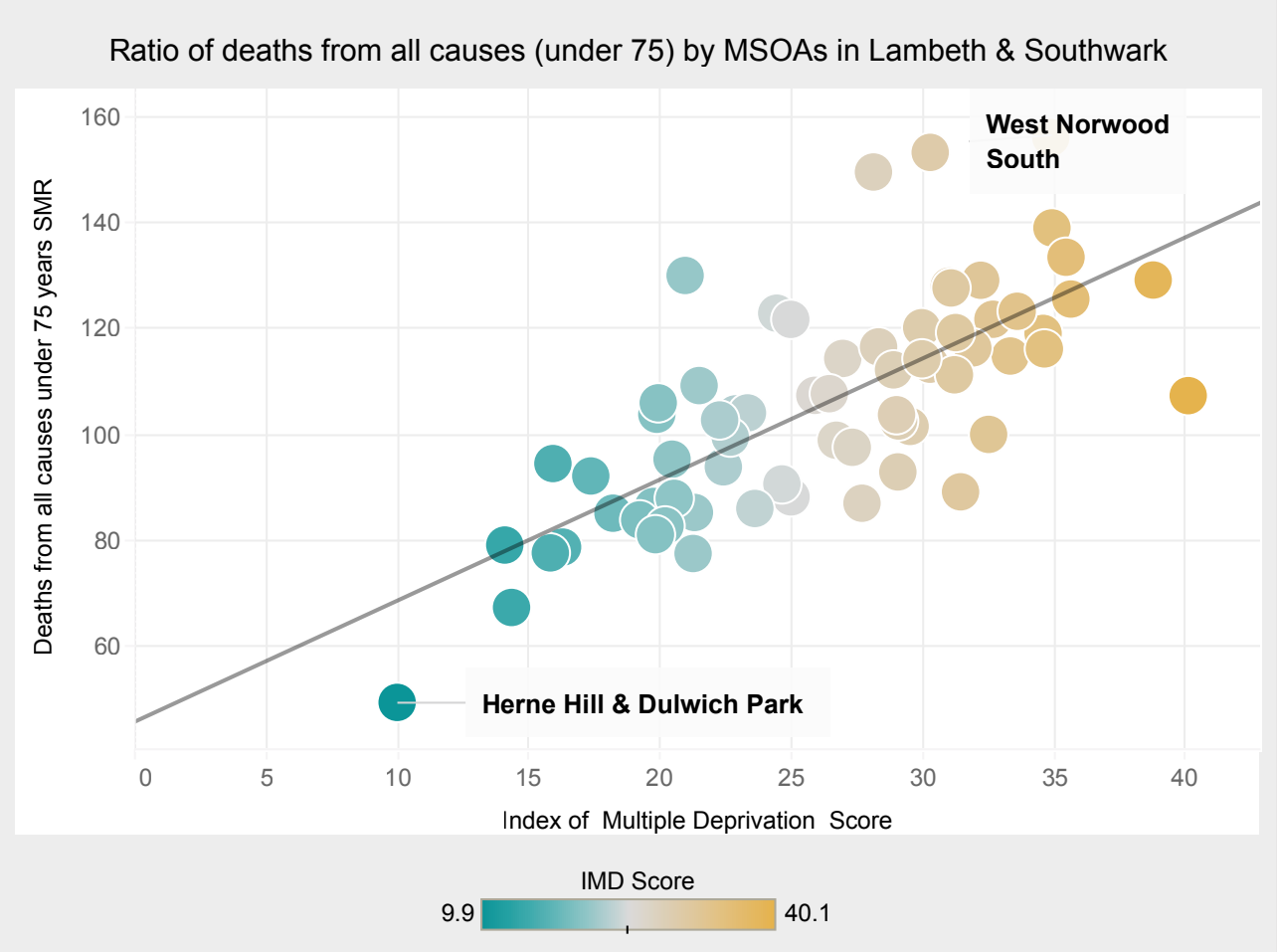
Figure 4.76: High proportion of neighbourhoods within Lambeth and Southwark are deprived



Source: Index of Multiple deprivation deciles 2019 – Office for National Statistics

These boroughs exemplify how inequalities in inner-city areas can significantly impact people living in neighbourhoods just streets apart. Figure 4.77 shows the ratio of deaths from all causes (under 75) in Lambeth and Southwark, revealing a higher level of deaths within more deprived neighbourhoods.

Figure 4.77: Higher levels of deaths under 75 in more deprived neighbourhoods



Source: Index of Multiple deprivation deciles 2019 – Office for National Statistics

In urban areas such as Lambeth and Southwark, there are large inequalities in access to healthy, nutritious, affordable food and the health outcomes of children. Those living at the intersection of structural racism and economic disadvantage often experience the worst outcomes.[1]

Impact on Urban Health, part of Guy's & St Thomas' Foundation, is running a 10-year programme on the relationship between children's health and food.[2] Our work and that of our partners shows that collaborative effort from policy makers, local government and industry is needed to fundamentally reshape the food environments that surround us; on our high streets, in schools and in nurseries.

The following sections outline why and how urban food environments produce disproportionately poor health outcomes for some residents more than others. We will provide examples of how national and local government, the food industry, local food economies and school settings create the conditions for – and hold the answers to solving – the inequalities we see playing out in urban areas. We will also explore how changing the way we talk about children's food-related ill health can enable positive change.

Context: what surrounds us, shapes us

What surrounds us, shapes our health. The places where children live, learn and play are important factors in how easy it is for them and their families to access affordable, healthy food. However, the places we shop, especially for families living on lower incomes, are often saturated with unhealthy foods. Per calorie, healthy food is almost twice as expensive as unhealthy food.[3]

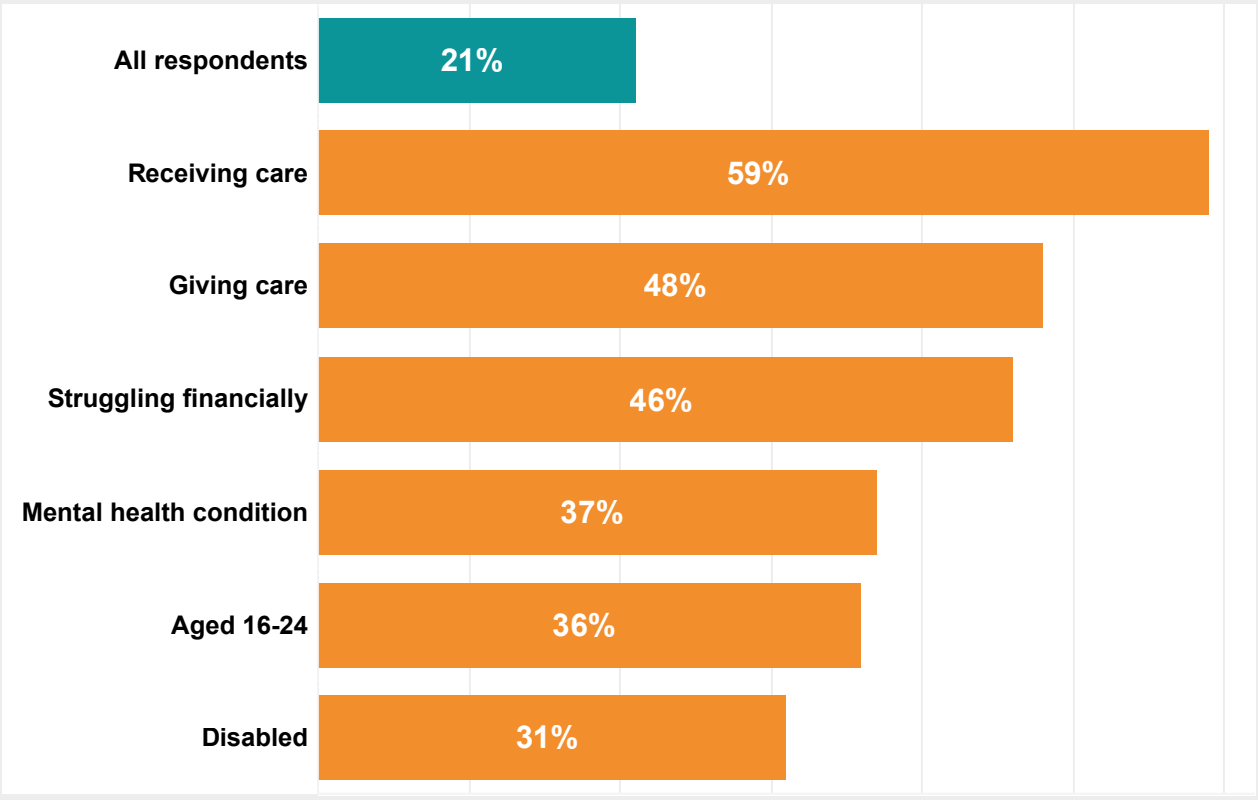
This means that food-related ill health is not experienced equally by children, families and communities across the country, with children and families living in more deprived areas more acutely affected by a food system where the unhealthy options are often the most available. The most deprived fifth of the national population would need to spend 50% of their disposable income on food to meet the cost of the government-recommended healthy diet. This compares to just 11% for the least deprived fifth.[4]

UK government data found that cost was the most commonly reported barrier to accessing healthy food.[5] According to the Food Foundation's tracker, 15% of UK households – equivalent to approximately 8 million adults and 3 million children – experienced food insecurity in January 2024.[6] Many of these households will be living in inner city areas.

As a result, many children in the UK do not have their nutritional needs met and children from families living on lower incomes are less likely to get the nutrition they need.[7] Alongside correlation between income levels and food security, local data from a Health and Wellbeing Study commissioned by Impact on Urban Health in Lambeth and Southwark (Figure 4.78) shows how food insecurity intersects with other experiences such as giving or receiving care, being disabled, having a mental health condition or being a young person.[8] This issue is particularly prevalent in urban areas, which are home to the most deprived neighbourhoods in the UK.

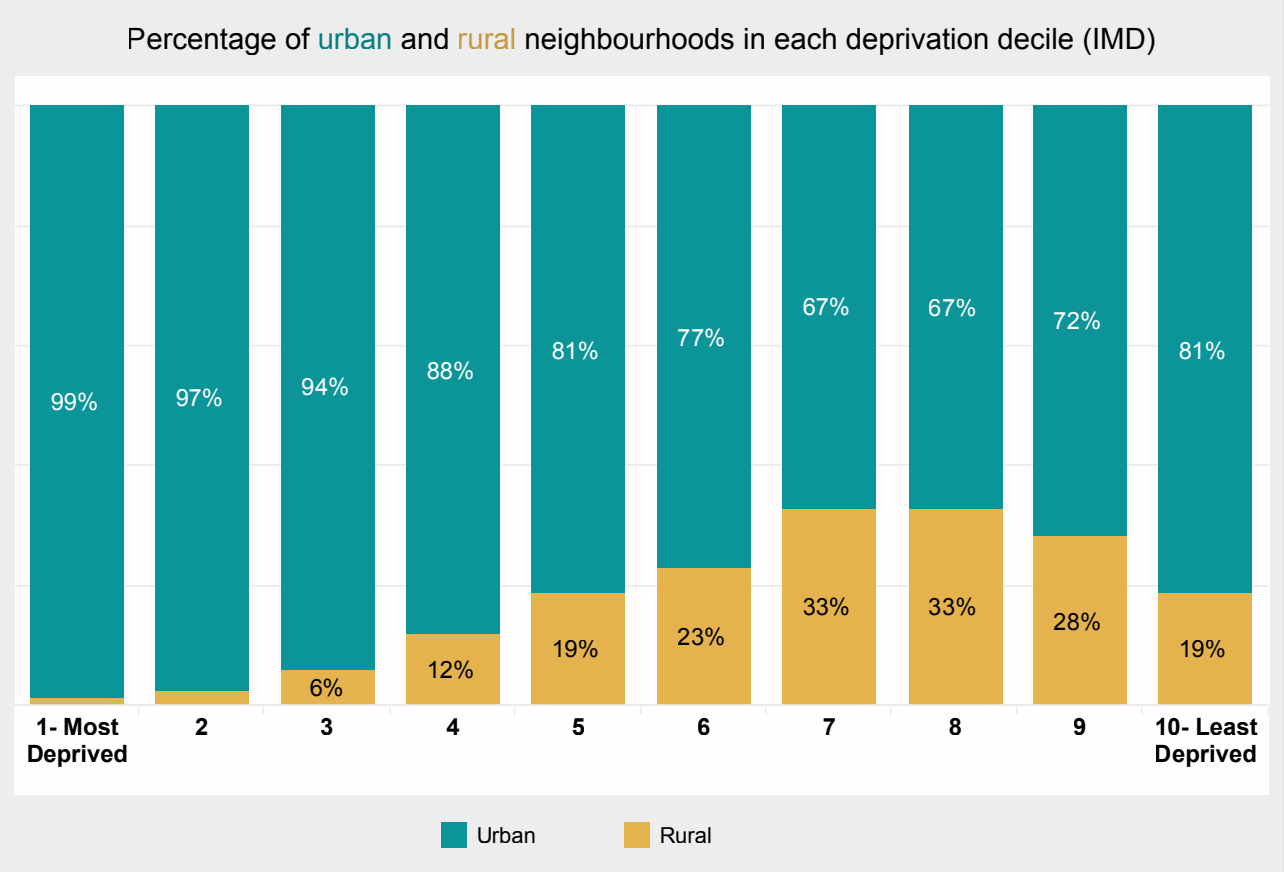
Figure 4.78: Residents within Lambeth and Southwark who experience food insecurity

Survey respondents who answered they either "had smaller meals/skipped meals", "been hungry but not eaten" or "not eaten for a whole day" in the last six months



Source: Opinium & ClearView Research, Health & Wellbeing in Lambeth & Southwark: Insights from Local Communities – 2024

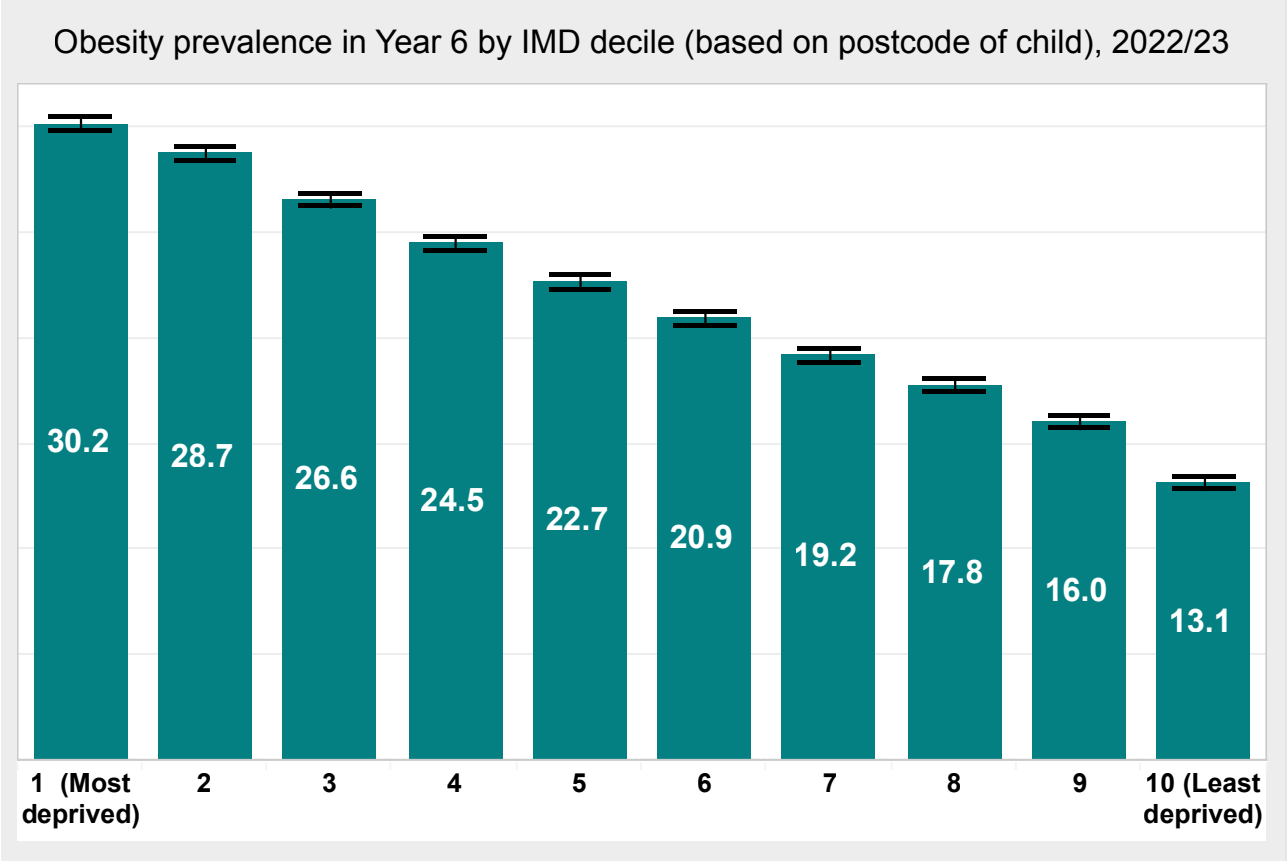
Figure 4.79: 99% of the most deprived neighbourhoods in the UK are classified as urban



Source: Urban/rural classification – Office for National Statistics. Index of Multiple deprivation deciles 2019 – Office for National Statistics

