



INSTITUTE *of*
HEALTH EQUITY



REDUCING HEALTH INEQUALITIES IN LUTON: A MARMOT TOWN

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ACKNOWLEDGEMENTS

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Suggested citation: Michael Marmot, Michael Alexander, Jessica Allen, Chimeme Egbutah, Peter Goldblatt, Scarlet Willis (2022). *Reducing health inequalities in Luton: A Marmot Town*.

AUTHORS' ACKNOWLEDGEMENTS

Particular thanks to Sally Cartwright, Director of Public Health and Chimeme Egbutah, Consultant in Public Health in Luton and to all those who provided feedback on this report.

Thanks to Georgina Kyriacou for proofreading the report and UCL Educational Media for designing the report.

We are indebted to the Luton Marmot Town Advisory Board and Steering group for their advice and input.

The Luton Marmot Town Advisory Board: Michael Marmot, Director, UCL IHE; David Carter, Chief Executive, Bedfordshire Hospitals NHS Trust; Garry Forsyth, Chief Constable, Bedfordshire Police; Gurch Randhawa, Professor of Diversity in Public Health and Director of the Institute for Health Research, UoB; Hazel Simmons, Leader of LBC; Helen Goulden, CEO, Young Foundation; Helen Barnett, CEO, Active Luton; Jaki Whittred, Superintendent of Community Policing in Bedfordshire, Mental Health Lead; Karen Perkins, CEO, BLCF; Lucy Nicholson, CEO, Healthwatch Luton; Louise Grant, Executive Dean of the Faculty of Health and Social Sciences; Mark Turner, Executive Director, Governance, Luton Rising; Nicky Poulain, BLMK ICS Executive Lead for Luton; Nina Pearson, Director of Clinical Transformation, BLMK CCG and GP Partner, Lea Vale Medical Group Luton; Paul Calaminus, Chief Executive, ELFT and Senior Responsible Officer for BLMK ICS Inequalities Priority; Paul Senior, Interim Service Director for Education, LBC; Paul Thompson, Employment and Skills Manager, SEMLEP; Robin Porter, Chief Executive, LBC; Sally Cartwright, Director of Public Health, LBC; Zafar Khan, Chair, Luton Council of Faiths

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CHAPTER 1

INTRODUCTION

1A WORKING ON HEALTH EQUITY IN LUTON

Health equity is about reducing and eventually eliminating inequalities in health that result from unfair inequalities in social and economic conditions – the social determinants of health. The UCL Institute of Health Equity (IHE) has been commissioned by the public health department of Luton Borough Council to support the local authority and other partners to act on health inequalities and make Luton the first ‘Marmot Town’. In becoming so, Luton would join a growing number of ‘Marmot Places’, which include cities and regions, that are working with IHE to prioritise health equity.

The work programme includes an assessment of health inequalities and key social determinants of health in Luton, as well as the town’s health system. As part of this we examine the strength and appropriateness of partnerships with other sectors, governance arrangements and the way organisations and sectors (the system) work together. This report summarises the findings of our assessment and makes recommendations to further support action to reduce health inequalities.

The relationship between IHE and Luton, and the process of becoming a Marmot Town, will continue after the report is published. Together, we will build on all the good work already being done in Luton. We will work together and in partnership with all sectors, with shared responsibility and accountability, and, crucially, a shared sense of purpose and a long-term vision for the future (1). This work aims to reduce inequality and improve health for everyone in Luton so that all residents can look forward to a long, healthy and happy life. The work to become a Marmot Town ties in to the vision set out in the *Luton 2020-2040 Plan*: that by 2040, Luton will be a healthy, fair and sustainable town, where everyone can thrive and no one has to live in poverty (1).

The *Luton 2020-2040 Plan* identifies five strategic priorities for the first five years to 2025, these are these are aligned to the approach set out in this report:

- Secure a strong economic recovery from COVID-19 that protects jobs, incomes and businesses and enables the town to build a more inclusive economy.
- Protect the most disadvantaged in the town by prioritising services and interventions that focus on prevention, alleviate the impact of poverty and reduce health inequalities.
- Make Luton a child-friendly town, where children and young people grow up feeling happy, healthy and secure, with a voice that matters and the opportunities they need to thrive.

- Become a greener and more sustainable town, to meet the long-term ambition to be carbon-neutral and climate-resilient by 2040.
- Facilitate a strong and empowered community that supports fairness, equality and local pride and speaks with a powerful voice.

IHE structures its analysis and recommendations according to the ‘Marmot principles’. The first *Marmot Review*, published in 2010, introduced six of these principles, which are broad policy objectives aimed at reducing health inequalities by improving the conditions of everyday life and reducing socioeconomic inequalities. Two further principles have since been added, to make more explicit and add focus to the key considerations of discrimination and sustainability, which are essential to equity. The eight principles are:

1. Give every child the best start in life
2. Enable all children, young people and adults to maximise their capabilities and have control over their lives
3. Create fair employment and good work for all
4. Ensure a healthy standard of living for all
5. Create and develop healthy and sustainable places and communities
6. Strengthen the role and impact of ill-health prevention
7. Tackle discrimination, racism and their outcomes
8. Pursue environmental sustainability and health equity together



The Luton priorities and the Marmot principles, while formulated from different perspectives, have a great degree of overlap: a focus on early years, children and young people; prevention and early intervention; environmental sustainability; good work and the elimination of poverty; and, above all, reducing inequality and promoting equity and fairness. We believe that the analysis and recommendations put forward in this report will illustrate the mutually supportive nature of these priorities. Inequalities in health – shorter and sicker lives for the more disadvantaged in our society – are unfair in themselves and a sign of a deeper injustice in the way our society functions. For Luton to be a fairer place, health inequalities must be reduced. And to reduce health inequalities, Luton must become a fairer place to live, work, grow up and grow old in. We believe that a commitment to health equity should be an integral part of fulfilling the 2040 vision for Luton.

Overall, the value of Luton being a Marmot Town, in addition to existing work in Luton, may be summarised as follows:

- To ensure that health equity is prioritised and embedded in all policies.
- To identify issues of particular concern for health equity in Luton and to draw on best practice from within Luton and from other areas in the UK to make recommendations for action.
- To assess the overall functioning of the health equity system and to support the different sectors to work together for health equity.
- To link Luton with other areas across the UK and globally which are prioritising health equity and for IHE to continue to advise and support Luton Town.