Children and families living in inner-city areas are less likely to have access to healthy, affordable food options in local retailers, restaurants and takeaways.[9] They are also disproportionately exposed to unhealthy food advertising, which drives additional consumption of unhealthy food and drink.[10] Four out of five outdoor billboards in England and Wales are in poorer areas and many of these are advertising junk food.[11] These areas are also often saturated with fast-food outlets (physically and online).[12]

Figure 4.80: Prevalence of obesity in the most deprived areas was twice as high as those in the least deprived

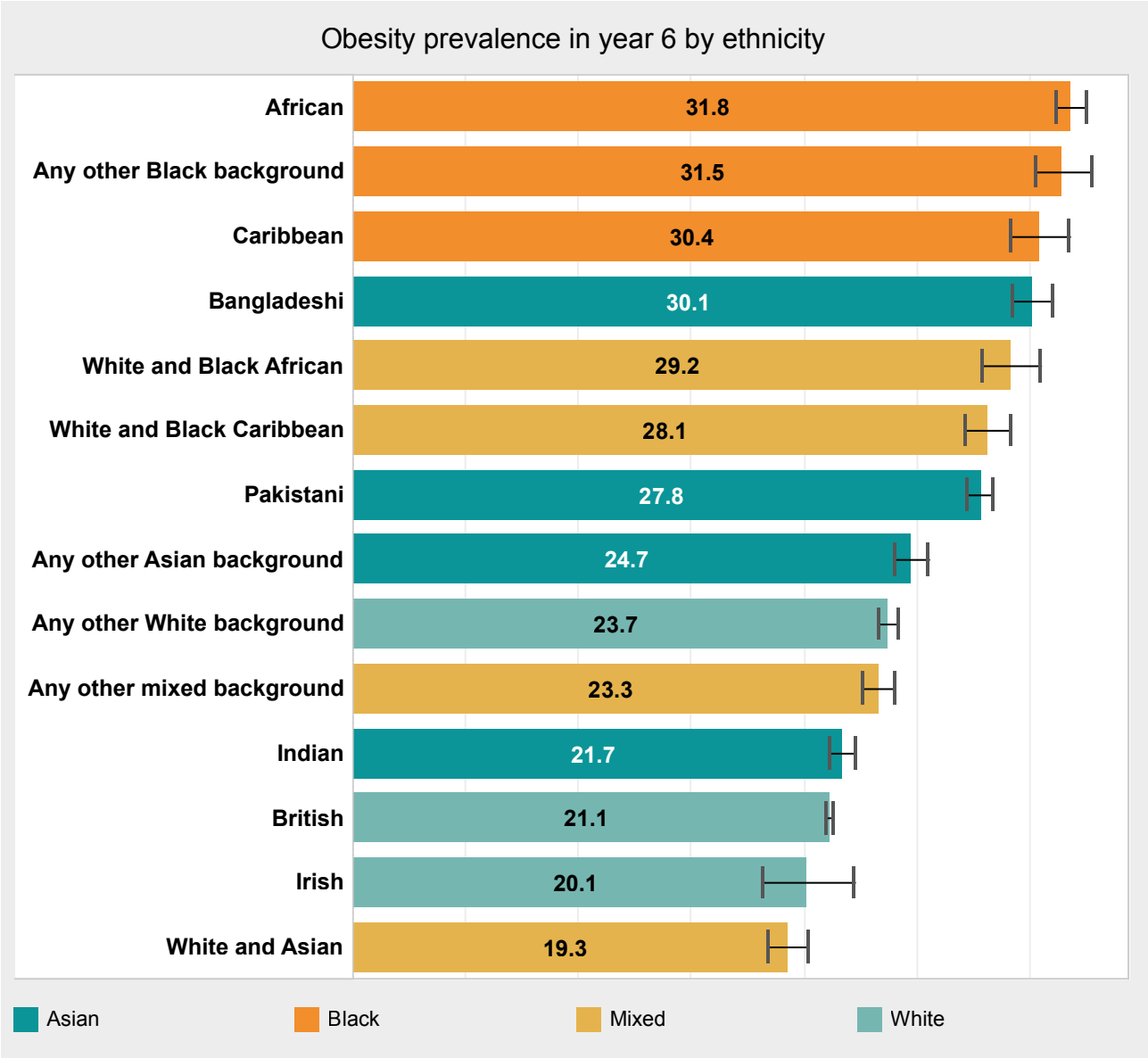


Source: Index of multiple deprivation deciles 2019 – Office for National Statistics.

Further, prevalence of severe obesity in the most deprived areas was over four times as high as those in the least deprived.[13]

In urban areas like Lambeth and Southwark, structural racism intersects with economic disadvantage to create additional barriers to healthy food access for Black and racially minoritised children and families. Those from minority ethnic backgrounds are more likely to live in an inner-city area and therefore have access to fewer affordable, healthy food options in local food retailers, restaurants and take-aways. In London, Trust for London census analysis shows a clear correlation between neighbourhoods with higher proportions of Black African Londoners and neighbourhoods that are more deprived. None of London's 10% least deprived neighbourhoods have a Black African population of higher than 5% – but all of London's most deprived boroughs do, bar one.[14] A higher proportion of Black or Asian Londoners have experienced poverty and food insecurity compared to White British Londoners. We see the influence of these systemic factors reflected in racial health inequalities, with Black and Asian children experiencing higher obesity rates compared to the national average.[15]

Figure 4.81: Prevalence of obesity across different ethnic groups



Source: National Child Measurement Programme, NHS Digital

Practical and joined-up steps can be taken to enable a more equitable food system which better serves health. The national and international food industry shapes what is on the shelves in local areas, through the ways they market and sell their products. City councils and local authorities, third sector organisations and independent local food businesses all have a role to play in improving access to healthy, affordable and appropriate food.

The places where children spend much of their time, such as school settings, can put healthy, affordable food within reach of all children, allowing them to learn and thrive no matter which neighbourhood they grow up in. And the way all stakeholders involved in our food systems think and talk about food-related ill health in cities has an effect on the decisions that get made about children's health.

The role of the national/international food industry in shaping food environments

The food environments in which we live, shop and eat are local but the levers for improving them are mainly national. In July 2024, 95% of the national grocery market share was held by national supermarket chains, with over 55% of market share held by the largest three – Tesco, Sainsbury's and Asda.[16] The local and national are intertwined in terms of food policy and the potential solutions for tackling health inequalities. However, the impacts of these policies are often disproportionately felt, both positively and negatively, in high density urban areas.

Meaningful change to food environments is possible, especially if incentives are tweaked so children's health is prioritised. For example, via a package of measures designed to address key factors that can create barriers to change:

- Transparency and accountability – addressed through targets on healthy food sales and mandatory reporting on metrics related to food sales.
- Incentivisation – addressed through a levy on unhealthy food products and by encouraging innovation in the food industry.

Such measures could level the playing field for large industry actors, pave the way for progressive business and improve accountability for those who hold huge influence over children's health. Measures that were previously tabled and subsequently delayed, such as these have since been introduced volume price restrictions could also help to make eating healthier the easiest option, not the hardest.[17,18]

Data transparency and healthy sales targets

Analysis conducted in 2022 by the University of Oxford on behalf of Bite Back 2030 indicates that for seven of the 10 biggest global food and drink businesses operating in the UK, more than two-thirds of their packaged food and drink sales came from products that are classed as high in fat, sugar, or salt (HFSS).[19] Just two businesses in the top 10 take less than a third of their sales from unhealthy products.

Case Study 1: ShareAction's Healthy Markets coalition

Impact on Urban Health and its endowment (via Guy's and St Thomas' Foundation) have been working with ShareAction since 2019 to engage food companies on nutrition. ShareAction run the Healthy Markets Initiative of 47 investors, which forms part of the broader Long-term Investors in People's Health coalition representing ~$5 trillion in assets under management.

Healthy Markets has had two consistent asks:

1. companies report the healthiness of their sales using a government-endorsed definition
2. they set a target to increase the proportion of healthy sales.

In 2019, no UK retailers met the first ask and only two had targets. By 2023 at least six of the largest UK retailers disclosed and at least 60% of the UK grocery market had targets. This shows that investor engagement can be effective at encouraging corporate leadership, especially when supported by pressure from elsewhere in the system (e.g. HFSS regulation).

In 2023, the Government launched the Food Data Transparency Partnership (FDTP), which includes a requirement for business to report on health metrics, later changed to a voluntary responsibility.[20] This voluntary aspect, combined with a lack of clarity on metrics and frameworks, has meant a delay in transitioning to new commitments and a lack of transparency and consistency in reporting in terms of healthy eating. A lack of consistency makes a comparison of companies' progress by policymakers and investors challenging. The following solutions could be an important way to resolve this issue:

Possible solutions:

7. The National Food Strategy (2021) recommends that all food companies with 250 staff or more should publish an annual report on:
    - Sales of food and drink high in fat, sugar or salt (HFSS) excluding alcohol
    - Sales of protein by type (of meat, dairy, fish, plant, or alternative protein) and origin
    - Sales of vegetables
    - Sales of fruit
    - Sales of major nutrients: fibre, saturated fat, sugar and salt
    - Food waste
    - Total food and drink sales.[21]
8. The introduction of healthy sales targets for food businesses. The targets could either be based on a binary HFSS classification or a continuous classification using the Nutrient Profile Model.[22]

Reformulating recipes to create healthier products

Past and present governments have recognised the importance of reformulating the recipes of food and drink options to reduce the amount of fat, salt and sugar in products. However, failure to mandate this approach instead of voluntary action has failed to deliver meaningful progress, as exampled by the relative failure of recent sugar and calorie reduction programmes.[23]

For example, the sugar reduction programme was launched in 2016 and set an ambition for all sectors of the food industry to voluntarily reduce sugar by 20% by 2020 in the food categories that contribute most to the intakes of children aged up to 18 years. The results of a government report on progress from 2017 to 2021 show that 'generally limited progress has been achieved in working towards the ambitions and guidelines set for the calorie reduction workstream.

In addition, total volume and calorie sales increased in a number of food categories in the retailer and manufacturing sector'.[24]

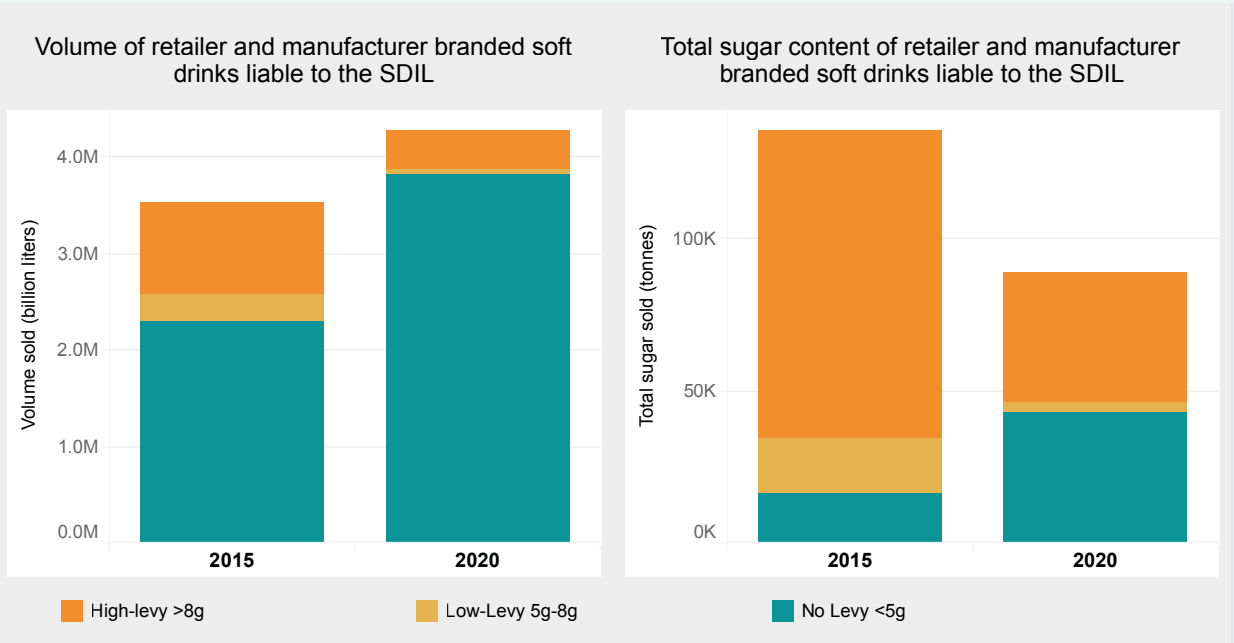
Case study 2: Recipe for Change

Impact on Urban Health has been supporting the Recipe for Change (RfC) coalition, whose recent report set out two potential models for a levy to incentivise the food and drink industry to make changes:

- an industry-wide levy on salt and sugar proposed in the National Food Strategy (NFS)
- a category-based tax like Soft Drinks Industry Levy (SDIL) (to include, for example, confectionary, but exclude staples like bread).[25,26]

The SDIL was a landmark public health intervention and demonstrated that industry can be incentivised to provide healthier products through fiscal measures without harming sales or profitability. While sales of soft drinks rose by 15% in the four years after the introduction of SDIL, the total sugar sold in soft drinks decreased by 35% and there is recent compelling evidence that SDIL is already having tangible and positive health impacts for children. [27,28,29] Further, evidence suggests that the largest reductions in sugar intake resulting from the SDIL have been in families living on low incomes.[30]

Figure 4.82: Total sugar consumed decreased between 2015 and 2020, whilst in the same period the volume of drinks sold increased



Source: Institute for Government analysis of Public Health England, Sugar reduction: progress reports, 2015-2020

Modelling commissioned by RfC and carried out by the London School of Hygiene and Tropical Medicine showed that the levy proposed by the NFS could prevent up to two million cases of disease and provide gains of around 3.7 million quality adjusted life years, with an economic value worth £77.9 billion over 25 years. In addition, the levy is modelled as raising £2.9 to £3.4 billion for the Treasury annually.[31] It is popular with the public as well – in recent Health Foundation polling 58% of those surveyed support the introduction of a tax on organisations that produce food high in sugar or salt.[32]

Impact on Urban Health suggest these possible solutions, as highlighted by the RfC:

1. A broad upstream sugar and salt reformulation levy applied to all sugar and salt sold for use in HFSS food or in restaurants and catering and paid by the manufacturers and importers of HFSS.
2. A levy applied to certain categories only, targeting a selection of non-staple products that contribute significantly to excess sugar or salt consumption, to drive reformulation.
3. Applying an excess profits levy to retailers or producers of products with high sugar and salt content.

Incentivising healthy innovation in the food and drink industry

Even when retailers are motivated to promote and market healthier products, there need to be healthy alternatives in the development pipeline. Innovative and healthy food-and-drink start-ups face challenges in scaling their businesses to reach customers, limiting the options which retailers can provide.

The Good Food Programme, an accelerator fund that Impact on Urban Health has supported to scale Healthy Challenger Brands (HCBs), has supported 13 brands over the last two years, including Urban Legend and Insane Grain.[33] The brands have collectively raised £6.5 million since joining the scheme in 2020, with seven securing supermarket listings, and evidence has shown consumers switching from unhealthier products to these healthier alternatives.[34] The Government can regulate to support healthier products reaching shelves, but it can also nurture home-grown innovation through targeted support for HCBs.

Possible solution: Building on the success of the Good Food Programme, with small grants of £15,000 demonstrably improving businesses' ability to scale, government could act as the catalyst to support HCBs to scale and launch successfully into the marketplace – and ultimately deliver healthier products. This can be done by creating a targeted grant and support programme structured similarly to the Digital Growth Grant to provide minimum grants to pre-seed/seed investments.

The role of the local food economy

Local areas can model how food environments can be redesigned to prioritise health by testing possible solutions. Taking a collaborative approach and centring equity can strengthen local small-to-medium businesses, benefit city and local economies and address the needs of racially minoritised people and deprived communities.

The lived experience of those in affected communities should be centred in the design of solutions that impact them. The following are examples of work happening in Lambeth and Southwark to produce findings around putting healthy, affordable, culturally appropriate food in reach of children and families at the intersection of economic disadvantage and structural racism.

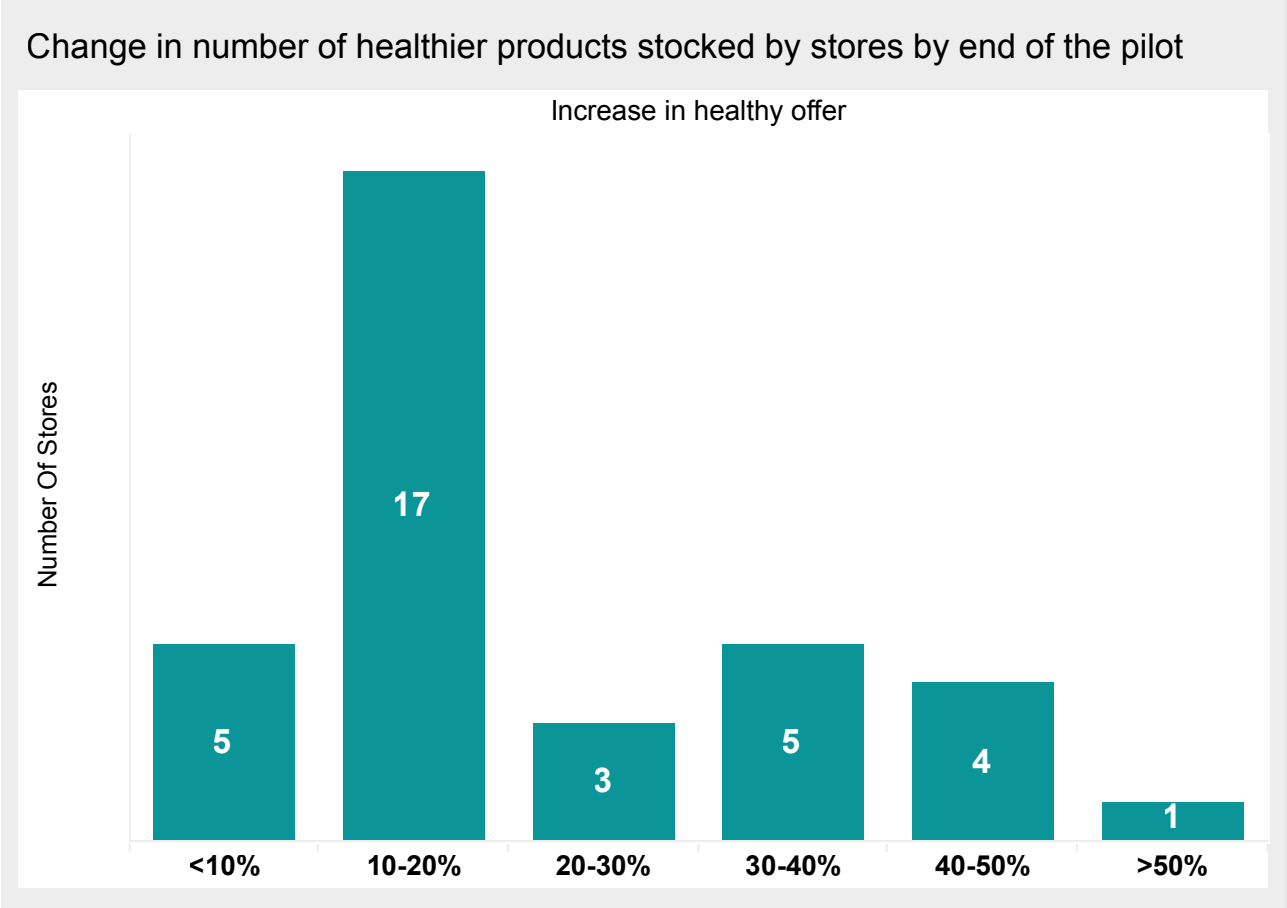
The role of convenience stores

Convenience stores are often the most accessible retail option in lower-income neighbourhoods. Often located within urban food deserts, they tend to be less healthy than supermarkets, with smaller product ranges frequently focusing on confectionery, alcohol and fizzy drinks.[35] However, the convenience sector can play an enabling role in supporting healthier food options for the diversity of communities that live in inner-city neighbourhoods.

Our Good Food Retail pilot with Rice Marketing helped wholesalers and 35 convenience stores in Lambeth and Southwark to identify and stock healthier foods on their shelves.[36] A framework of 100 healthier lines was created, from which tailored recommendations were made on which healthier products each retailer should stock. The pilot:

- Saw retailers increase the availability of healthier options on the shelf by an average of 22% and the volume of sales of the healthier range increase by 18% at Bestway, the wholesale project partner.
- Found that all retailers intended to keep these products on the shelf and further grow their healthier ranges, demonstrating the sales value these products have brought to their businesses.

Figure 4.83: Majority of stores increased their healthy food offer



Source: Putting health at the heart of convenience: Lessons from the Good Food Retail Pilot, Impact on Urban Health

This is a key example of how city authorities can support work like this to scale. Other London boroughs are now replicating the model.[37]

Following this pilot, Impact on Urban Health funded an additional project in Southwark, working with 20 stores to understand what an accessible range would need to look like in the convenience sector to serve the needs of the Black African and Black Afro-Caribbean community. The research found that many Black African and Black Afro-Caribbean families rely on these stores not just for convenience, but also because they may not be able to access foods of cultural importance in larger supermarkets.[38] Research further found that health – in common with the broader convenience sector – has not been a driving factor for many of these retailers.

The findings indicate the need for:

- A 100 healthier lines framework specifically for Black communities with a broad range of African/Afro-Caribbean lines that are widely available in retail and wholesale.
- Further consideration of affordability to ensure that independent retailers can offer healthy product ranges that serve a Black African and Black Afro-Caribbean customer base.
- Wider dissemination and promotion of the African and Caribbean Eatwell Guide, a resource outlining examples of a healthy, balanced diet.[39]

Policy makers could consider how they can incentivise the sector nationally. This could be through grants for local authorities to drive progress in place, through targeted business rates relief for exceptional stores and through extending HFSS legislation to include convenience retailers.

Improving equity in local food systems

The Black Food Fund is a two-year learning initiative in Lambeth and Southwark, designed to support Black change-makers in the local food system.[40] The fund offers grants to local food entrepreneurs and community businesses. Its goal is to create a healthier, more equitable food environment for Black residents. Managed by Black community leaders, the fund emphasises local action, long-term impact and community engagement.

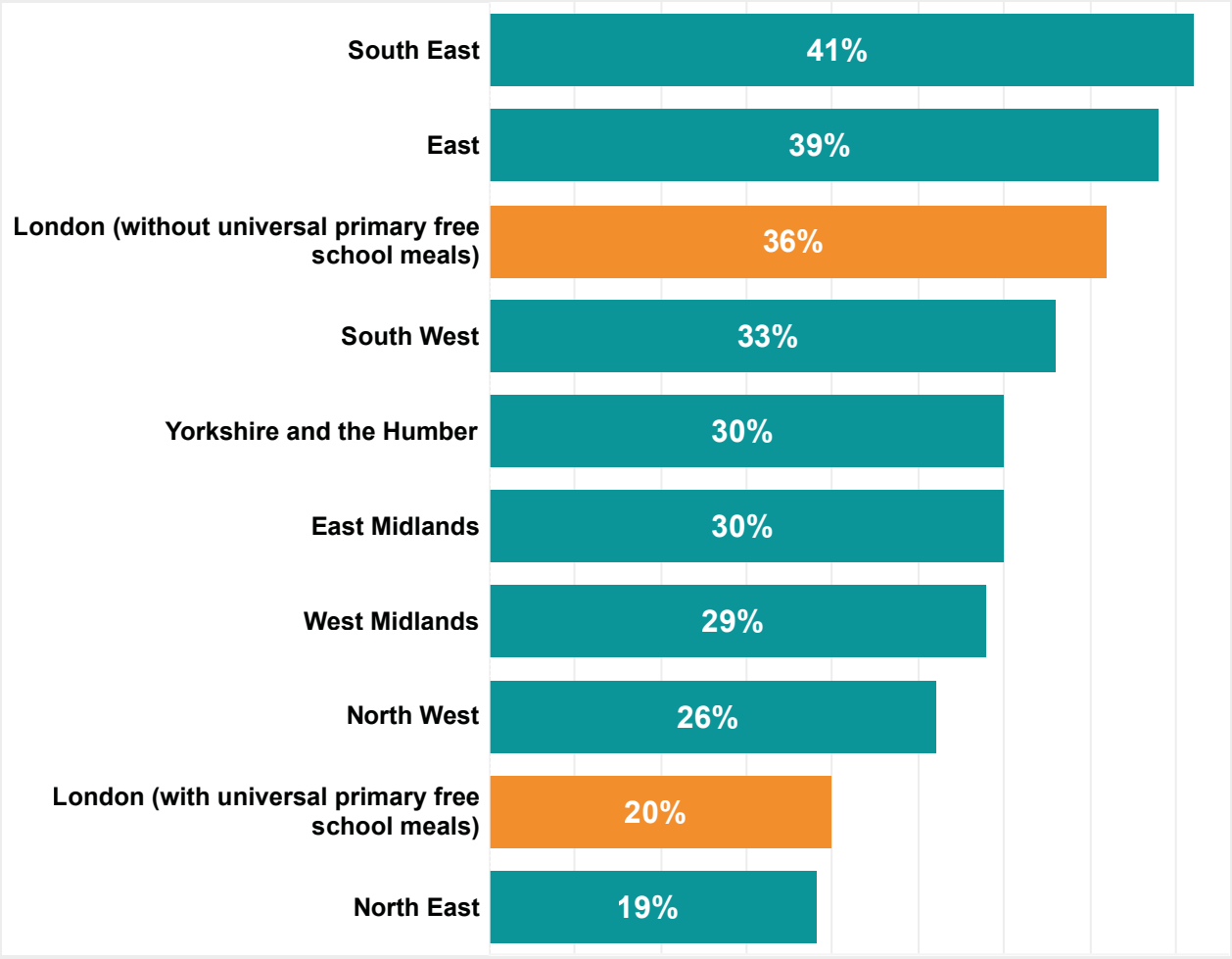
The role of schools

Good school food helps children thrive, bringing significant benefits to health and attainment and can enhance lifetime productivity.[41,42] Children spend 190 days a year in the school environment – a key opportunity to improve access to healthy, fresh, culturally appropriate food. This is particularly important for children living in low-income urban areas where access to such food outside of school is more challenging.

From Year 3 onwards, provision of free school meals (FSM) in England is means-tested, with the threshold to get FSM for families in receipt of universal credit being a combined household income of £7,400 or less before benefits. This is a more restrictive income threshold than in Scotland and Northern Ireland. This means that a third of school-age children in England (900,000) living in poverty do not receive FSM because of the eligibility criteria for the means-tested provision.[43]

Figure 4.84: High proportion of children in poverty missing out on FSM

Children in poverty who miss out on free school meals across the different regions of England



Source: Child Poverty Action Group (CPAG)

The importance of expanding FSM provision to support child health has been recognised in Wales, Scotland and now London, with the London Mayor committing to extending provision for all primary school children through to 2024/25. Even so, given the low national threshold, there is still a significant number of secondary school children in poverty in London missing out on FSM.

In 2022, Impact on Urban Health commissioned PwC to undertake an analysis of FSM expansion, which demonstrated that increasing provision could support families through cost-of-living pressures, and support children's health and wellbeing in the long-term. The research found clear economic return on investment as well as additional social benefits; for every £1 invested in extending free school meal entitlement to those in receipt of Universal Credit, £1.38 would be returned to the Treasury.[44]

Many schools lack the resources and capacity to adhere to School Food Standards, compounded by a lack of quality assurance monitoring at a school level and inconsistencies

across national and regional funding mechanisms.[45] Currently, through our School Food Transformation programme with Southwark Council and the work of the School Food Review working group, we are evidencing how schools, central government, local authorities and caterers can work together to ensure school food systems are delivering their full potential for health and educational benefits for all children.[46, 47] This is being achieved by making joined-up improvements to entitlement criteria for FSM eligibility, quality assurance processes for school food and fairer funding mechanisms.

Impact on Urban Health recommends the expansion of FSM to all children from families in receipt of Universal Credit, with a pathway to expanding to universal entitlement as soon as possible. Alongside this, policy makers should consider strengthening and upgrading the quality assurance and funding mechanisms for school food to ensure that it is nutritious, environmentally sustainable and culturally appropriate for all school children.

Shifting the narrative on children's health and food

How we talk about children's health and food matters, but there is a disconnect between this evidence, public understanding of the issue and our cultural narrative. Impact on Urban Health partnered with FrameWorks UK to work out the best ways to build understanding and boost support for action that will improve children's health.[48]

Through our research, FrameWorks UK found that focusing on childhood obesity without the right framing and context can inadvertently activate blame and judgement. They found the dominant narrative around childhood obesity is consistent with that of adult obesity – that it is about a lack of individual willpower. This perception results in a narrowed focus on individualised solutions such as education and cooking lessons. The research showed that people think child obesity is an unfortunate and inevitable feature of modern life and is therefore unsolvable. Worse, it leads to blame on parents and those living with overweight and obesity for other challenges in our health system such as NHS capacity.

Through research with over 5,800 people in the UK, we have learnt how to talk about the issue in a way that helps build understanding of the systemic factors, reduce blame and stigma, and boost support for policies and solutions that work:

- Lead with children's health and food, over and above 'obesity'.
- Consider using the term 'food-related ill health'.*
- Talk about 'options' and 'opportunities' instead of 'choices'.
- Explain that what surrounds us, shapes us – the world around us influences our health.
- Show how unhealthy food options are placed centre-stage in children's lives.
- Bring youth voice in to highlight evidence that reinforces key messages.
- Show that food-related ill health is preventable and solvable by highlighting positive examples of change and how the places where children live and play can support their health and wellbeing.

- Appeal to the fact that the UK public have a strong sense that our society should be fairer and more equal by explaining the connection between inequality and children's access to healthy options.

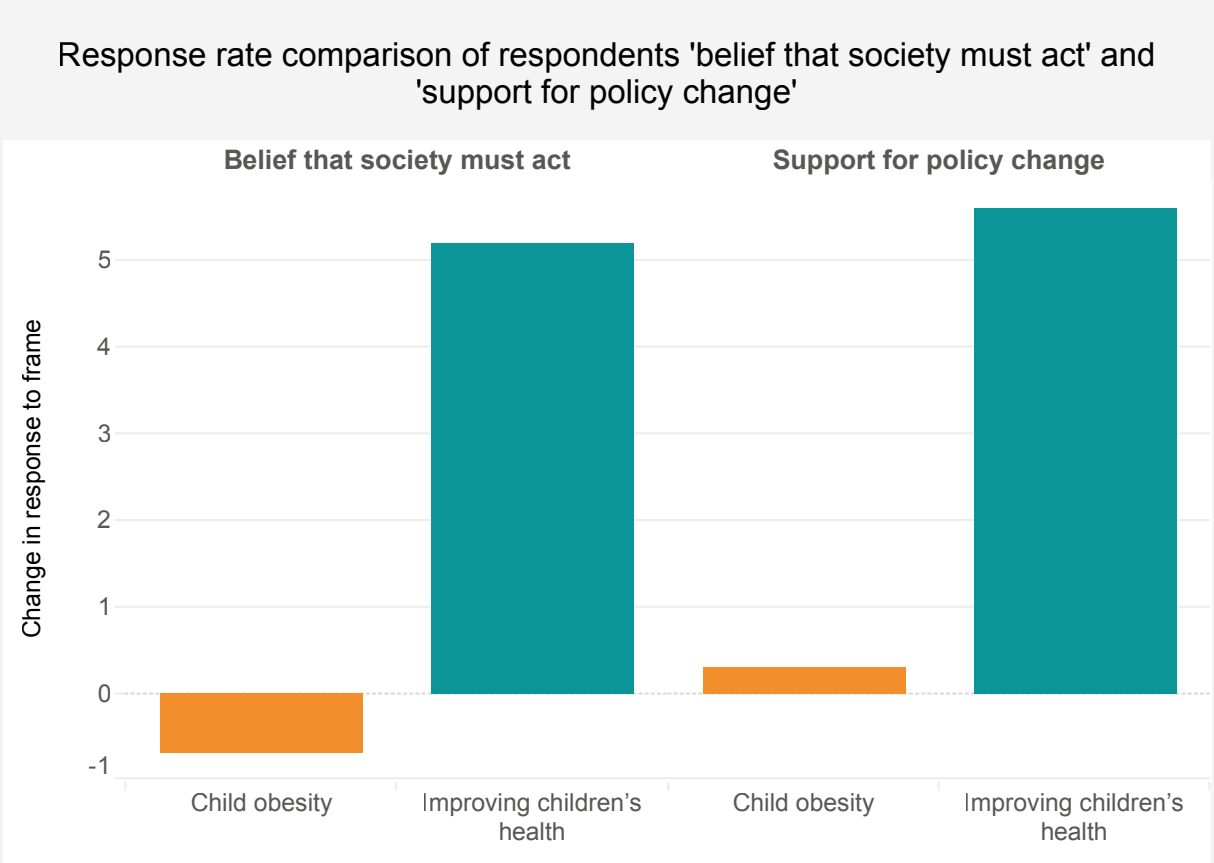
* Further research showed that talking about 'food related ill health' as a direct replacement for 'obesity' or 'childhood obesity' opens thinking about our food system, how it can be improved, and how income impacts the food that families access.[49]

By applying these findings there is an opportunity to replace the dominant mindset of blame and individual behaviour change with one of improving children's health at a systems level, to enable all children to thrive and be healthy. Campaigners, health professionals, politicians and the media can all help to shift how we collectively think and talk about the issues of food and health.

Case Study 3: Framing

FrameWorks UK tested two similar communications, with differently framed introductions. People's support for policy change and belief that society must act (collective efficacy) changed negatively or not at all when using a 'child obesity' frame. However, 'improving children's health' showed increases in both outcomes (Figure 4.85).[50]

Figure 4.85: Comparison of two different communications framed by either 'Child obesity' or 'Improving children's health'



Source: Frameworks UK – Talk about food-related ill health

Conclusion

There is a complex intersection of deprivation, ethnicity, local and national business, local and national government and policy in determining the food environments we live in and the factors that affect our health, particularly food-related ill health. This is especially apparent in inner city neighbourhoods. We hope this chapter can help policy makers identify levers to improve the urban food environment, in conjunction with those who live in those areas.