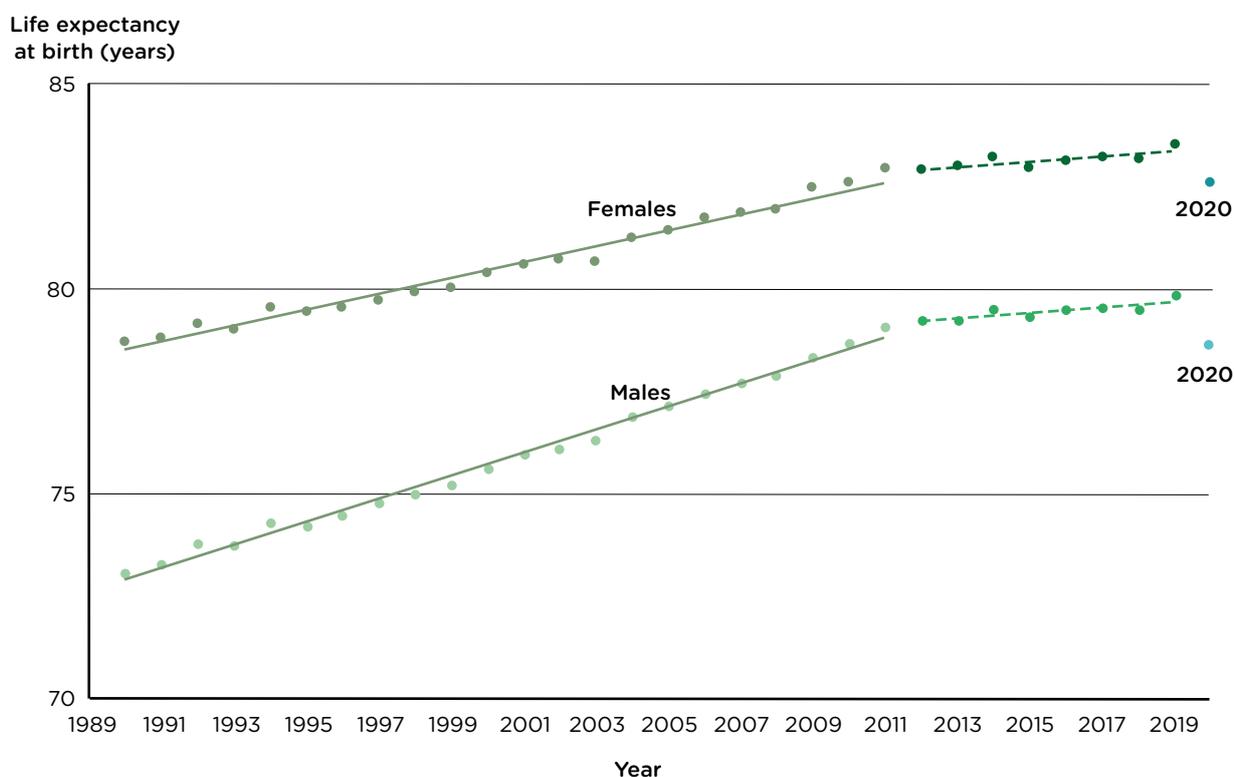
1B HEALTH EQUITY AND THE SOCIAL DETERMINANTS OF HEALTH IN ENGLAND

In 2010, *Fair Society, Healthy Lives* was published, examining the state of health equity in England (2). This report became known as the *Marmot Review*, after its principal author, Professor Sir Michael Marmot. Ten years later, IHE published *Health Equity in England: The Marmot Review 10 Years On* (3). The conclusion reached by the second report was that inequalities had not reduced at all over the decade and had even deepened in many places.

In the decade between the two reviews, improvement in life expectancy stalled, health inequalities deepened and life expectancy declined for the most deprived outside

of London and the South East (3). Figure 1.2 shows both the stagnating trend in life expectancy from 2010-19, and the sudden drop in 2020 where there could have been improvement.

Figure 1.2 Life expectancy at birth, males and females, England and Wales, 1989-2020

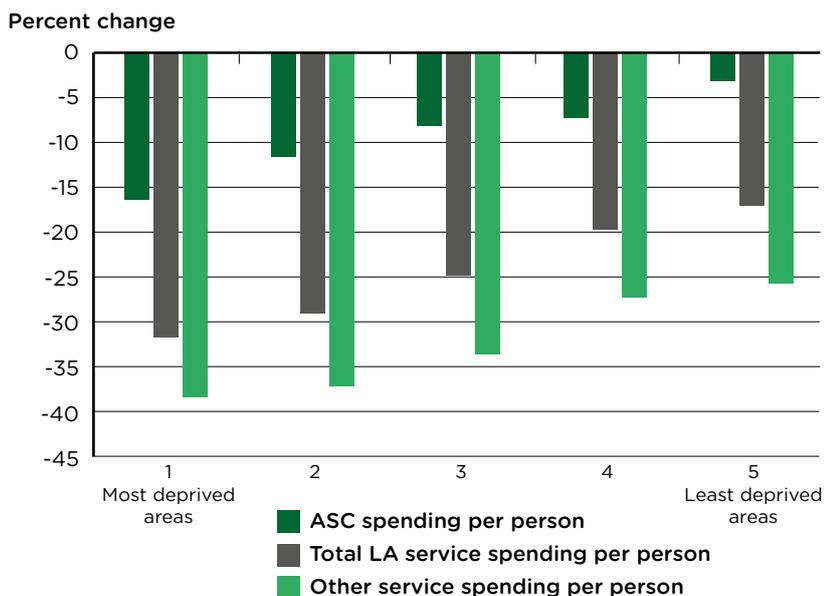


Source: ONS, 2021 (4)

The impact of the 2008 financial crash, the subsequent recession and the policies of austerity that followed were experienced unequally across society and deepening social and economic inequalities manifested in worse health and more pronounced health inequalities between 2010 and 2020. Wages stagnated, job quality deteriorated and cuts to essential public services and state benefits damaged health, particularly in poorer communities. Public sector expenditure on services as a percentage of GDP declined from 42% to 35% between 2009/10 and 2018/19 (5). Cuts to the benefits system fell hardest on the already disadvantaged and led to increasing household income inequality (6).

At a local level, funding cuts were deeper in more deprived areas, further disadvantaging those areas and leading to widening health inequalities even prior to the pandemic (3). Figure 1.3 shows that disproportionately large cuts fell on adult social care and other public services in more deprived areas, where there was already greatest need. Reducing inequalities requires effort and investment which is proportional to need, Figure 1.3 shows a change in effort that is inversely proportional to need, deepening inequalities.

Figure 1.3 Average change in council service spending per person, by level of deprivation average score, 2009/10 to 2017/18



Source: Institute for Fiscal Studies, 2018 (7)

Notes: Measured by quintile of Index of Multiple Deprivation average score. LA = local authority; ASC = adult social care; Other services = all council services except adult social care.

Beyond the human cost, and the injustice this represents, health inequalities also place an unnecessary burden on health services, other public services and businesses. Socio-economic inequalities have been estimated by one study to cost the NHS acute sector £4.8 billion every year and the most deprived 20 percent of neighbourhoods had 20% more planned admissions and 72% more emergency admissions than those living in the most affluent 20 percent of neighbourhoods in England (8). Businesses experience difficulties in recruitment and retention in areas with poor health, and high rates of absence.

THE SOCIAL DETERMINANTS OF HEALTH AND OTHER KEY CONCEPTS

In this section we briefly introduce some of the key concepts that inform the work of IHE: the social determinants of health; social gradients in health; health equity and proportionate universalism. Later in the report we outline some of the evidence for health inequalities and social gradients in health in Luton, as well as inequalities in the social determinants that contribute to these.

THE SOCIAL DETERMINANTS OF HEALTH

The social determinants of health are the conditions in which we are born, grow, live, work and age, and the structural drivers of these conditions – the distribution of money, power and resources in society. These are the factors that largely determine how long we live and how healthy our lives are, and include our education, jobs and income and the state of our homes, neighbourhoods and environment and our access to services, resources and a safe and

cohesive community.. All these affect our vulnerability and resistance to disease and ill health: communicable and non-communicable, mental and physical.