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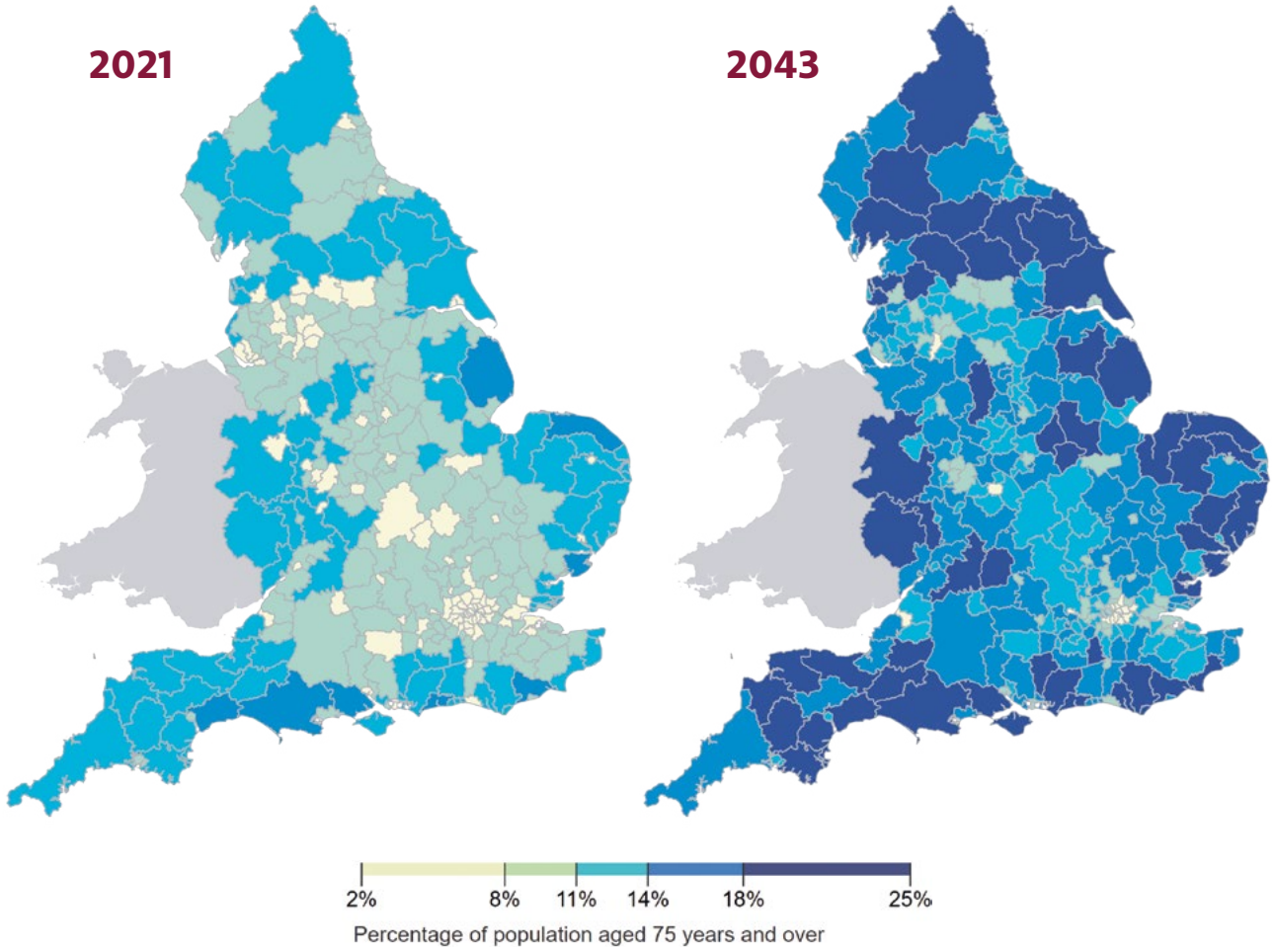
4.10 Health in an ageing population in cities

The majority of healthcare needs are in the elderly population, and the population of England is ageing. The major challenges we have to meet as a result of this have been covered in some detail in my last annual report *Health in an Ageing Society*[1] which is available online so it will only be covered very briefly here.

One of the points I made in that report is that the proportion of the population who are retired and older citizens (over 75 years for the sake of argument) is growing more rapidly in peripheral, coastal and rural areas than the major cities. This can be seen in Figure 4.86. Since the populations of young adults are not growing at that rate the age support ratios are going to become extremely adverse over time principally outside cities (Figure 4.86).

Figure 4.86: Map of England showing the projected rise in the precentage of the population aged 75 years or over

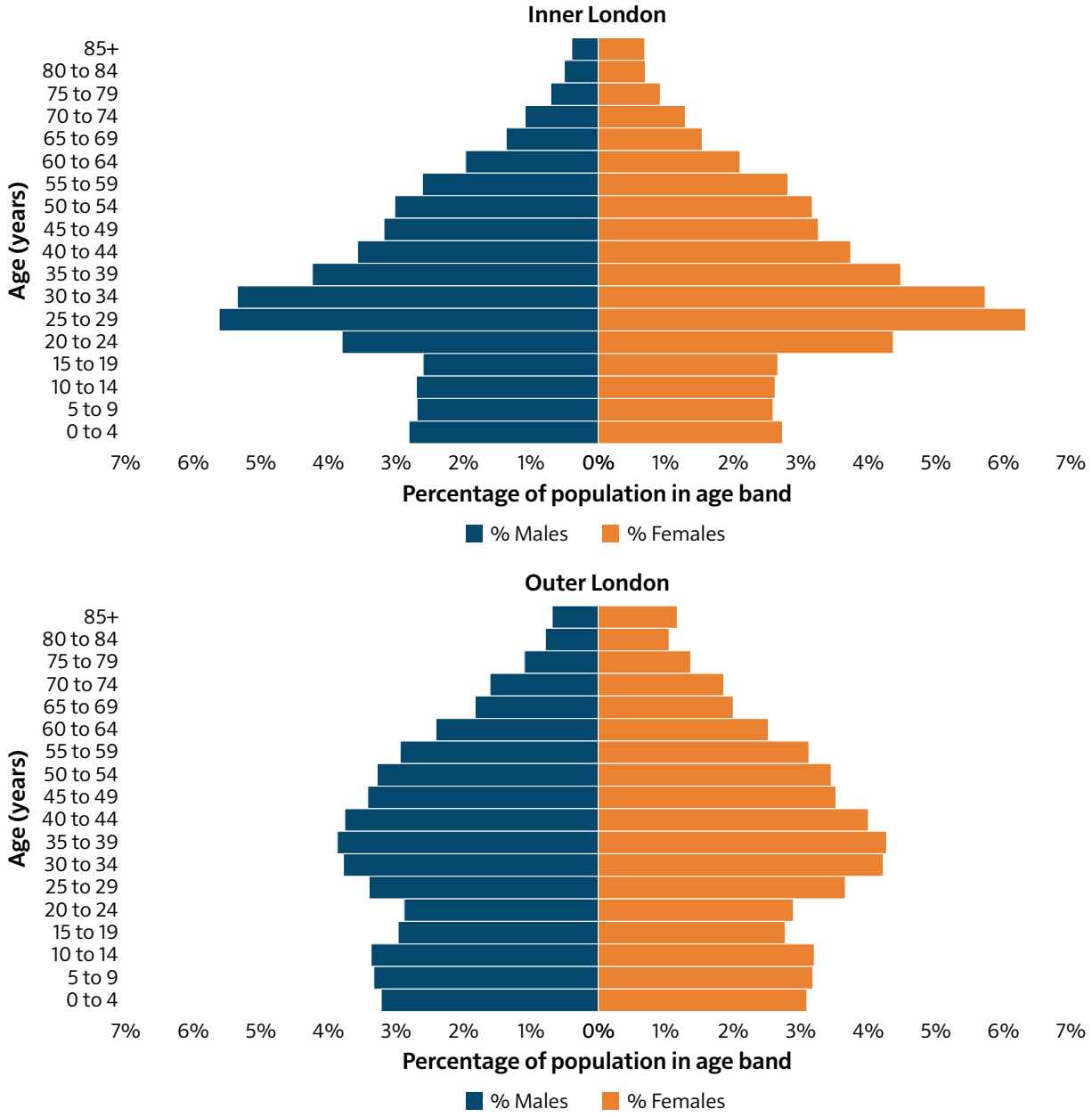


Source data: Office for National Statistics (ONS) 2021 mid-year estimates by local authority,[2] and 2018-based subnational population projections for 2043[3]

It is, however, important to recognise two realities about ageing in cities. The first is that although the relative proportion of older people will become much higher in peripheral areas, the total number of older people in cities will remain large since this is where the majority of people in England live. This point has been correctly made for example in Cheetham et al 2024[4] – in England and Wales 82% of the population live in urban areas, and three in four older people live in urban areas in England and Wales. It is therefore very important that we continue to think about the needs of older people in urban areas; their proportion will not increase over time as strongly as in rural and peripheral areas but in absolute numbers they will remain a major part of the healthcare needs of cities. Most NHS patients in hospital in cities are older citizens.

Within cities, there is often considerable variation between the areas where very few older citizens live, and those which are much more representative of the country as a whole. In London for example inner city areas tend to have very high concentrations of young adults whilst Greater London around the periphery has a much more typical age mix (Figure 4.87).

Figure 4.87: Inner v outer London population pyramids



Data source: ONS, "Towns and cities, characteristics of built-up areas, England and Wales: Census 2021"

Secondly, older citizens have specific health related advantages and disadvantages in a city.

Some of this is based on housing. Inner city housing tends to be dominated by flats in the UK often with limited or no lifts. As mobility decreases the need to navigate several flights of stairs can become a significant barrier for older people; set against this over a lifetime going up and downstairs is positive for physical health. In more peripheral areas rows of houses typically in a '2 up 2 down' design are often not ideal as mobility decreases. Compact houses with shared walls or in flats may however be easier to keep warm in winter with cold being a major risk factor for older citizens.

Public transport becomes increasingly important as mobility reduces with age. This can be less of a barrier in cities where public transport is relatively dense and distances to important

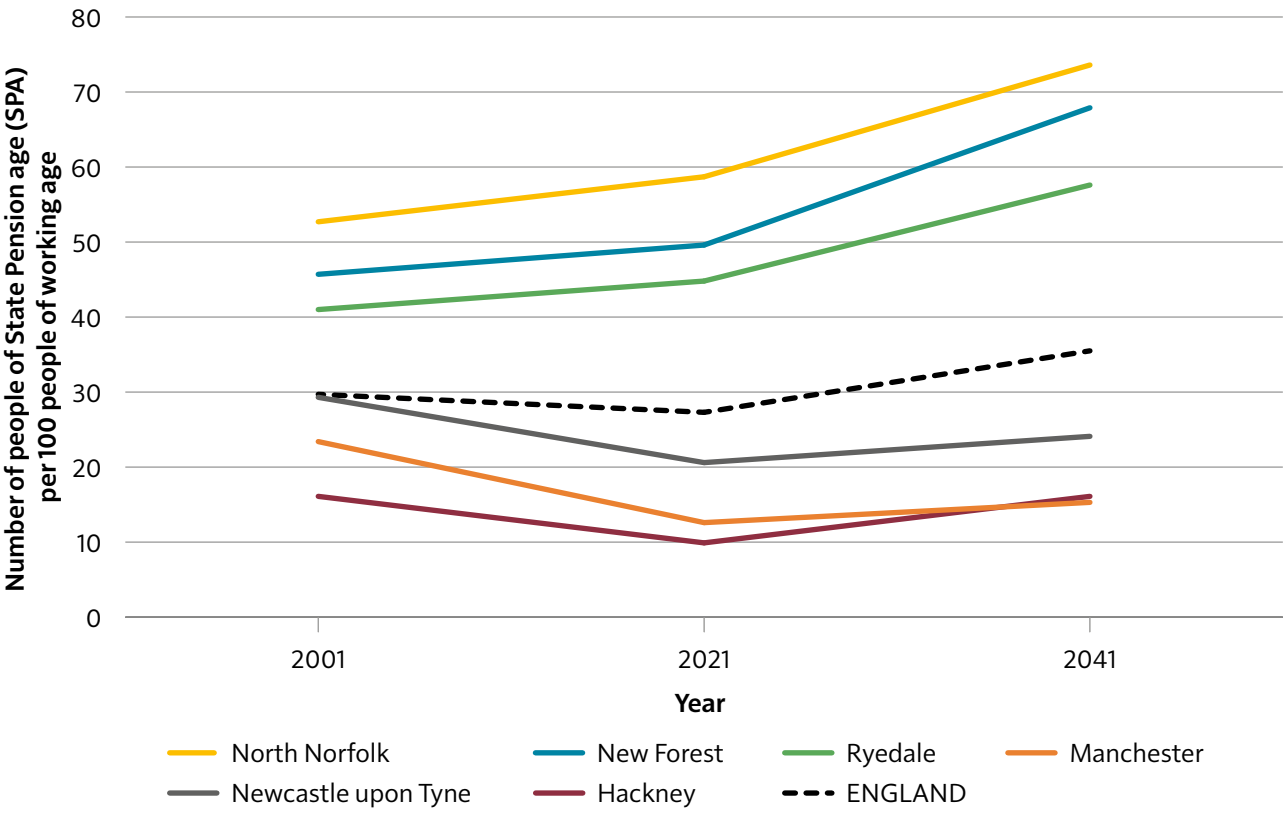
destinations including shopping, healthcare, cultural and religious centres are relatively short. Set against that availability of gardens and other easily accessible outdoor spaces is often limited particularly in areas of relative deprivation.

Air pollution is a particular risk for older citizens and is more common in cities (see chapter 4.11 on air pollution). This is particularly true for those with pre-existing cardiovascular disease, and it is also a significant risk factor for accelerating dementia.

Healthcare services are generally more accessible in cities although this is variable. Usually major hospitals and specialist centres will be in urban settings and this can be important for older people with complex health needs, increasing accessibility. On the other hand primary care including general practice can have some particular challenges in cities. Provision of healthcare services is therefore different, both better and worse, in cities for older citizens.

Because of the age support ratios maintaining staff of social care, nursing and medical care in cities is likely to be less challenging than in more rural areas but the cost of living in cities is a challenge for current models of social care delivery.

Figure 4.88: Historical and projected old age dependency ratios for six local authority districts, compared to the England average, 2001, 2021 and 2041



Source data: Office for National Statistics, mid-year estimates by local authority,[5] and 2018-based subnational population projections.[6]

The health of the increase in the ageing population of England is one of the greatest challenges we have to face up to as a society. Cities provide unique challenges but also unique opportunities for providing health and care services to older citizens as the population ages.

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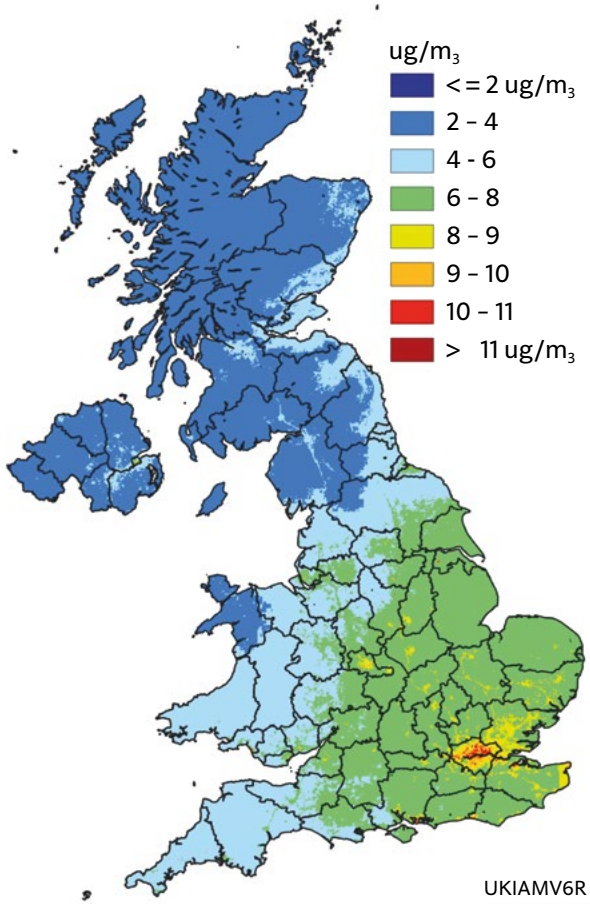
4.11 Cities and air pollution

Outdoor air pollution is a major threat to health, and particularly likely to occur in cities. Cities both have a very high density of polluting activities, in particular transport, and a very high density of people so that air pollution will have a much greater number of individuals affected than in rural areas or smaller towns. The negative health effects occur throughout the lifecourse. In pregnancy, it is associated with low birth weight. In children, asthma, slower lung development, wheezing and coughs are a common effect. In adults, there is a strong association with asthma attacks, coronary heart disease, stroke, chronic obstructive pulmonary disease and some lung cancers. In older age, additionally, dementia is associated with air pollution.

My Chief Medical Officer's report for 2022 was on air pollution and covers this subject in some detail so I will only cover the headlines in this report and encourage readers who are interested to look at the full air pollution report which is free online.[1] The major cities have particularly high levels of air pollution, particularly in areas close to major roads. This can be seen both at a national level (Figure 4.89) and in detailed pollution maps of cities such as Birmingham (Figure 4.90).

Figure 4.89: Modelled annual concentration of $PM_{2.5}$ in 2030 based on a baseline (existing agreed government action) emission reductions scenario



Source: Air Quality $PM_{2.5}$ Targets: Detailed Evidence Report. Department for Environment, Food & Rural Affairs, 2022[2]

Figure 4.90a: Annual air quality map of mean NO_2 over Birmingham for 2021

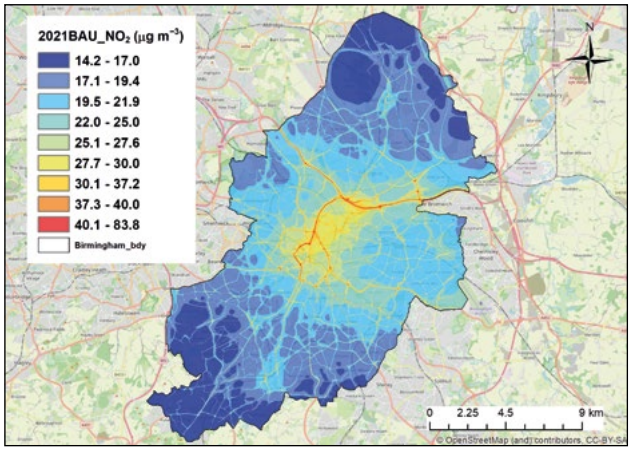
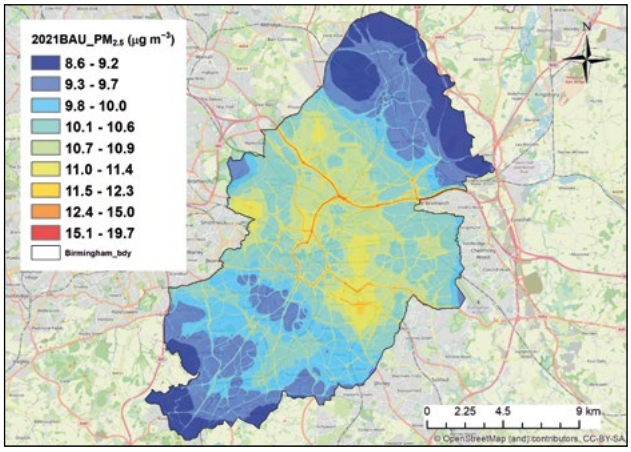


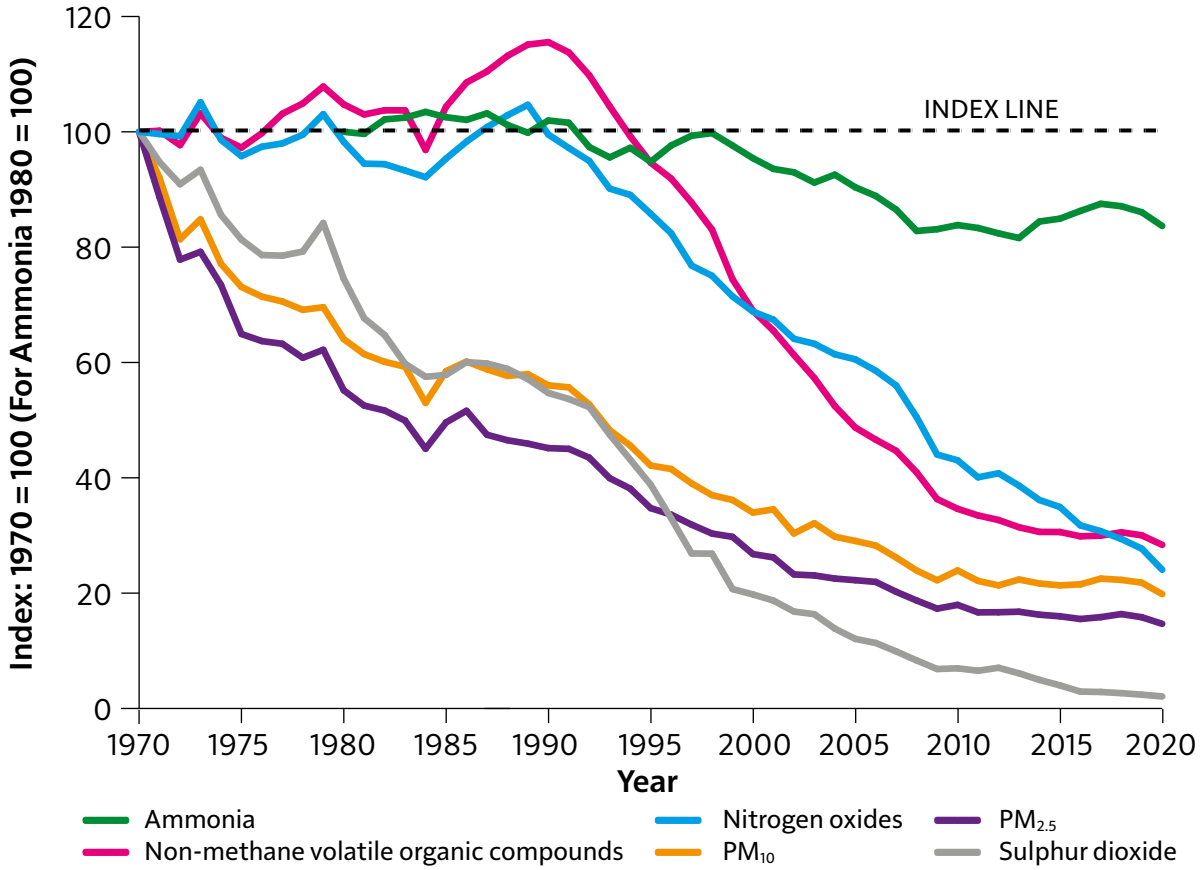
Figure 4.90b: Annual air quality map of mean $PM_{2.5}$ over Birmingham for 2021



Source: Zhong et al. (2019)[3] as part of the West Midlands Air Quality Improvement (WM-Air) programme[4]

There has been a steady decline in most emissions of outdoor air pollutants (Figure 4.91). Some have fallen a very long way such as sulphur dioxide. Important air pollutants which are particularly common in cities are particulate matter, especially $PM_{2.5}$ and nitrogen oxides.

Figure 4.91: Trends in UK emissions of air pollutants 1970-2020



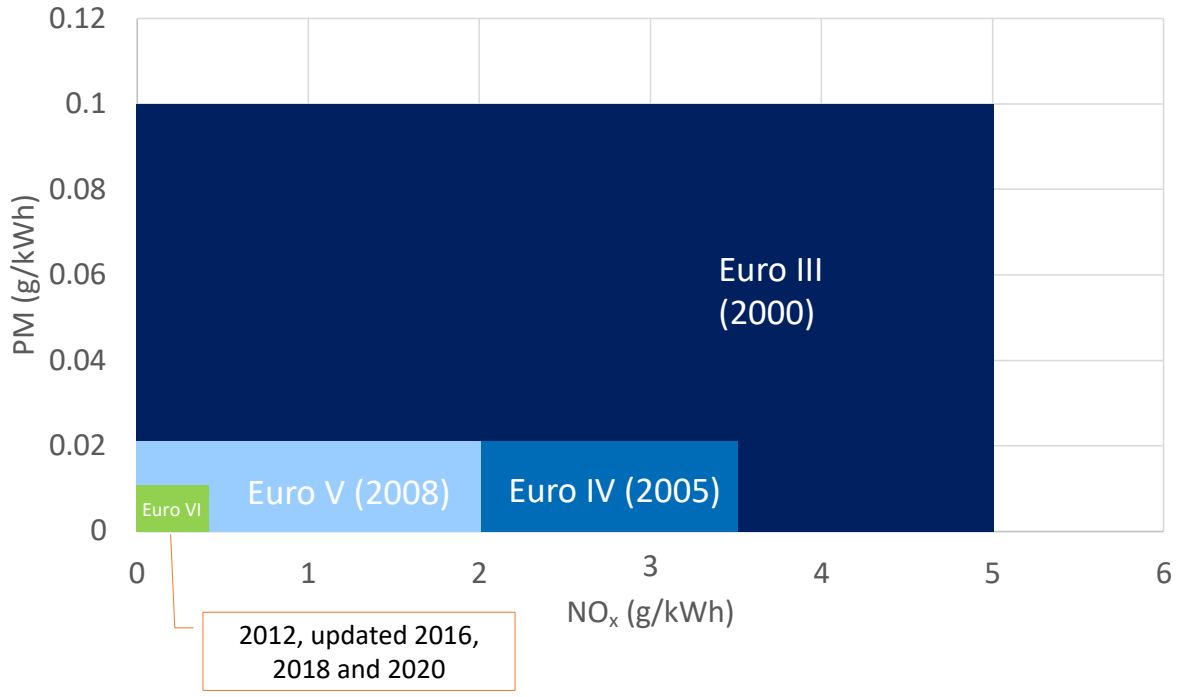
Note: The figure shows trends in annual emissions of particulate matter (PM_{10} and $PM_{2.5}$), nitrogen oxides, ammonia, non-methane volatile organic compounds, and sulphur dioxide, 1970 to 2020, expressed as a percentage change from the base year of 1970 (for ammonia the base year is 1980).

Source: Ricardo Energy & Environment. Defra (2022)[5]

Historically, heavy industry in cities played a major part in creating air pollution, in particular those which burned coal. Changes in engineering and moving heavy industry out of cities has led to a very substantial improvement.

Transport remains a major cause of air pollution. Modern cars, vans, lorries and public transport are significantly less polluting than in previous decades and there have been improvements in engineering standards which substantially reduced the amount of particulate matter and nitrogen oxides from tailpipe emissions (Figure 4.92). These will decrease further as the fleet is electrified or converted to hydrogen. Brakes are a second form of air pollution from vehicles although regenerative breaking of electrical vehicles should reduce the amount of wear. Tyre and road wear are the fourth element and larger and heavier cars are likely to lead to increased tyre and road wear causing pollution; this needs to be addressed.

Figure 4.92: Evolution of NO_x and PM standards for buses and trucks

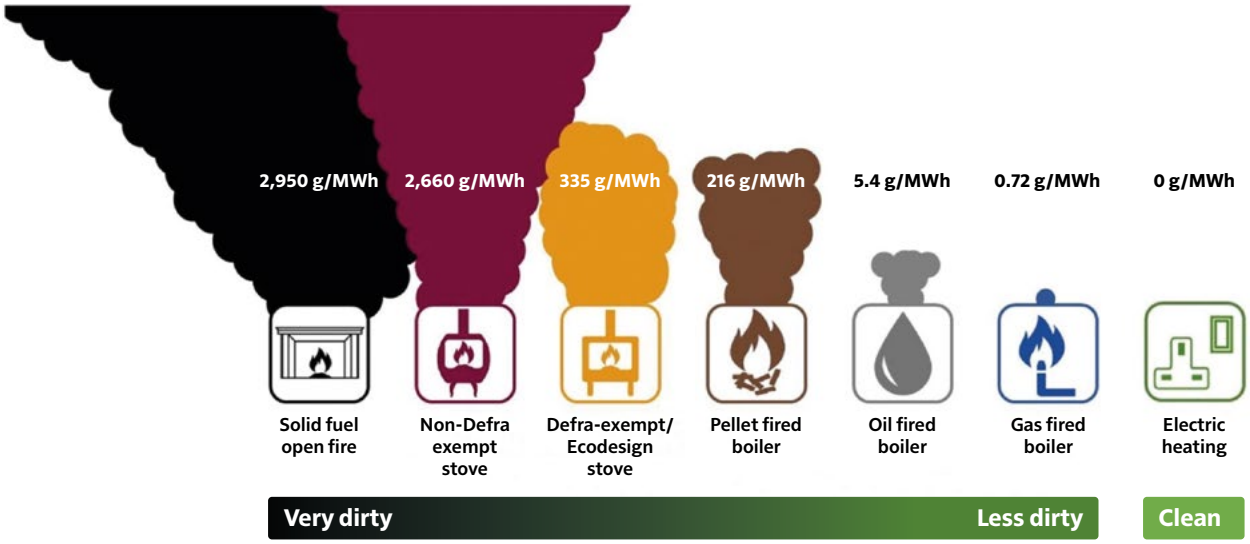


Note: Absolute NO_x amounts 10x scale of light duty vehicles, and per kWh rather than per km.
Source: Chart created with data from Worldwide Emissions Standards and Delphi Technologies, 2018/19[6]

Certain aspects of air pollution from vehicles in cities should be relatively easy to eliminate. Public transport, in particular buses but also underground systems can be highly polluting in particular from older units. Public authorities should be taking every opportunity to move away from polluting older buses and other forms of public transport. The least polluting form of transport is active travel, covered in a separate chapter of this report. Action to reduce the density of the more polluting vehicles in cities can have a very positive effect on air pollution; this includes low emission zones. Many detailed examples of vehicles which could be less polluting exist; examples are diesel trains idling in stations, or the diesel units on refrigerated delivery vans where the refrigeration generator may produce more pollution than the van engine. Until recently domestic space heating has over many decades previously been improving with the switch away from coal and other highly polluting solid fuels to gas which

produces very little air pollution and electric heating which produces none (Figure 4.93). Unfortunately, an enthusiasm for wood burners has reversed this positive trend over the last decade in many cities, particularly in affluent areas. In urban areas where there are already laws to enforce smokeless fuels, for good reason because air pollution is extremely dangerous at high concentrations, these should be adhered to. Elsewhere in lower density areas, occasional use of modern design wood burners using dry wood for aesthetic reasons is usually reasonable but continual discharge of particulate matter (PM) from solid fuels such as wood is not good for health, especially of vulnerable people. Cities are not a good place to have high levels of pollution since large numbers of people live in close proximity and if each household emits a moderate amount of avoidable pollution the collective impact can be significant.

Figure 4.93: The relative $PM_{2.5}$ emissions from domestic heating methods



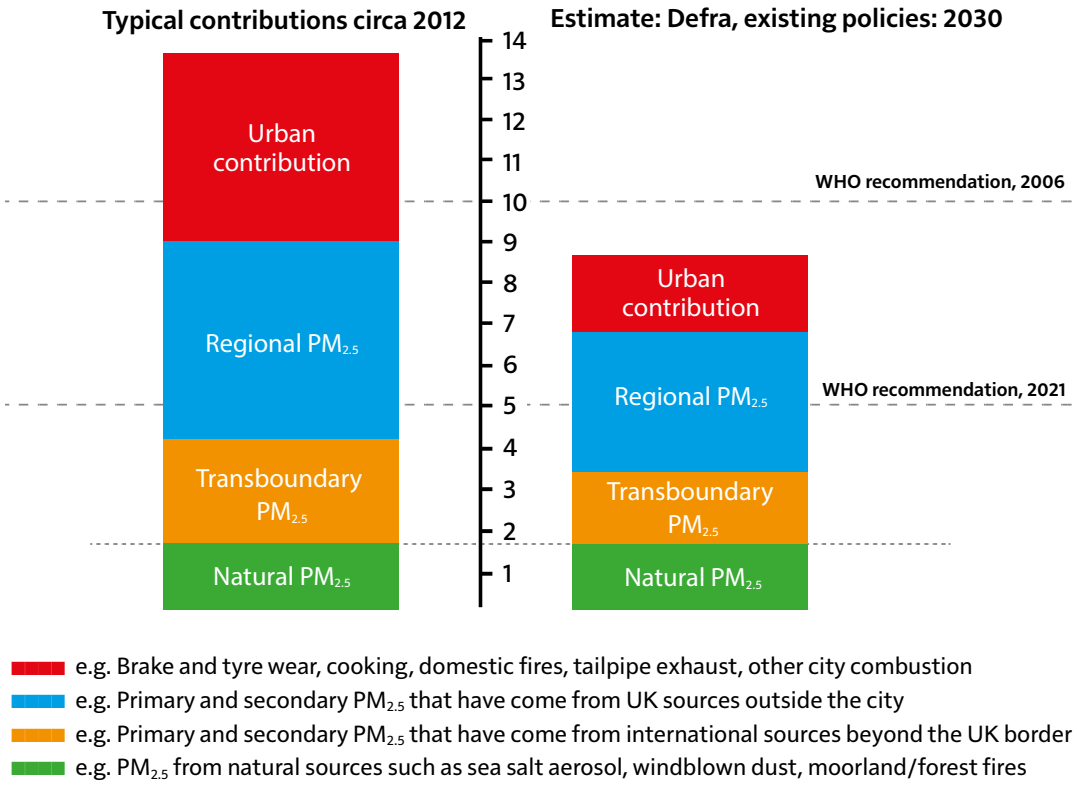
Note: The air pollution emissions will also depend on the age of the appliance, how it is maintained and used and the fuel burned (for example, dry or wet wood).

The following definitions were used: *Solid fuel open fire*: wood burned in an open fire. *Non-Defra-exempt stove*: wood in a conventional stove. *Defra-exempt/Ecodesign stove*: wood in an advanced/ecolabelled stove. *Pellet fired boiler*: wood in pellet stoves and boilers. *Oil fired boiler*: fuel oil in a medium (>50KWth <1MWth) boiler. *Gas fired boiler*: natural gas in a small (≤50kWth) boiler.

Source: Emission factors taken from EMEP 2019 Guidebook[7] (1A4 small combustion tables). Adapted from the Clean Air Strategy[8] with updated data

It is important to be aware that some of the air pollution in cities comes from external sources (Figure 4.94). Some of this is carried over long distances including transnationally and some is from settings such as secondary particulate matter derived from ammonia used in agriculture. Addressing this is covered in the 2022 CMO annual report on air pollution.[9]

Figure 4.94: A qualitative representation of the different contributing sources to $PM_{2.5}$ that might be experienced in a typical urban centre (England)



Left: the period circa 2012 (based on materials in reference 3). Right: contributing sources that might be anticipated in 2030 based on the author's evaluation of impacts arising from likely emissions reduction by 2030. Y-axis is atmospheric concentration in units of µg/m[10].