When health is discussed, the conversation can often focus on healthcare – GPs, hospitals and mental health services – but it is the social determinants that determine how likely you are to become ill in the first place, how well you may be able to weather ill health, and your access to healthcare services. As a result, these factors are sometimes called the ‘causes of the causes’ of ill health. The NHS is predominantly concerned with treating illness more than with prevention of illness and promotion of good health. Yet healthcare is a crucial part of health, but not the whole story. There is more to health than treating illness, especially if patients must return to the environment and the situation that made them ill.

Sometimes the conversation can go beyond healthcare to discuss behaviour such as our eating and exercise habits. This is also an important part of the story but not where it ends. The social determinants of health also play a part in our behaviour. People in poverty, and with other forms of disadvantage, consistently make ‘worse’ decisions for their health. We must ask why. At the simplest level, health literacy is a factor – how much an individual knows about the risks and benefits for their health of the decisions they make. Income can also make a great difference in the resources and opportunities available to make healthy decisions. Making healthy food can be expensive, not just in money terms, but crucially in terms of time as well. There is also evidence that the stress of poverty and disadvantage can reduce the ‘mental

bandwidth' available to make health decisions. Someone who is unsure if they can afford to keep and heat their home may not prioritise eating well or exercising.

The social determinants can also have very direct effects on health. For example, poor quality housing that is cold, damp or poorly ventilated can contribute to ill health, as can unsafe or stressful working conditions. The stress caused by poverty can contribute to metabolic syndrome and the development of diabetes and heart disease.

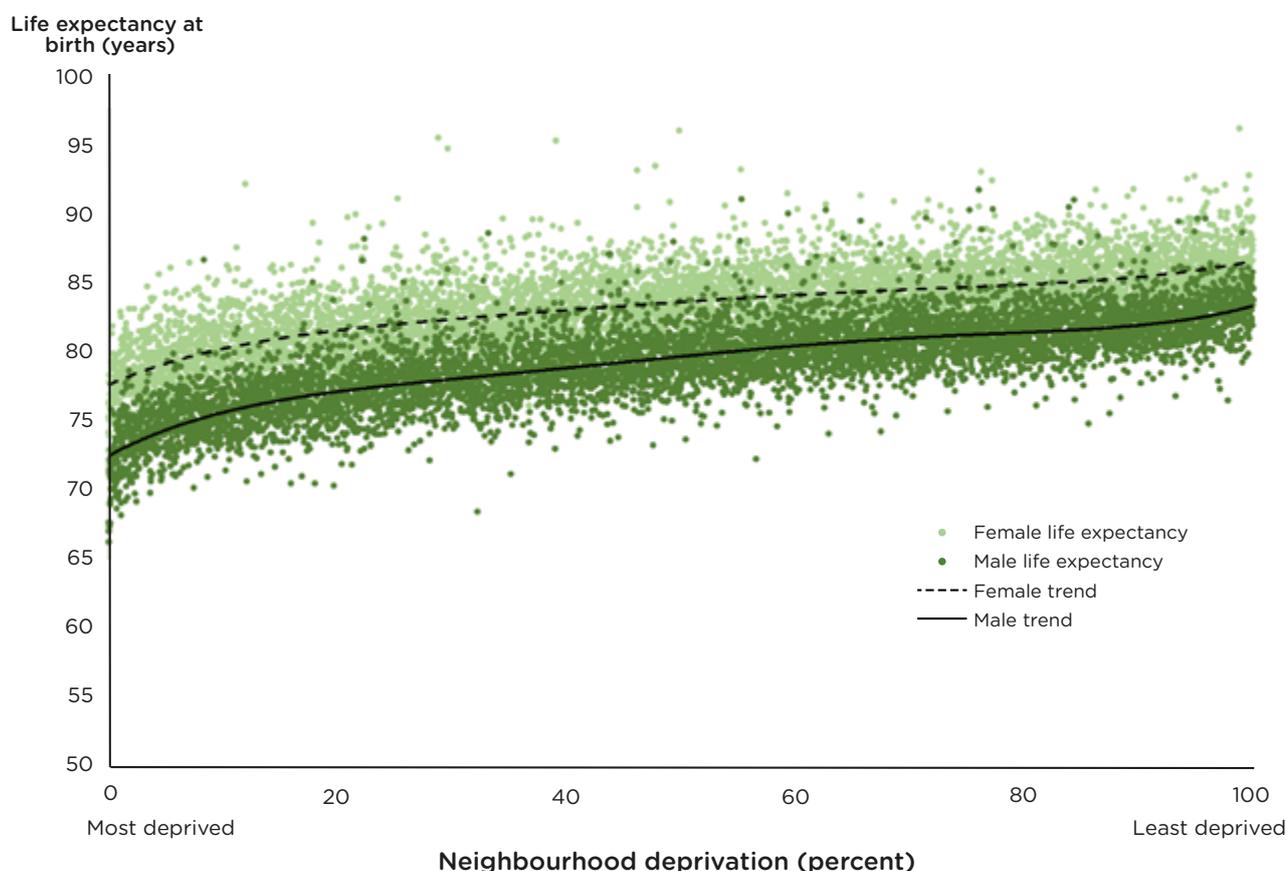
THE SOCIAL GRADIENT IN HEALTH

Inequalities in the social determinants of health therefore translate into inequalities in health. These inequalities are found all over the world, in societies rich and poor. In fact, very similar patterns are found for all sorts of health measurements: life expectancy; healthy life expectancy; rates of disease, both infectious and non-infectious; rates of mental illness; rates of suicide and innumerable others. These patterns are called social gradients in health – in other words, not a division between healthy haves and unhealthy have-nots, but a gradual worsening of health from the best-off in society down to the most deprived.

Health inequalities that are susceptible to improvement we call health inequities. Health equity consists of reducing those inequalities in the social determinants of health to reduce the unfair health inequalities that result. Not all inequalities are unfair – there will always be variation due to genetic factors, individual behaviour and chance. However, when these inequalities result from systemic injustices like deprivation, then equity demands that we act to eliminate them.

Figure 1.4 shows how life expectancy at birth correlates with the level of deprivation in neighbourhoods in England, as measured by the Index of Multiple Deprivation (IMD). The health gradient is clear: the more deprived the area (represented as dots on the graph), the lower the life expectancy. There is an even steeper gradient for healthy life expectancy – the number of years one can expect to live in good health. Even before the COVID-19 pandemic hit, men living in the least deprived areas could expect to live almost a decade longer than those in the most deprived areas, and nearly two decades longer in good health. For women, the differences were closer to eight and 12 years respectively (9). Inequality is costing most of us many years of healthy and productive life.

Figure 1.4. Life expectancy at birth for neighbourhoods in England, by sex and level of deprivation, 2016–20



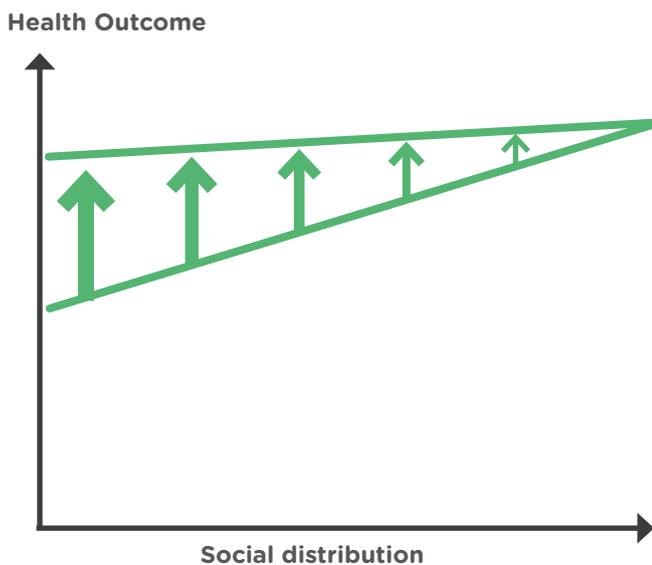
Notes: Based on IMD, 2019. Measured at the neighbourhood level (middle layer super output areas).