Source: AQEG (2015)[10] and ApSimon et al. (2022)[11]

Indoor air pollution is a more complex subject which is not unique to cities. What we do find in cities however is a high concentration of public buildings where many people work, undertake leisure and study. These have much in common with outdoors in the sense they are the public realm. There are further complexities to reducing indoor pollution which are covered in the 2022 CMO annual report on air pollution.[12]

We have come a long way in terms of reducing outdoor air pollution in cities over the last 100 years. We can go further in transport particularly as older and more polluting vehicles leave the national fleet. We need to ensure that the current enthusiasm for wood burners does not lead to a significant and avoidable deterioration in air quality in cities. Cities have the greatest potential to create air pollution, and the greatest potential for air pollution to cause harm due to the density of vulnerable populations. It should therefore be seen as one of the particular environmental health issues for cities to tackle.

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4.12 Infections in cities

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Introduction

Cities used to be affected by multiple epidemics and high rates of endemic diseases caused by a combination of factors including poor sanitation, crowding and poor housing. The global burden of disease and mortality caused by infectious diseases has fallen considerably in recent decades due to effective countermeasures. Despite this progress, infections remain a significant cause of ill health and rates of certain infections are higher in cities and urban areas; COVID-19 was an example of a disease initially more common in cities than smaller towns or rural environments.[1] The concentration of people in cities along with increasing urbanisation means urban living has several features which facilitate the spread of infectious diseases. This is compounded by lower rates of vaccine uptake in cities, with particular variation by socioeconomic status and demographic factors such as ethnicity.

Globally important infectious disease groups include lower respiratory tract infections (which remain among the top 10 causes of death worldwide),[2] sexually transmitted infections including HIV, diarrhoeal diseases, tuberculosis (directly transmitted) and mosquito-borne infections (for example, malaria). Many of these infections have higher or lower rates of transmission in cities compared to smaller towns and rural areas. In this chapter we consider some of the factors affecting infection transmission and detection rates in cities, disparities in vaccination rates and look at trends of sexually transmitted infections in cities.

Factors contributing to infections and outbreaks in cities

Cities have a higher population density compared with more rural places and so they present ideal conditions for person-to-person spread of respiratory infectious diseases such as influenza, measles and TB and some touch diseases such as scabies. This is in part a function of probability – the increased risk comes from a greater likelihood of an uninfected person sharing airspace with or touching someone experiencing an infection and themselves becoming infected, allowing a transmission chain to continue.

A consequence of high population density is an increase in human and other waste, raising the importance of adequate sanitation and hygiene infrastructure. This is critical to prevent food and water-borne transmission of infections which can occur without people being present in the same place at the same time. Humans have long known the importance of engineering solutions to provide clean water and (more recently) refrigeration as well as hygiene in food preparation and animal husbandry to prevent such outbreaks which – once established – can persist for a long time in city populations.

Elsewhere in the world, while most vector-borne diseases are more common in rural areas some vector-borne infections, especially Aedes mosquito associated diseases such as Dengue virus, are more common in urban and semi-urban areas. This may have implications for disease control in UK cities in the coming years as *Aedes albopictus* mosquitoes, a vector for dengue and several other viruses, has spread north throughout Europe in large part due to climate change.

A wide range of health disparities, including vaccination status, accompanied by high rates of person-to-person contact and increased global mobility results in a high risk of transmission of either novel pathogens in large urban populations or the exposure of travellers from non-endemic areas to different infections on arrival. The increased speed, convenience, distance and volume of international travel provides increased opportunity for either emergence of new diseases or the global transmission of previously known pathogens. This happens most frequently in cities as they are generally the entry point for travellers. And when outbreaks occur in densely populated cities they can be large or can spread more quickly than in rural areas.

Infection types in cities

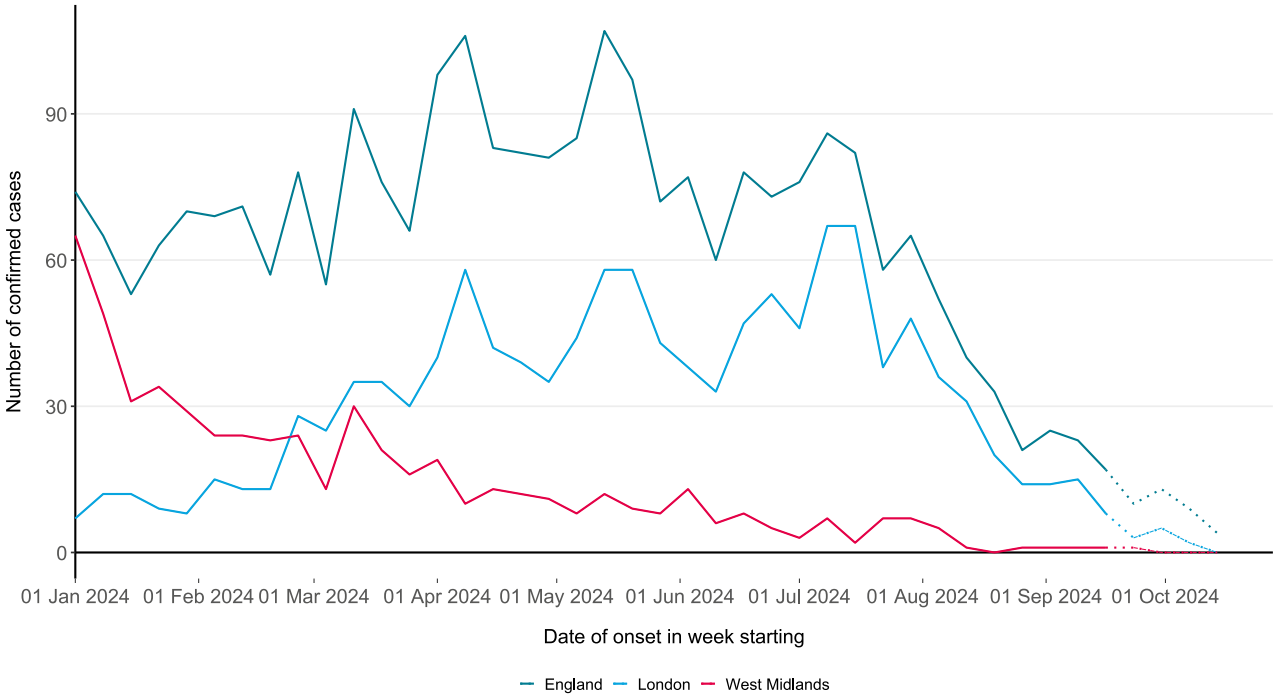
Respiratory infections

Older people are particularly vulnerable to complications of respiratory infections including severe illness and hospitalisations (see also CMO report 2023).[3] Whilst in general, large cities and built up areas have younger populations than rural areas, some cities and large towns have much higher shares of older people than others; this is particularly the case in certain coastal cities including Plymouth, which has an average age nine years higher than Nottingham or Manchester.[4] In Blackpool 16% of the population is aged over 70.

Measles

Measles is one of the most easily transmitted infectious diseases, although it is almost completely preventable with vaccination. There has been a consistent decline in uptake of the childhood vaccination programme over the last decade. This is not without consequences. Measles cases have risen in cities in England since 2023, particularly in London and – more recently – Birmingham. It is possible to catch measles at any age and infection can be severe, particularly in immunosuppressed people and young infants. During pregnancy measles infection can lead to complications such as stillbirth, preterm birth and miscarriage.[5]

Figure 4.95: Laboratory confirmed cases of measles by week of onset of rash or symptoms reported, London, West Midlands and England: 1 January 2024 to 21 October 2024



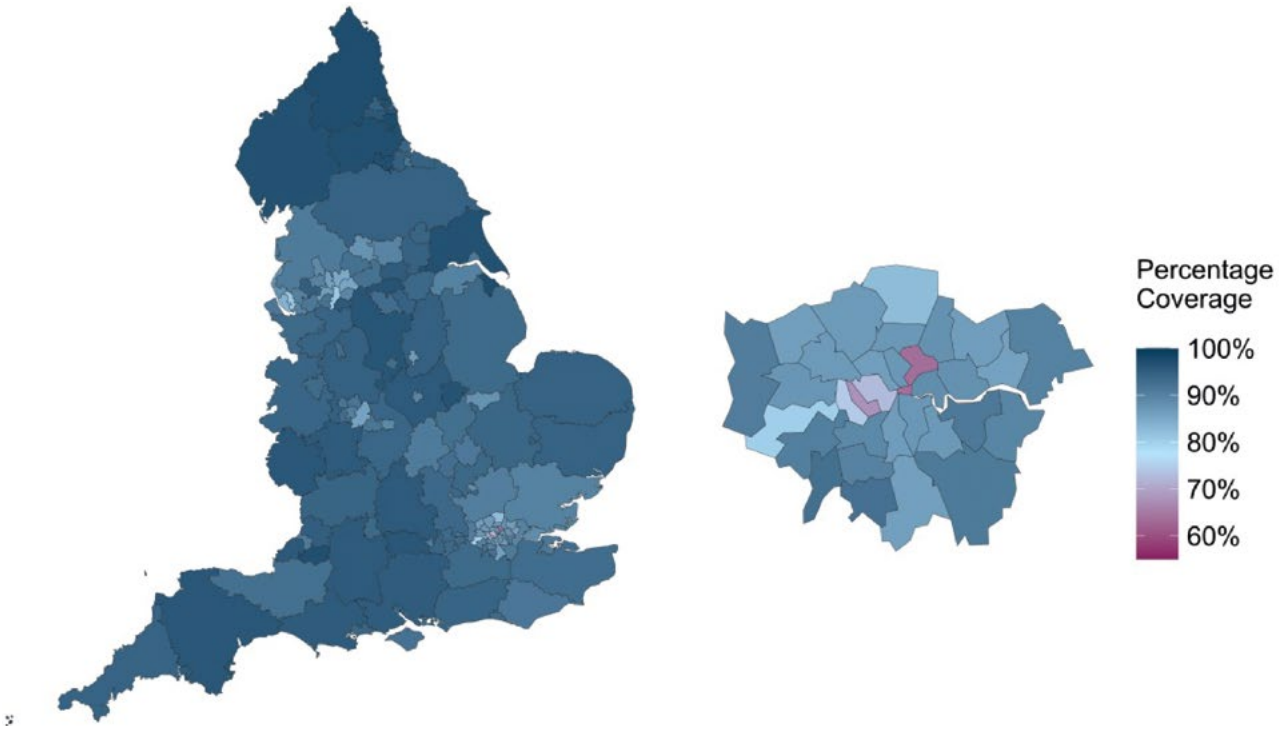
Source: UKHSA, "Confirmed cases of measles in England by month, age, region and upper-tier local authority: 2024"[6]

UK population immunity levels in cities are now well below that required to interrupt widespread transmission in many birth cohorts. London remains the most vulnerable region and people born between 1998 and 2004 (aged 20 to 26 years in 2024) are the most susceptible. There are also inequalities in vaccine uptake by ethnicity, deprivation and geography and the burden of measles falls disproportionately on under vaccinated communities such as the Charedi Orthodox Jewish community, the Traveller community, Steiner (Anthroposophic) community and recent migrants.[7]

The most effective way to control measles is by achieving high uptake of 2 doses of measles, mumps and rubella vaccine (MMR). Recent uptake of MMR in England (April to June 2024) is 89.2% for the first dose (MMR1) by age two, with a wide range between London as the region of England with the lowest uptake at 82.1% and the northeast at 94.6%.[8]

The variation in vaccine coverage is even more stark at local authority level. The lowest level of uptake is in Hackney (68.1% uptake of MMR1 in April to June 2024)[9], with 19 of the lowest 20 local authorities for uptake of MMR1 located in cities; 14 are in London (Figure 4.96). Uptake is also low in Manchester, Birmingham and parts of Merseyside. This gap in vaccination coverage adds to population density to make the spread of this entirely preventable disease much more likely in our major cities.

Figure 4.96: Coverage of MMR1 vaccine measured at 24 months of age in England for quarter 1 2024 to 2025 by Upper Tier Local Authority



Source: Office for National Statistics licensed under the Open Government Licence c.3.0

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Image from: UKHSA, "Quarterly vaccination coverage statistics for children aged up to 5 years in the UK (COVER programme): April to June 2024"[10]

Meningococcal disease

Universities and higher education settings can be hot spots for a range of respiratory diseases including COVID-19, flu, measles, mumps and meningococcal disease as they present the perfect opportunity for transmission of infection as people come together in confined environments and mix closely with a new social network.

Meningococcus (*Neisseria meningitidis*) is a rare but serious cause of infection which is spread via respiratory and throat secretions. Whilst carriage of meningococcus in the throat or nasopharynx is common, invasive infection can cause meningitis and bloodstream infections with significant mortality and long term impacts for those who survive infection.[11]

There are 6 meningococcal groups, distinguished by their polysaccharide capsule (A, B, C, W, X and Y) with differing epidemiology for the different serogroups.

Prevalence of throat carriage increases through childhood and peaks at 18 to 20 years before declining.[12] Outbreaks are seen among university students, often after moving to a new city or town for university. Following the easing of measures put in place to control the COVID-19 pandemic in 2020-21, there was a notable increase in group B cases of invasive meningococcal disease, with numbers in adolescents and young adults returning to levels seen before the pandemic later that year and increasing in other age groups over the next 12 months. Invasive disease due to other groups has remained very low in all age groups.

A quadrivalent Men ACWY vaccine is offered to teenagers, in addition to the current offer of a single Hib/MenC vaccine as part of the routine infant immunisation programme. A separate vaccine against group B is also included in the infant immunisation programme.

Over the last two decades there has been a marked decline in confirmed meningococcal disease cases from a peak of 2,595 cases in England in 1999/2000. The initial decline was driven by the introduction of vaccination against group C disease in 1999, which reduced group C cases by approximately 96% (to around 30 to 40 cases each year). Total invasive meningococcal disease has continued to decrease since and in 2022/23 group B accounted for almost 90% (356 of 396) cases.[13] Disease covered by the MenACWY vaccine has markedly reduced since this vaccine was introduced for teenagers in August 2015.

Sexually Transmitted Infections (STIs)

STIs are an important infectious public health issue in cities, in part a function of more connected networks and the much younger demographics of city populations with high concentrations of young adults who have not yet established stable sexual partnerships. This can be seen in cities across England. For example, as a region London had the highest rate of new STIs in the country in 2023 with a rate of STIs (excluding chlamydia in those aged <25) of 1,229 per 100,000 people. By this metric, of the 20 upper tier local authorities in England with the highest rates in 2023, 18 were in London along with Brighton and Hove and Manchester.[14]

More than 120,000 new STIs were diagnosed in London residents in 2022, or nearly a third of all new STIs in England. The international nature of city populations is represented in rates of STIs; 43% of London residents diagnosed with a new STI in 2022 (excluding chlamydia) were born outside the UK.[15]

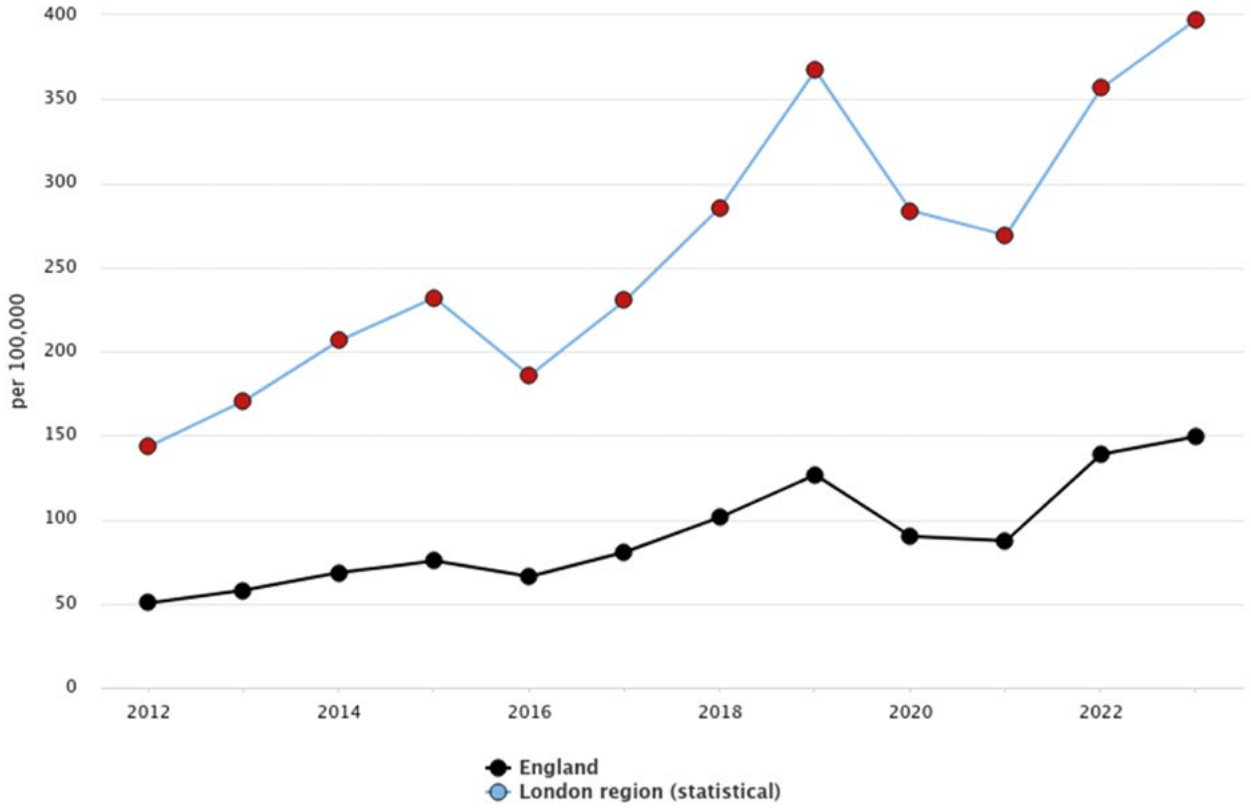
Gonorrhoea

Gonorrhoea is caused by the bacterium *Neisseria gonorrhoeae*. It is the second most common bacterial STI in the UK.[16]

Gonorrhoea is transmitted through unprotected vaginal, oral or anal intercourse or genital contact with an infected partner. An infected person may have no symptoms but still transmit the infection. Occasionally, gonorrhoea can cause serious complications such as pelvic inflammatory disease, ectopic pregnancy and infertility. Gonorrhoea causes significant morbidity and remains a public health concern globally. Increased resistance to most antibiotics used to treat gonococcal infection has been reported worldwide, with extensively resistant strains exhibiting resistance to multiple antibiotic classes. The World Health Organization considers *Neisseria gonorrhoeae* to be a high priority pathogen due to this widespread antimicrobial resistance.