Source: ONS, 2021 (10)

PROPORTIONATE UNIVERSALISM

To tackle social gradients in health it is not enough only to target the very worst off in society. Figure 1.5 illustrates this point: the lower green line represents the social gradient; the X-axis on the left represents any given health outcome, like life expectancy, with the longest lives at the top; the Y-axis represents the level of deprivation, or any other unequal social distribution, with the more deprived to the left, and the less deprived to the right. The graph shows that the most deprived have the shortest lives, but inequality is affecting everyone in the social distribution except the very least deprived. To flatten out that gradient requires action across society. Drawing on the evidence showing universal services open to all often have the best results, the IHE calls for 'proportionate universalism'. This is a model of services open to all but with effort proportional to need. The NHS is a prime example of how such services look. The NHS provides a service open to all, and is used by most people in the country, but it targets its effort and resources where there is greatest need.

Figure 1.5 Proportionate Universalism



Source: IHE (11)

This report will outline some of the evidence for health inequalities and social gradients in health in Luton, as well as inequalities in the social determinants that contribute to these.

APPROACH AND METHODOLOGY

This report is based on an assessment of data and from evidence through written reports and analysis and from discussions and workshops with stakeholders.

GOVERNANCE

Oversight has been provided by an advisory board, chaired by Sir Michael Marmot and including senior figures from the Council, Bedfordshire, Luton & Milton Keynes Integrated Care System, NHS bodies, VCSFE organisations, public services including the police, higher education and the private sector. The full list of advisory board members is:

Michael Marmot. Director, UCL Institute of Health Equity [Chair].

David Carter. Chief Executive, Bedfordshire Hospitals NHS Trust.

Garry Forsyth. Chief Constable, Bedfordshire Police.

Gurch Randhawa. Professor of Diversity in Public Health and Director of the Institute for Health Research, University of Bedfordshire.

Hazel Simmons. Leader of Luton Borough Council.

Helen Goulden. Chief Executive, Young Foundation.

Helen Barnett. Chief Executive, Active Luton

Jaki Whittred. Superintendent of Community Policing in Bedfordshire.

Karen Perkins. CEO, Bedfordshire and Luton Community Foundation (BLCF)

Lucy Nicholson. Chief Executive, Healthwatch Luton.

Louise Grant. Executive Dean of the Faculty of Health and Social Sciences, University of Bedfordshire.

Mark Turner. Executive Director, Luton Rising.

Nicky Poulain. Executive Lead for Luton Bedfordshire, Luton, Milton Keynes (BLMK) Integrated Care System.

Nina Pearson. Chair BLMK Training Hub & Director of Clinical Transformation BLMK CCG and GP Partner, Lea Vale Medical Group, Luton.

Paul Calaminus. Chief Executive, East London Foundation Trust (ELFT) and Senior Responsible Officer for BLMK ICS Inequalities Priority.

Paul Senior. Interim Service Director for Education, Luton Borough Council.

Paul Thompson. Employment and Skills Manager, South East Midlands Local Enterprise Partnership

Robin Porter. Chief Executive, Luton Borough Council (LBC).

Sally Cartwright. Director of Public Health, Luton Borough Council.

Zafar Khan. Chair, Luton Council of Faiths.

The work has been guided by a steering group, comprised of researchers from IHE and representatives from departments across Luton Borough Council, with strong leadership from public health, but also including departments relevant to the social determinants of health, from housing and the economy to education and children's services. The full list of steering group members is:

Ailbhe Bhreathnach. Health in All Policies Manager, LBC.

Angela Bartley. Consultant in Public Health, ELFT.

Angharad Ruttley. Medical Director, ELFT.

Caroline Dawes. Head of School Improvement, LBC.

Chimeme Egbutah. Public Health Service Manager, LBC.

Claire Astbury. Head of Service, Housing, LBC.

David Collins. Head of Service: Luton Youth Offending and Targeted Youth Service, LBC.

Fergus McLardy. Programme Manager, Business and Community Wealth, LBC.

Jessica Allen. Deputy Director, IHE.

Marek Lubelski. Social Justice Manager, LBC.

Martin Stein. Programme Manager, Employment & Skills, LBC.

Michael Alexander. Senior Researcher, IHE.

Sally Cartwright. Director of Public Health, LBC.

Scott Eastwood. Community Development Manager, Social Justice Unit, LBC.

Troy Hutchinson. Performance, Systems and Information Manager: Luton Youth Offending and Targeted Youth Service, LBC.

Uche Obasohan. Public Health Evaluation and Learning, LBC.

Members of both boards will continue to provide leadership and guide the process of becoming a Marmot Town.

STAKEHOLDER ENGAGEMENT

IHE have held discussions with partners from across the system, including from the community, voluntary and faith sector, with businesses, health care, education, the police, the early years, housing, planning, transport; participated in Luton's 2040 conference and held a workshop to inform the recommendations on children and young people.

DATA

In relation to the data, dealing with a small area like Luton, which comprises only one local authority, requires some level of caution. Small sample sizes mean that random chance can have a much greater effect. As a result, many of the data in this report must be considered with caution and in conjunction with other sources to build up a fuller picture.

We employ a range of comparators to help give perspective to the picture of Luton. Most frequently, Luton is compared to its nearest 'statistical neighbours' - local authorities with which it shares demographic and socioeconomic characteristics. We use the calculations of the Chartered Institute of Public Finance and Accountancy (CIPFA) to show us how Luton compares with similar areas. This may provide suitable benchmarking for the performance of the Luton system in reducing inequality and improving health outcomes. The target of making improvements relative to these similar areas is a reasonable and achievable one.

However, this report also aims to show the full impact of deprivation and inequality on health, and for that purpose comparisons only between similarly deprived or disadvantaged areas run the risk of underselling the scale of inequality. For that reason, we also compare Luton with national and regional averages, and occasionally with some of the best performing or least deprived areas. Those comparisons are not necessarily like-for-like, however. The East of England region, for example, in which Luton sits, includes large agricultural areas and coastal regions as well as cities like Cambridge, Norwich, Peterborough and Bedford that are different in certain ways from Luton. For national comparisons, we have used data for England or the United Kingdom depending on availability.

The report makes frequent use of the Index of Multiple Deprivation (IMD). This is the most common measure of the socioeconomic circumstances of the places in which people live. The IMD summarises how deprived an area is based on factors including levels of income, employment, educational attainment and crime. The IMD is mapped by lower-layer super output areas (LSOAs), commonly referred to as 'neighbourhoods'.

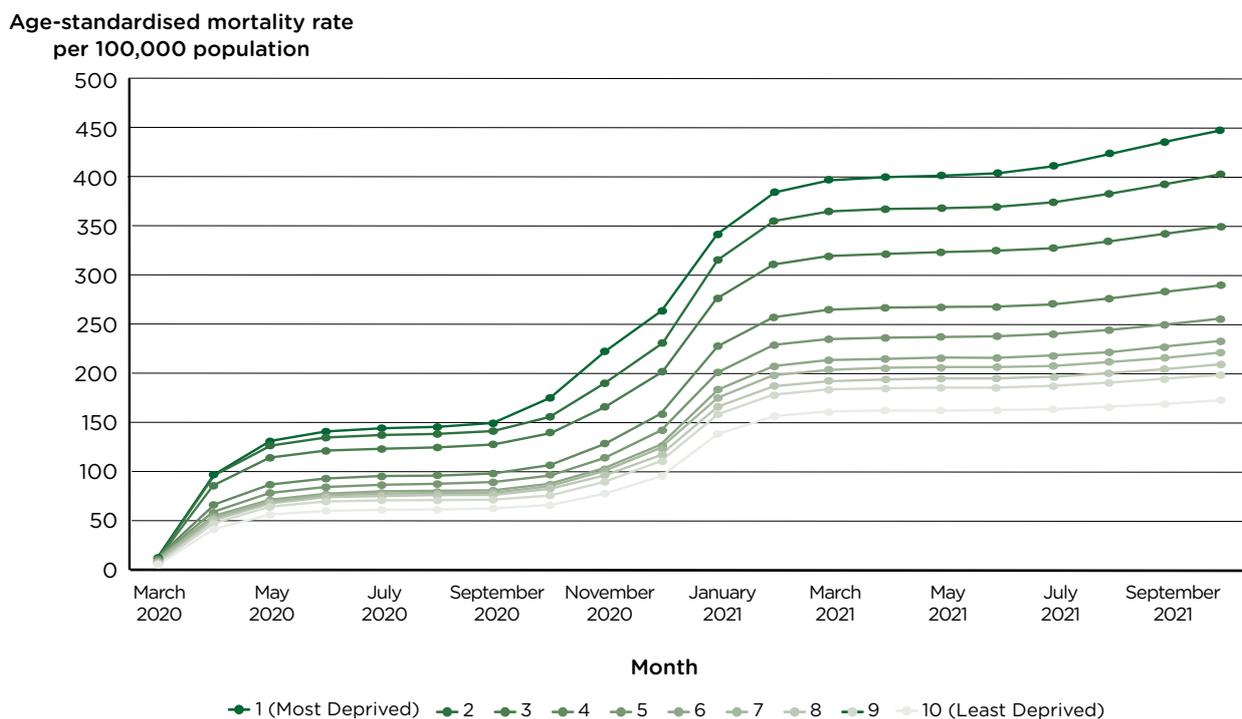
1C COVID-19 AND INEQUALITIES IN ENGLAND

The COVID-19 pandemic both exposed and exacerbated inequalities in our society. The preceding decade left the UK in a poor and unhealthy state to handle the pandemic (12). The burden of COVID-19 did not fall equally across society. More deprived people were less likely than better-off people to be able to avoid infection, due to living in more crowded homes and neighbourhoods, and having a greater likelihood of working in service and frontline jobs that could not be done from home. People experiencing deprivation and disability are also more likely to suffer from obesity, respiratory disease, high blood pressure and diabetes, increasing their risk of serious illness or death if they were to be infected with COVID-19.

Figure 1.6 shows the social gradient in health as exposed by COVID-19. Mortality for the most deprived is more than double that for the least deprived 10% of the population. This gradient is very similar to that for non-COVID mortality, suggesting that the same mechanisms of inequality are at work. We must also bear in mind

other dimensions of inequality and exclusion that affect outcomes during the COVID-19 pandemic, including ethnic inequalities: cumulative COVID-19 mortality rates for both Black/Black British and Asian/Asian British ethnic groups have been double that of the White ethnic group (13).

Figure 1.6. Cumulative mortality rate for deaths involving COVID-19 in England, by deprivation decile, March 2020 to October 2021



Source: OHID, 2021 (13)

While the factors outlined above may seem specific to COVID-19, the social gradient of mortality from the pandemic looks very similar to the social gradient in all-cause mortality, or in any number of other health outcomes. This is true at least for the link with deprivation, although the relationships between ethnicity and health

outcomes are often more complex. Many of the factors that underlie this pattern – the social determinants of health – are the same for COVID-19 as they are for health more generally. This is why COVID-19 has to be a wake-up call, and the attention that it has drawn to inequalities in health must not be allowed to dissipate as the pandemic recedes.

1D LOCAL ACTION ON SOCIAL DETERMINANTS AND HEALTH INEQUALITIES

In the two decades since the publication of the first Marmot Review, action on health equity at the national level has been lacking, resulting in deepening health inequalities. This strengthens the argument for action to be taken at the sub-national level, whether that is regional, local or within individual organisations. Although many of the most effective levers remain with national government, there is much that local areas and sectors can do to reduce health inequality and mitigate the impacts of national social and economic circumstances and policies.

Place-based partnerships that include a wide range of stakeholders can do much to tackle health inequalities. The IHE has worked with Coventry, Greater Manchester, Cheshire and Merseyside and Lancashire and Cumbria as they become 'Marmot cities and regions', taking a social determinants approach and putting health equity at the centre of everything they do (14) (15) (16). These experiences are helping to inform our work in Luton.

Coventry was the first city to declare its intention to become a Marmot City, in 2013. Through this process the city tried to improve health through a whole-systems, asset-based approach that built on what was already being done and sought gains through improved partnership working and a sense of common purpose. Coventry City Council brought together a group of senior leaders from across the public, private and voluntary, community, faith and social enterprise (VCFSE) sectors to steer the work, which has influenced functions from planning, housing and transport to licensing, regulation and procurement. Taking responsibility and being accountable for delivering on Marmot policy objectives has proved crucial. Acting on the social determinants of health takes a long time to produce evidence of health outcomes, given the time scales and complexity at play. However, there are reasons to be optimistic about Coventry's work, including a pattern of stability or improvement when it comes to inequality in life expectancy, in contrast to national trends of deepening inequality (14).

Leaders in Coventry remain passionate about their work on the social determinants of health and for health equity, and continue to work closely with IHE, most

recently hosting the launch of a place-based health equity network in April 2022. Coventry has maintained a focus on health and health equity as a primary policy priority and in all policies. The city has committed leadership within the Council and across other partners, and a shared understanding that is embedded at all levels and in all departments, including in transport, planning and urban design. Health equity is incorporated into the fabric of the city. Its principles were intrinsic to Coventry's successful bid to be UK City of Culture 2021, and to its bid to host some of the 2022 Commonwealth Games.

IHE has also been working with the devolved Greater Manchester City Region. Starting in 2019, this work was underway when the COVID-19 pandemic hit, necessitating a reorientation and eventually resulting in the publication of *Build Back Fairer in Greater Manchester: Health equity and dignified lives* in 2021 (15). This report was aimed at assessing the challenges to health equity that Manchester would face in recovering from the pandemic and recommending ways in which the city could build back fairer. In Manchester, as in Coventry, there was support for the project at the highest levels, and commitment throughout, and the recommendations of that report have gone on to influence the Good Lives For All Greater Manchester strategy for 2021-2031 (17).