Over the ten years from 2013 to 2023, gonorrhoea diagnostic rates in London have increased from 170 per 100,000 people to 397 per 100,000 people or from 14,377 diagnoses in 2013 to 35,232 in 2023. Over the same period rates in England increased from 58 per 100,000 to 149 per 100,000 people.

Figure 4.97: Gonorrhoea diagnostic rate per 100,000 people; London and England



Source: DHSC, Fingertips "Sexual and Reproductive Health Profiles"[17]

Diagnosis rates for gonorrhoea are consistently disproportionately higher in specific communities within cities including those who live in the most deprived areas, people of black Caribbean ethnicity, people born in Central or South America, young people 15 to 24 years of age and gay, bisexual and other men who have sex with men (GBMSM). Of these communities the highest diagnosis rates are in GBMSM, however it should be noted that these communities are not mutually exclusive.[18]

Natural infection does not give protection against future infections. Given that *Neisseria meningitidis* and *Neisseria gonorrhoeae* are closely genetically related, observational studies in adolescents and young adults in Canada, Australia and the United States of America have shown that a vaccine for *Neisseria meningitidis* type B (4CMenB) can offer protection against gonorrhoea with incidence of gonorrhoea in vaccinated individuals 32% to 42% lower compared with those who are unvaccinated.[19]

Given this limited effectiveness, the JCVI have recommended a targeted vaccination programme using the 4CMenB vaccine for the prevention of gonorrhoea in those who are at greatest risk of infection. Although vaccination would be expected to reduce the chance of becoming infected with gonorrhoea, it would not completely eliminate the possibility. Vaccinated individuals could expect to have some reduction in their own risk of contracting gonorrhoea, however the main benefit of a vaccination programme is expected to be at a community level with a potential reduction in the number of cases overall.

HIV

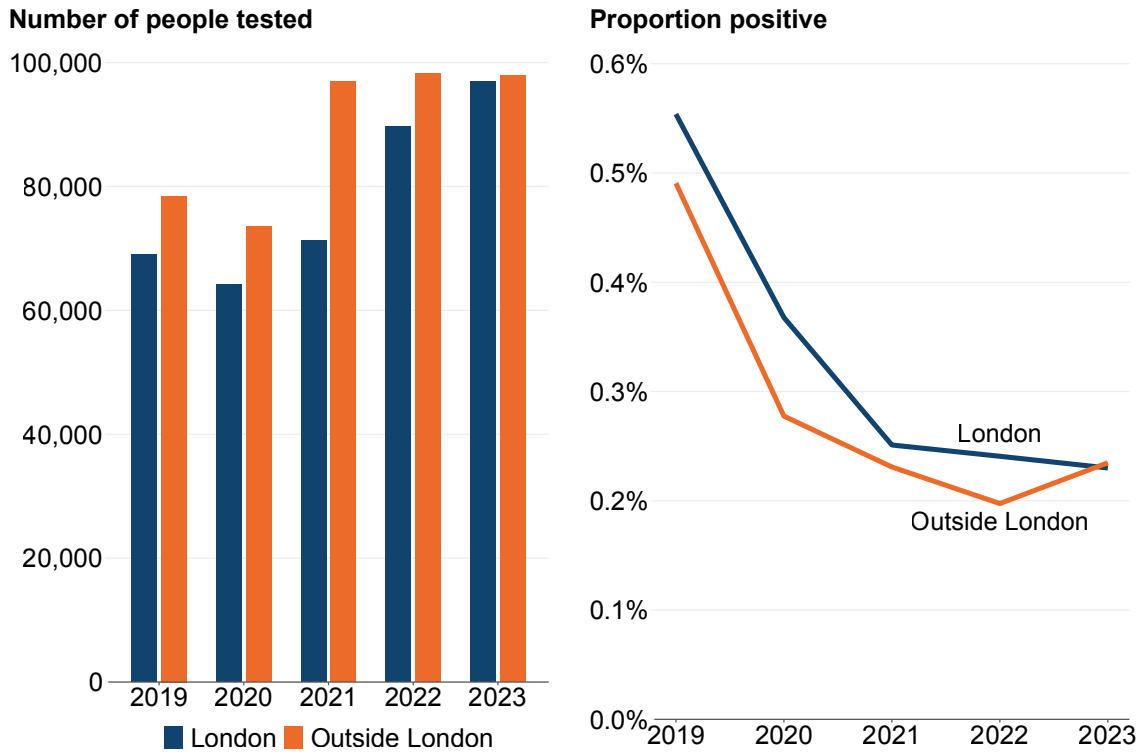
The epidemiology of HIV has changed considerably in England over recent years but the continued gap between large cities and more rural areas has persisted for both new infections and overall prevalence.

In 2023, there were 6,008 HIV diagnoses in England (including those previously diagnosed abroad) – an increase of 51% from 3,975 in 2022 and of 56% from 3,859 in 2019. 53% (3,198 of 6,008) of diagnoses were reported as being previously diagnosed abroad. The number of HIV diagnoses first made in England increased by 15% to 2,810 in 2023. Following a decline in recent years in the number of diagnoses in England among men exposed through sex between men, the number of diagnoses rose by 7% (761 in 2022 to 811 in 2023). Men of an ethnic minority group other than white accounted for 33% (266 of 811) of diagnoses among men exposed through sex between men; specifically accounting for 40% (127 of 321) of those living in London and 28% (139 of 490) among those living outside of London.[20]

Among people exposed through sex between men and women, the number of new diagnoses first made in England rose by 36% (445 in 2022 to 605 in 2023) among men exposed through sex with women and by 30% (602 to 780) among women exposed through sex with men. This increase largely occurred among people living outside of London: 51% increase (from 286 to 432) among men and 44% increase (413 to 595) among women; compared to 9% increase (159 to 173) among men and 2% decrease (189 to 185), among women living in London. This rise disproportionately affected people of black African ethnicity.[21]

Access to HIV testing and sexual health services is a key factor in detection of new cases. This varies between cities and across the country. Overall, testing in London increased by 8% between 2022 and 2023 (413,755 to 445,655) and accounted for over a third of all testing in England. In 2023, testing among GBMSM living in London continued to exceed that seen in 2019 (68,969), rising from 89,719 in 2022 to 96,929 in 2023 (Figure 4.98). Outside London, after increasing from 78,468 in 2019 to 98,234 in 2022, the number remained relatively stable at 97,960 in 2023.

Figure 4.98: Number of GBMSM tested for HIV and proportion positive at all SHSs, London and outside London, 2019 to 2023



Source: UKHSA, "HIV testing, PrEP, new HIV diagnoses and care outcomes for people accessing HIV services: 2024 report"[22]

Emerging infections – mpox

Cities are not only places where people come together, but they are often well linked to each other both within and between countries. This interconnected nature of cities across the world means that they can be gateways for the introduction of epidemics or pandemics to a country, as well as propagating local outbreaks which can spread to other parts of a country.

The emergence of new infections, or new subtypes of known pathogens, can have consequential implications for disease surveillance and control, altering the epidemiology of both acute infectious diseases and chronic infections. Densely populated cities also provide favourable grounds for the spread of emerging diseases, as shown by influenza outbreaks throughout history as well as, more recently, COVID-19 and mpox.

Mpox is a zoonotic infection, caused by the virus called MPXV that occurs mostly in West and Central Africa. Prior to 2022, cases diagnosed in the UK had been either imported from countries where mpox is endemic or contacts with documented epidemiological links to imported cases. Between 2018 and 2021, there had been 7 cases of mpox in the UK. Of these, 4 were imported, 2 were cases in household contacts, and one was a case in a health care worker involved in the care of an imported case. There was no documented community transmission associated with these individual cases.

In May 2022, detection of mpox clade IIb infection acquired in the UK was confirmed in England and an outbreak followed with cases rapidly detected worldwide. The outbreak has mainly been

in gay, bisexual, and other men who have sex with men (GBMSM) without documented history of travel to endemic countries.

Up to 31 December 2022, there were 3,732 confirmed and highly probable mpox cases reported in the UK. Of these, 3,553 were in England. Two thirds of cases in England were in London, with the bulk of other confirmed cases in Birmingham, Manchester and Brighton – cities with large GBMSM populations.[23]

Clinicians and scientists worked rapidly at the start of the outbreak to better understand the community transmission that was taking place in the UK. Early analysis of cases, and their contacts, found the majority of cases were men who were gay, bisexual and other men who have sex with other men – a trend that continued throughout the outbreak. Vaccination with an MVA-BN vaccine was offered to men at highest risk of mpox transmission, based on this research.

A year later, case numbers of mpox clade IIb had fallen to much lower levels. Mpox clade IIb has remained present at low levels ever since, predominantly in the cities most affected during the 2022 outbreak. In 2023 and 2024 (up to 30 September 2024), there have been a total of 368 cases of mpox reported in the UK. Of these, 346 were in England (159 cases were presumed to have acquired mpox in the UK, 112 were acquired outside the UK and 75 are awaiting classification).[24]

Learning from this outbreak

The 2022 outbreak was the first time an mpox outbreak like this had been observed in multiple non-endemic countries at the same time. For clinicians and scientists worldwide, this new outbreak presented many unknowns and highlighted the need for rapid research so they could better understand how the virus was being transmitted, who was affected and what interventions could be used to protect those at highest risk.

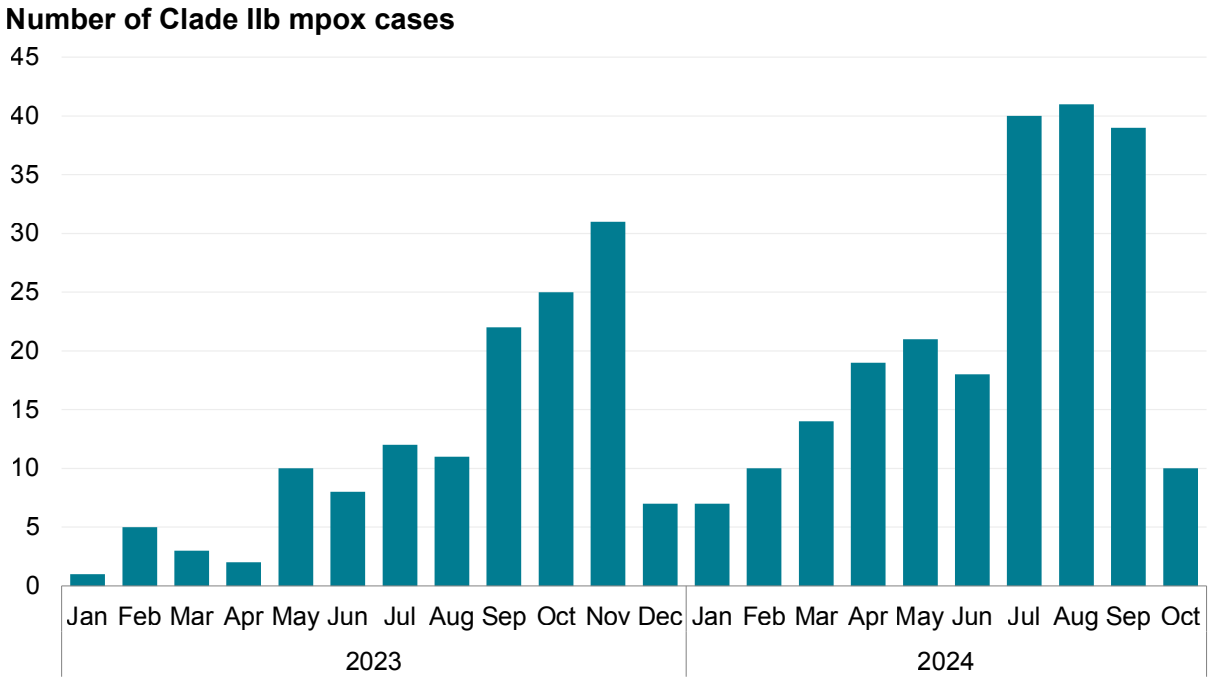
Before the 2022 mpox outbreak, transmission was primarily thought to occur between animals and humans (zoonotic transmission) through close contact with animals that had mpox. Evidence has consistently suggested that transmission of mpox in this outbreak was mostly from close sexual contact representing a significant change in the epidemiology of mpox, significantly altering plans for future outbreak response and for approaches to disease surveillance for mpox.[25]

UKHSA modelling, based on a review of surveillance and contact tracing data from between 6 May and 1 August 2022 in the UK, found evidence of transmission of mpox before symptoms are identified (pre-symptomatic transmission). It was estimated that more than half (53%) of transmission occurred up to four days before symptoms were developed or were recognised, with an average incubation period of between 7 to 8 days. This was the first study to show pre-symptomatic transmission of a pox virus.[26]

A review of Mpox cases in England and vaccination uptake data between 4 July to 3 November 2022 indicated that a single MVA-BN vaccine dose provides around 78% protection against

mpox 14 days after being vaccinated. This demonstrated the importance of vaccination to protect those at highest risk of exposure to mpox and prevent further outbreaks.

Figure 4.99: Number of confirmed and highly probable Clade IIb mpox cases in England, by month in 2023 and 2024



Source: UKHSA, "Mpox outbreak: epidemiological overview, 7 November 2024"[27]

Forward look – future threats including vector borne disease

The city environment offers conditions which favour the spread of epidemics, but this is not just due to population density. Some insects which can spread diseases such as dengue virus, chikungunya, Zika and other viruses have become permanently established in urban areas in other parts of the world and cause regular epidemics. The geographical extent of *Aedes* mosquito species has continued to expand north and west within Europe as warmth and precipitation patterns favour the establishment and overwintering of colonies.

Dengue is mainly an urban disease that has been associated with sudden epidemics in tropical and subtropical regions. It is now endemic in more than 100 countries. It usually starts with flu-like symptoms and can lead to haemorrhagic fever and shock. There are four types of viruses that cause dengue; being immune to one type does not protect against the others. Dengue outbreaks are increasingly seen in southern Europe. The spread of *Aedes* species to England would increase the future risk of vector borne diseases such as dengue in our cities.

Summary

Infectious disease can pose a significant risk to urban populations and several aspects of city life can affect the epidemiology of infectious diseases. However, many infections can be prevented through medical countermeasures such as the vaccines outlined in this chapter and engineering solutions to hygiene and sanitation which have reduced infections in built up areas for centuries. Better access to healthcare can lead to more rapid detection of infectious diseases and can help avoid the consequences of certain long term infections. Future prevention and mitigation strategies for infections in cities will be based on the latest technology, population demographics and environmental circumstances. It is important not to forget the substantial contribution of existing, proven techniques including current vaccine programmes. We should continue to promote these activities, to ensure we maintain the significant progress already made in reducing the burden of infectious disease.

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Appendix: Technical Notes

Chapter 2: Demographics and data

Demographic and socioeconomic data and definitions

Methods for defining "Built up areas" (BUAs) and individual cities

- This report presents analysis by BUA. In this Chapter, 2022 BUAs produced by Office for National Statistics (ONS) are used.
- BUAs are derived from a process that uses Ordnance Survey topographic data to recognise the boundaries of BUA development and identify individual BUA settlements (approximating cities, towns and villages).[1] The only exception is London, where different settlements are not able to be separately identified.
- BUAs are categorised by population size (Major, Large, Medium, Small, Minor) to reflect approximate settlement types (Figure 2.1). These BUA categories are derived from Census 2021 data using the population of output areas (OA).
- The Major BUA group includes all major BUAs in England excluding London. Data for London are presented separately through aggregation of BUAs which are within Greater London.
- For Figures 2.16 and 2.17, comparisons over time are based on allocation of 2011 OA data to 2022 BUAs using a best fit method. This allocates the entire population of a 2011 OA to a 2022 BUA if the OA population weighted centroid (PWC) is within the 2022 BUA boundary. Data allocated to a BUA is aggregated, and the total presented as the figure for that 2022 BUA.[2]
- Demographic data for individual cities (Figures 2.8 to 2.15) relate to the BUA with the same name as the city.

Demographic and sociodemographic data

- All demographic and socio-economic characteristics topic data was sourced from ONS releases.[3,4,5,6]
- Data for population growth from 2011 to 2021 (Figures 2.16 to 2.17) were based on the OA data available on NOMIS which is categorised into 16 age groups.[7]
- The England level data for "highest level of qualification" (Figure 2.23) were derived from the 8-category classification from the Census Create a Custom dataset tool,[8] with categories aggregated as follows:
  - level 4 = "higher"
  - level 3,2,1 and apprenticeships = "all other levels"

- No qualifications = "No qualifications"
- Other = "other"
- Note: 10,483,091 records were for people aged under the age of 16 years and were excluded.