In 2022, following a period of assessment and collaboration, IHE published a report for Cheshire and Merseyside *All Together Fairer: Health equity and the social determinants of health in Cheshire and Merseyside*. The report includes an action plan for different sectors in the short and long term and IHE continues to work with the region on implementation (16).

1E BUILDING BACK FAIRER IN LUTON

Luton, with a population of just over 210,000 people, is the first town to become a Marmot Town. Luton is well-placed to take this step. On the one hand, it is a relatively deprived area, and this is reflected in its health outcomes. Luton’s life expectancy lags behind the England average. It has higher preventable mortality, as well as cardiovascular and cancer mortality. However, Luton also has many of the resources necessary to turn this around. It has a thriving and vibrant VCFSE sector, a resilient economy and no shortage of the ambition and leadership needed to put health equity at the top of the agenda and it has some important plans for change.

While this report will focus on inequalities and socioeconomic disadvantage, there are many factors, such as community cohesion, that are harder to measure and help to mitigate disadvantage. Many more deprived households, communities and individuals have important assets and thrive despite the disadvantage they experience. There are ways to build and spread

these assets, while also working to reduce disadvantage and deprivation and to increase resilience. We recognise the impact of social determinants on health and life, and identify the inequalities in these, not so that we can fatalistically accept them but so that we can change them and advance the cause of health equity.

LEVELS OF DEPRIVATION IN LUTON

Figure 1.7. Map of wards in Luton

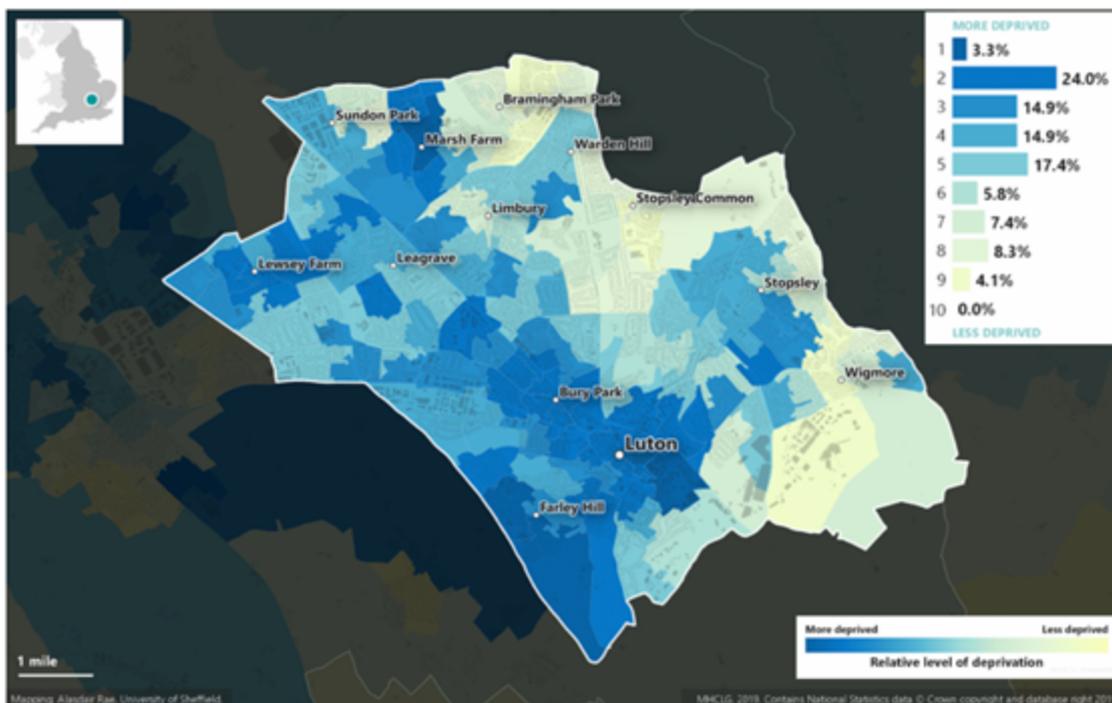


Source: Geopunk (18)

In 2019 Luton was ranked the 70th most deprived local authority in England out of 317 in the Index of Multiple Deprivation (IMD). This marked an improvement over 2015, when it was ranked 59th (19). While Luton is relatively deprived, it has pockets of affluence. The IMD measures deprivation in a number of domains, including

many of the areas covered in this report, like housing, income, employment and health. In Luton there are more areas of deprivation in the South and West of the town and around the centre, although there are pockets of deprivation elsewhere, shown in figure 1.8.

Figure 1.8 Luton map by deprivation profile



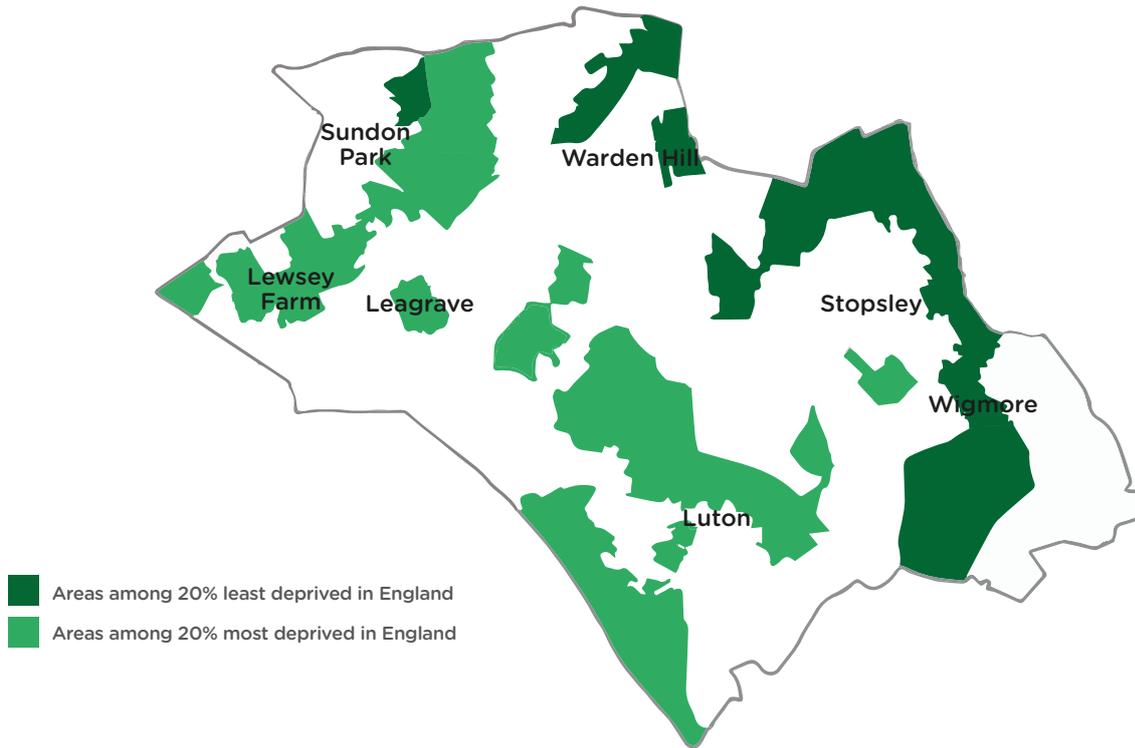
Source: University of Sheffield (20)

Notes: This is a map of Indices of Deprivation 2019 data for Luton. The colours on the map indicate the deprivation decile of each Lower Layer Super Output Area for England as a whole, and the coloured bars indicate the proportion of LSOAs in each national deprivation decile. The most deprived areas (decile 1) are shown in blue.

The inequalities, as shown in Figure 1.9, within Luton are striking. The average income deprivation score for Luton is 15.5%, the 65th highest in England. In the town's least deprived neighbourhood, only 3.3% of people are estimated to be income-deprived but in the most deprived neighbourhood that rises to 41.2%. The internal

disparity, or the gap between these two numbers, is 37.9 percentage points. In comparison, in St Albans, a few miles down the railway line, only 6% of people are income deprived (21). Figure 1.9 displays the inequalities in income in Luton.

Figure 1.9 Income inequality in Luton



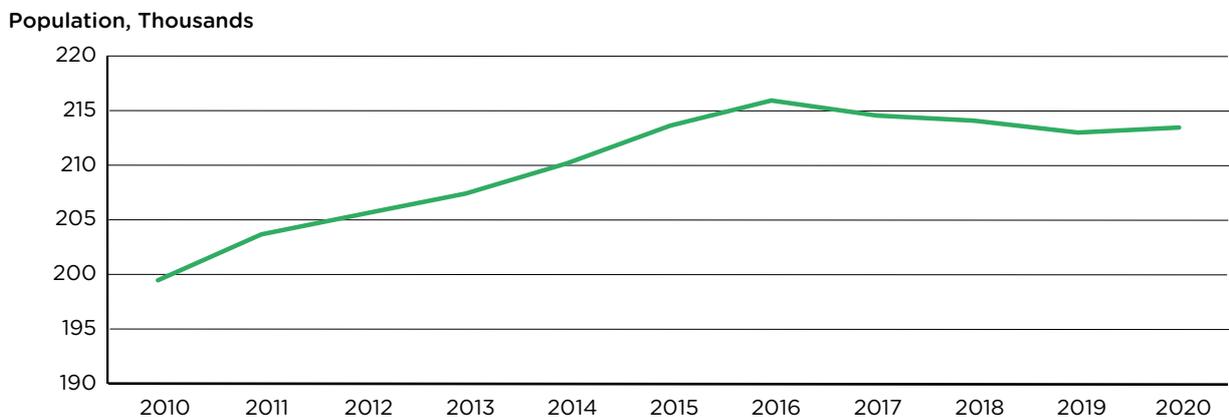
Source: An English Atlas of Inequality (22)

Missing explanatory note: Note: This map shows Luton’s 20:20 index, which is 10:34. This is the ratio of LSOAs in Luton that are among 20% least or 20% most deprived nationally, based on the Income Domain of the 2019 English Indices of Deprivation. This tells us the economic imbalance of the local authority.

LUTON DEMOGRAPHICS

The demographic characteristics of Luton are complex, characterised by high levels of immigration, both from overseas and from within the UK, significant population turnover, and one of the most ethnically diverse populations in England. As Figures 1.10 and 1.11 show, after rapid population growth in the first half of the 2010s the population started to decline from its peak in 2016.

Figure 1.10. Population estimates, Luton, 2010-2020



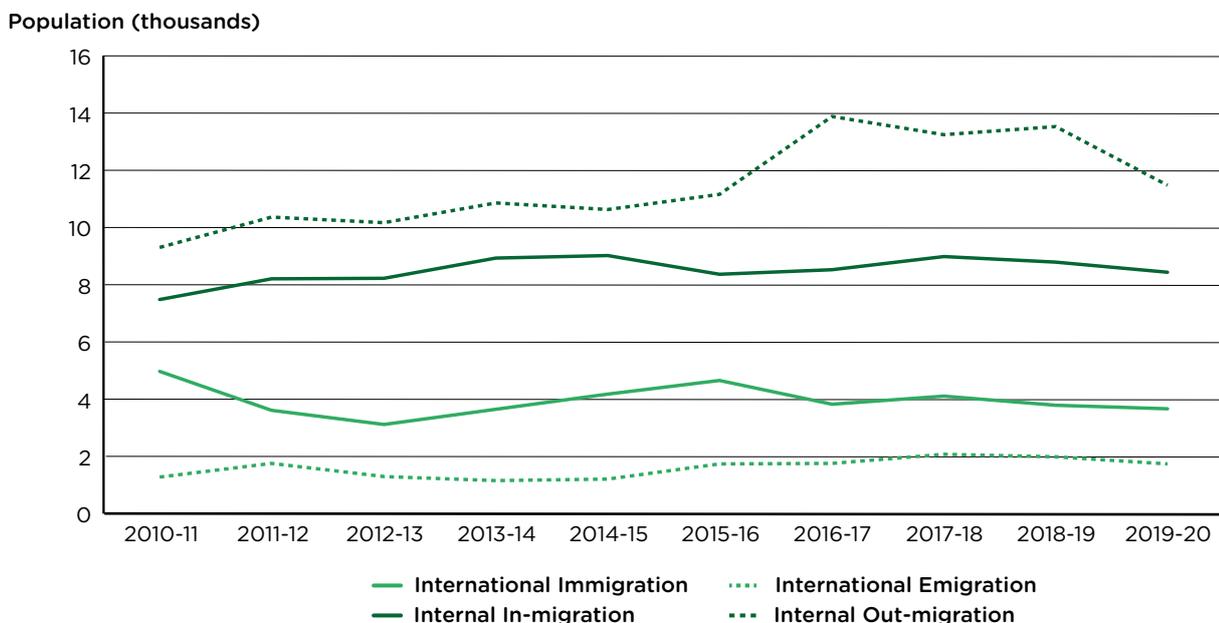
Source: ONS, 2021 (23)

POPULATION TURNOVER AND CHURN

Figure 1.11 shows the flow of people in and out of Luton. As mentioned above, there was an increase from 2016 in people moving out of Luton to other places in the UK. There have also been high levels of international and internal (from within the UK) immigration, as well as a smaller number leaving Luton for another country.

Although there was a small decrease in the birth rate in Luton, by about 200 births a year between 2013 and 2019, it is predominantly the change in emigration that has driven the slowdown in Luton’s population growth (24) (25).