- Employment rate is based on the employment data for usual residents aged 16 to 64 in line with the definition used for the headline measure of UK employment.
- Unemployment (Figure 2.21) is based on employment data for usual residents aged 16 and over, in line with the definition used in the headline measure of unemployment for the UK.

Deprivation

- 2019 Index of Multiple Deprivation (IMD) data*,[9] were filtered to extract ranking and score data for all 2011 lower super output areas (LSOAs) in England.
- To carry out analysis of 2022 BUAs, a two-step solution was used to allocate 2019 IMD data for 2021 LSOAs to 2022 BUA boundaries:
  - Using a best fit lookup, 2011 LSOAs were allocated to a 2021 LSOA.[10] Where splits, merges or changes occurred, these LSOAs were excluded from analysis as they had no IMD information in their 2021 format.
  - All remaining 2021 LSOAs (those that were unchanged since 2011) were allocated through a best fit lookup to 2022 BUAs.[11] This attributed an LSOA to a BUA where the PWC for the LSOA fell within the 2022 BUA boundary.
  - Resultant population data were aggregated by LSOA deprivation decile and BUA to calculate population totals.
- Table 2.2 includes a "missing" category, which contains the proportion of the total population and count of LSOAs which are excluded from the analysis for each BUA. This provides additional context for users.
- The "least deprived" IMD group definition does not mean that there are no individuals experiencing deprivation in those areas. The IMD is an area-based measure, and not a measure of individual experience.

* These are a set of relative measures of deprivation based on seven weighted domains:
- Income Deprivation (22.5%)
- Employment Deprivation (22.5%)
- Education, Skills and Training Deprivation (13.5%)
- Health Deprivation and Disability (13.5%)
- Crime (9.3%)
- Barriers to Housing and Services (9.3%)
- Living Environment Deprivation (9.3%)

Deprivation and health

Data

Table 2.3 and Figure 2.25 present analysis of mortality by ONS using linked data. The analysis used Census 2021 and death registrations data linked by National Health Service (NHS) number. Further linkage to geographic data allowed the derivation of 2022 BUAs.

People enumerated in Census 2021 were linked securely to the NHS Personal Demographics Service (PDS) to obtain their NHS number, with 95.75% of persons in the census probabilistically and deterministically matched to persons in the PDS.[12] The study population included 48.6 million people enumerated in England for whom we could obtain an NHS number and were able to link to their mortality and BUA data. The analysis excluded individuals who did not have an NHS number, did not have BUA category data, were resident in Wales at the time of census, those who had not answered the ethnicity question within Census 2021 and those who were not usual residents in England. The analysis included individuals of all ages, with no cap placed on the age range.

Exposures

BUA category and IMD decile group (as described above) were used as exposures in the analyses in this chapter.

Outcomes

The primary outcome in this chapter (reported in Table 2.3) was all-cause mortality at any time during the study follow-up period, 21 March 2021 (Census Day) to 31 May 2023 (the latest available death registrations data at the time of analysis). All-cause mortality (coded as 1/0) was defined as deaths from any cause using the International Classification of Diseases, Tenth Revision (ICD-10) codes.

The secondary outcomes in this chapter (reported in Table 2.4) were age-standardised rates of:

- self-reported general health status, from Census 2021
- disability status, from Census 2021
- unpaid carer status, from Census 2021

Self-reported general health status, disability status and unpaid carer status data were all split into binary outcomes (1/0).

- Self-reported health status was coded as those reporting very bad and bad health as 1, and fair, good and very good health as 0.
- Disability status was coded as those having a disability which limits them a lot or a little as 1, and having a disability which does not limit them or not having a disability as 0.
- Providing unpaid care was coded as those who were an unpaid carer as 1, and those who were not as 0.

Statistical analyses

Descriptive values were reported as median and interquartile range for continuous variables and number and percentage for categorical ones. All categorical values were rounded to the nearest five and counts less than 10 were suppressed for disclosure control purposes.

Mortality analysis

Age-standardised mortality rates (ASMRs) for each IMD decile group and BUA category for all-cause mortality were calculated as the weighted sum of age-specific rates in five-year age bands. The age-specific weights represent the overall age distribution in the observed study population. ASMRs are expressed per 100,000 person-years of follow-up time and can be interpreted as the number of deaths that would be expected to occur if 100,000 people were each followed up for one year.

Follow-up time was calculated as the time from 21 March 2021 to the date of death or end of study (31 May 2023), whichever was earlier.

Self-reported health, disability and unpaid carer analysis

Age-standardised rates (ASRs) for those reporting very bad and bad health, having a disability which limits them a lot or a little, and providing unpaid care by BUA category were calculated as the weighted sum of age-specific rates in five-year age bands. The age-specific weights represent the overall age distribution in the observed study population. ASRs are expressed per 100,000 people and can be interpreted as the number of cases that would be expected to occur if 100,000 people were assessed at a point in time.

Inner and outer London definitions

Inner London consists of the following boroughs: Camden, City of London, Hackney, Hammersmith and Fulham, Haringey, Islington, Kensington and Chelsea, Lambeth, Lewisham, Newham, Southwark, Tower Hamlets, Wandsworth, and Westminster.

Outer London consists of the following boroughs: Barking and Dagenham, Barnet, Bexley, Brent, Bromley, Croydon, Ealing, Enfield, Greenwich, Harrow, Havering, Hillingdon, Hounslow, Kingston upon Thames, Merton, Redbridge, Richmond upon Thames, Sutton, and Waltham Forest.[13]

Chapter 4.1: Urban centres, ethnicity and health: where are we now?

Setting the scene

The population, data and definitions for BUAs described for Chapter 2 "Demographic and sociodemographic data and definitions" above were also used for this section (Table 4.1, Figure 4.2 to Figure 4.4).

Ethnic group data from Census 2021 was additionally used in this chapter and comprised 13 categories (White British; White Other; Mixed/multiple ethnic groups; Indian; Pakistani; Bangladeshi; Chinese; Asian Other; Black African; Black Caribbean; Black Other; Arab; Any Other Ethnic Group). Within the raw data, some ethnic groups were aggregated due to low counts to ensure statistical reliability in mortality analysis and disclosure control. The Mixed/multiple ethnic group comprised White and Asian, White and Black African, White and Black Caribbean, and Other Mixed or Multiple ethnic groups. The White Other ethnic group comprised White Irish, Gypsy or Irish Traveller, Roma, and White Other.

The variables used in this section for descriptive analysis stratified by ethnic group were from Census 2021 and are listed below.

- age (in years)
- sex
- country of birth (UK vs. non-UK)

The data to derive percentage of residents belonging to ethnic minorities in London, Bristol, Leicester, Bradford and Newcastle upon Tyne Local Authority Districts (Figure 4.1) is from Census 2021.

Social and structural determinants of health

The variables used in this section for descriptive analysis stratified by ethnic group were from Census 2021 (except for IMD which is detailed under Chapter 2 "Demographic and sociodemographic data and definitions" above) and are listed below (Figure 4.5 to 4.8).

- Index of Multiple deprivation (IMD) decile group
- highest qualification attained
- National Statistics Socio-Economic Classification (NS-SEC)
- household size (persons per household)
- self-reported health status
- disability status

Risk factors and health outcomes

Childhood obesity

Methods for "Built up areas" (BUAs)

- 2021 LSOAs are not available on National Child Measurement Programme (NCMP) data, therefore a different definition of BUAs was used in this section (Figure 4.9 to 4.11). 2011 BUAs were used and these are not directly comparable with 2021 BUAs.
- ONS LSOA 2011 to BUA lookup was used to assign LSOAs to the 2011 BUAs.[14]

- A lookup table was produced to assign 2011 LSOAs to BUA categories based on BUA size classification by population. The four BUA categories are slightly different from those used elsewhere: London, major cities, small city/large town, and medium/small town, village or hamlet.
- London BUA consists of all LSOAs in the London statistical region.
- 23 named BUAs were agreed with ONS which had a population >200k and these were classed as major cities. LSOAs in built up areas with >75k but <200k population were assigned to the small city/large town category and LSOAs in BUAs with <75k population were assigned to the medium/small town, village or hamlet category.
- The LSOAs that did not have a 2011 BUA were assigned a category using the 2011 Office for National Statistics rural/urban classification[15] shown below.

Rural/urban classification	BUA category
Urban city and town	Small city/large town
Urban city and town in a sparse setting	Small city/large town
Urban major conurbation	Small city/large town
Urban minor conurbation	Small city/large town
Rural town and fringe	Medium/small town, village or hamlet
Rural town and fringe in a sparse setting	Medium/small town, village or hamlet
Rural village and dispersed	Medium/small town, village or hamlet
Rural village and dispersed in a sparse setting	Medium/small town, village or hamlet

Definition of obesity in children

- Data on childhood obesity is taken from the NCMP.
- In the NCMP data a child's body mass index (BMI) is classified into the obesity category where it is on or above the 95th centile, based on the British 1990 (UK90) growth reference data.
- The population monitoring cut offs for overweight and obesity are lower than the clinical cut offs (91st and 98th centiles for overweight and obesity) used to assess individual children; this is to capture children in the population in the clinical overweight or obesity BMI categories and those who are at high risk of moving into the clinical overweight or clinical obesity categories.

National Child Measurement Programme analysis

- Three years of data were included in the analysis to ensure large enough numbers to produce reliable estimates for all ethnic groups split by BUA category. The following years were included: 2019/20, 2021/22, 2022/23.

- The BUA category was assigned based on the LSOA of residence of each child postcode. Child postcode is collected in over 99% of records in the NCMP dataset.
- Data from the 2020/21 NCMP collection year was not included. Due to COVID-19 public health measures, the 2020/21 NCMP did not start data collection until April 2021. Around 300,000 children (25% of previous full measurement years) were measured, enabling robust prevalence estimates to be produced at national and regional level, however the sample did not enable the production of comprehensive and robust local authority level data.
- Local authorities are mandated to collect NCMP data from mainstream state-maintained schools. Some data is collected from special schools (schools for pupils with special educational needs and pupil referral units) and independent schools. However, this represents less than 0.5% of the total number of records across all state and independent/special schools. Since the proportion of records from independent and special schools is low and varies each year, analysis of NCMP data excludes such records to ensure consistency over time.
- For disclosure control, any value based on a numerator that is 7 or less is suppressed. Any sub-national statistics have the numerators and dominators rounded to the nearest 5. The prevalence rates and data quality indicators for all sub-national geographies are calculated using these rounded values. Confidence intervals are calculated (using the Wilson Score method) on the unrounded numerators and dominators. Further information on this method of disclosure control is available from NHS England[16].
- Ethnicity of each child is collected in the NCMP dataset, less than 15% of records were not stated or missing ethnicity.
- Analysis of IMD utilised the 2019 IMD, produced by the Ministry of Housing, Communities and Local Government (MHCLG).[17]

Self-reported health and disability, and mortality

The population, data, methods and outcomes described for chapter 2 "Chapter 2 Demographics and data" were also used for the self-reported health and disability, and mortality analysis in this section (Figure 4.12 and 4.13, Table 4.2). In addition to BUA category, ethnicity was used as a main exposure (instead of IMD) and the details on how it was categorised are in Chapter 4.1 Setting the scene.

Healthcare access and experiences

Methods for "Built up areas" (BUAs)

This analysis used the same data and methods for assigning BUAs as for "Chapter 4.1 Childhood obesity" described above (Figure 4.14 to 4.19).

Methods for GP Patient Survey (GPPS) analysis

- Three years of data from the GPPS were included in the analysis to ensure large enough numbers to produce reliable estimates for each BUA category. The following years were included: 2021, 2022, 2023.
- BUA categories were assigned to GPPS respondents based on the LSOA of the GP practice. It was assumed that most people would be registered at a GP practice within the BUA that they live.
- The GPPS includes a weight for non-response bias. This adjusts the data to account for potential differences between the demographic profile of all eligible patients in a practice and the patients who actually complete the questionnaire.
- Indirectly age-standardised rates were produced to enable robust comparisons between ethnic groups within and across BUA categories.
- Ethnicity of each respondent was taken from the survey data. Ethnicity was missing from less than 2% of records.

Chapter 4.2: The geography of cities – deprivation and health inequalities

Cities and the geography of deprivation

Methods for "Built up areas" (BUAs) and individual cities

- This section used the same BUAs as described above for "Chapter 2. Demographic and socioeconomic data and definitions".
- However, the definitions of the 8 core cities outside London used in the OHID analysis (Figures 4.20 to 4.28) are not the same as that used for the ONS demographic analysis. For the OHID analysis LSOAs were defined as 'cities' if they were part of the BUA or the local authority that had the same name as the city itself. This slightly broader definition was used to reflect that people living in areas close to the main city BUA may still have reasonable access to the services and amenities of the main BUA.
- To gather data on cities, multiple geography lookups retrieved from the Open Geography Portal were used.
- Using the 'Built Up Area (2022) to Local Authority District (December 2022) Lookup in GB' lookup,[18] the field 'LAD22NM' was filtered by the names of the cities being investigated (i.e. Birmingham, Bristol etc.). All built-up areas that either sit within the local authority completely (denoted as 'Whole' in the field 'WHOLE_PART') or sit partly within the local authority (denoted as 'Part' in the field 'WHOLE_PART') were collated.

- The built-up areas selected above were then joined to the 'LSOA (2021) to BUA to LAD to Region (December 2022) Best Fit Lookup in EW (V2)' lookup[19] to gather all 2021 LSOAs that are included within these built-up areas. This selected a total of 9,145 2021 LSOAs.
- All LSOAs within the local authority sharing the same name as the city were also selected, with LSOAs gathered using the 'LSOA (2021) to Local Authority Districts (April 2023) Best Fit Lookup in EW' lookup.[20] For London, all LSOAs were selected. This selected a total of 7,708 LSOAs.
- Bringing both lists of LSOAs together, a total of 9,182 unique LSOAs were selected for use.

Deprivation

- Analysis of IMD utilised the 2019 IMD, produced by MHCLG.[21]
- Boundary changes to LSOAs in 2021 mean that they no longer align with IMD 2019 scores which were produced using 2011 LSOAs.
- OHID have adjusted the published IMD 2019 data to enable their continued use with the latest LSOA boundaries.[22] These figures were used for this analysis. The adjusted analysis was not quality assured nor endorsed by MHCLG.Using adjusted IMD 2019 scores, 2021 LSOAs were aggregated into national quintiles, with the 20% of areas with the highest IMD scores being deemed as most deprived and the 20% of areas with the lowest IMD scores noted as least deprived.
- Populations were sourced from ONS published data.[23]

Case Study 1: A historical perspective of cities' deprivation – London

Deprivation

- The following deprivation data sets were used for Figure 4.30:
  - Carstairs scores 1991[24] for London wards.
  - Jarman scores 1991[25] for London wards.
  - Index of Multiple Deprivation (IMD) 2019 scores for 2021 best fit electoral wards[26].
  - Using geography lookups gathered from the Open Geography Portal, [27,28] Carstairs and Jarman data were mapped to the 1991-based ward geography codes.
  - The R package 'PHEindicatormethods'[29] was used with the Carstairs and Jarman scores to organise all London wards in 1991 into five quintiles, with the highest scores indicating the most deprived wards in London, and the lowest scores indicating the least deprived wards in London.
  - The same package was also used with data produced for OHIDs 'Local Health' tool, with IMD 2019 scores for 2021-based best fit electoral wards organised into five quintiles.

Deprivation and health inequalities

Mortality and low birth weight analysis

- Cities were defined and deprivation allocated using the same method described in "Cities and the geography of deprivation".
- Record level mortality data provided to OHID/DHSC by ONS was used (Figure 4.32a, 4.32b and 4.33).
- Directly standardised rates (DSRs) were produced using the European Standard Population 2013 as the standard population. DSRs were only produced when counts were greater than 10.
- Due to a small population size, the mortality rate in Liverpool's least deprived quintile should be treated with caution.
- Record level births data provided to OHID/DHSC by ONS was used (Figure 4.34)
- Both the numerator and denominator were gathered from all live and still births with a plausible birth weight.
- Low birth weight is defined as those with a plausible birth weight under 2500g.
- The ONS guide to birth statistics[30] states a birth weight is considered implausible when:
  - A liveborn male weighed less than 230g or greater than 6,000g
  - A liveborn female weighed less than 249g or greater than 6,000g
  - A stillborn male or female weighed less than 230g or greater than 6,000g
- A still birth is defined as a baby born with no signs of life after 24 completed weeks of gestation.
- Due to a small number of births, data has been excluded for the least deprived quintile in Liverpool.

Childhood obesity

- This analysis used the same methods for assigning BUAs and definition of childhood obesity as described under "Chapter 4.1 Childhood Obesity".
- Five years of data were included in this analysis to ensure large enough numbers to produce reliable estimates for each selected city split by deprivation quintile. The following years were included: 2017/18, 2018/19, 2019/20, 2021/22, 2022/23.
- LSOAs in London were all assigned to the London BUA and selected for analysis. The 2011 BUAs covering the selected major cities are also presented.
- Using IMD 2019 scores,[31] LSOAs were aggregated into national quintiles, with areas with the highest IMD scores being deemed as most deprived and areas with the lowest IMD scores noted as least deprived.

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