Figure 1.11. Population flows, Luton, 2010-2020



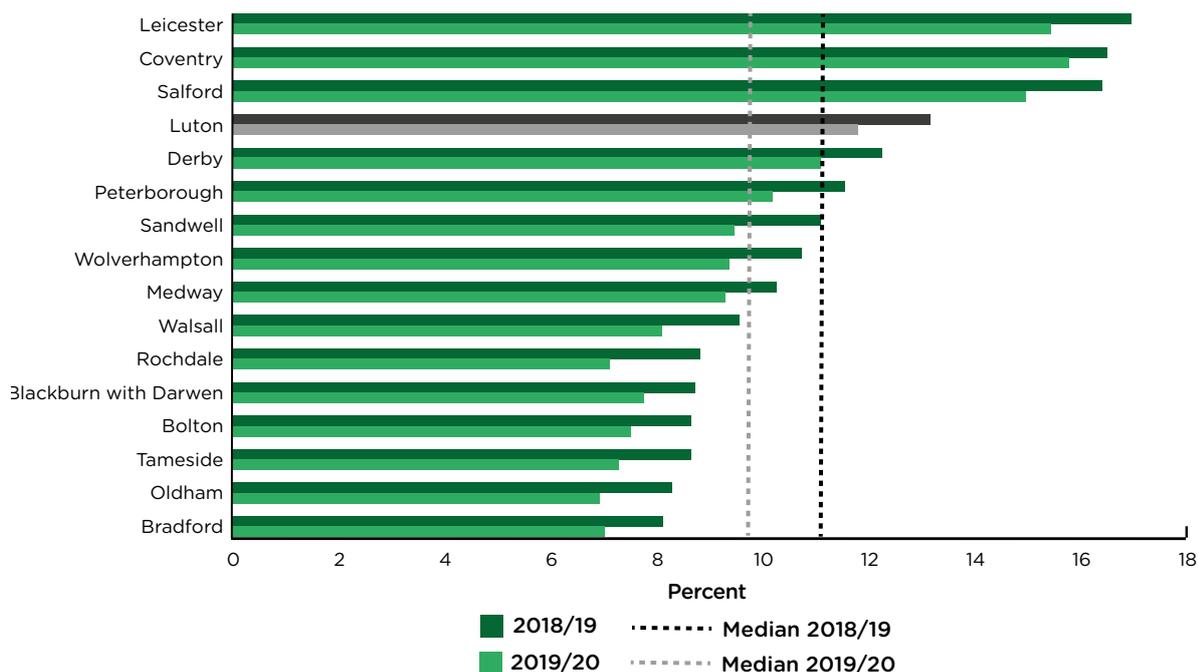
Source: ONS, 2021 (26)

This complex pattern of migration contributes to Luton’s high population turnover: in 2011 it was estimated that between 50% and 75% of the current population had not been living in Luton or had not been born at the time of the 2001 census (27).

Figure 1.12 shows population turnover in Luton and its statistical neighbours - this is the number of people who have moved in or out of the area in a given year,

expressed as a percentage of the total population. This does not include within-area moves. By this measure, Luton ranks relatively high for population turnover, higher than most of its nearest statistical neighbours, and higher than the median for UK local government areas. If the 309 local and unitary authorities in England were to be ranked by population turnover in 2019-2020, 93 of them would have greater turnover than Luton, and 215 would have less (28).

Figure 1.12. Population turnover as a percentage of total population, Luton and its statistical neighbours, 2018–2019 and 2019–2020



Source: ONS, 2021 (28)

Notes: For these figures, the year runs from June to June. The values for June 2019 to June 2020 are the latest values. The values for June 2018 to June 2019 are also given, to cover disruption due to COVID-19. The vertical lines represent the median values for 309 unitary authorities and local authorities within the UK.

Population turnover is significant for several reasons. It makes connecting cause and effect over time much more difficult. An intervention made for the whole population of Luton in 2001 would have been difficult to assess for success or failure by looking at the population in 2011, as these are, to a great degree, different people. It can also make it more complicated to assess the health effects of inequalities in the social determinants. If someone lives in Luton while a young adult in a poor-quality, overcrowded house, and smokes, and then moves away from Luton, they are likely to develop ill health elsewhere, as conditions like Chronic Obstructive Pulmonary Disease (COPD) or heart disease take time to develop.

As well as population turnover – moving in or out – there is population churn, which is movement of people within an area, for example moving to a different neighbourhood within Luton. There are many factors, both ‘push’ and ‘pull’, that affect decisions to move or stay in a location. The most common reasons for moving are to do with housing and stage of life, such as having children and requiring more space. People move for work, too, and while this reason is less common overall, it is a more likely reason for a longer distance move (29).

The peak ages for moving in or out of Luton are 19 and 22, the ages at which students typically begin and end their studies, and then turnover decreases through working age (30). In interviews conducted and events attended for this report it was frequently expressed that Luton had less to offer for young people with aspirations and ambition, and therefore making a success of yourself meant leaving

Luton. Concern was expressed that the effect of those with higher educational attainment and better employment prospects leaving areas perceived as having less to offer is that deprivation becomes entrenched.

There is evidence that migration patterns do contribute to geographical segregation, as those with higher educational attainment move to less deprived areas and vice versa. However, this appears to be a relatively modest effect, potentially offset by improving the educational attainment of just one or two out of every 1,000 residents in Luton. In addition, around half of all moves are between deprived areas, so improving the educational attainment – or other socioeconomic variables – of residents in one deprived area is likely to contribute to improving another deprived area even if that benefit is ‘lost’ to the first area (29).

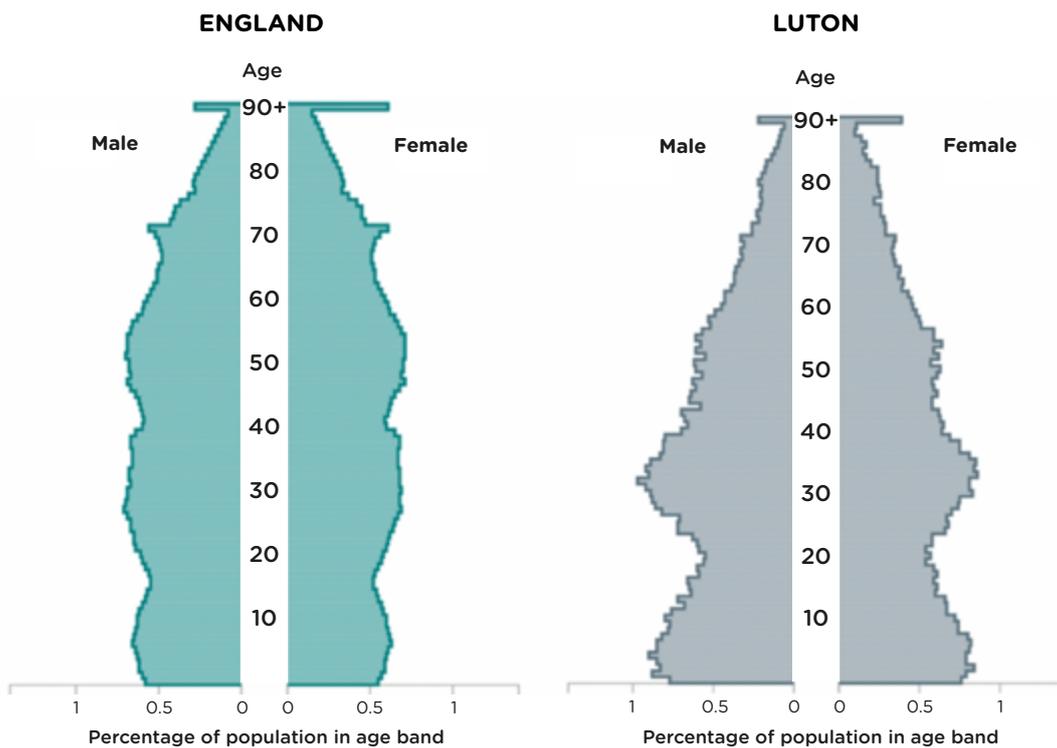
Luton has a high percentage of first- and second-generation immigrants. Approximately 35.1% of Luton’s population is estimated to have been born outside the UK, compared with 15.7% of the population of England (31). 62.7% of live births in Luton in 2020 were to mothers born outside the UK, more than double the England average of 30.2% (32). This is highly relevant to health, as immigrants to the UK tend to have better health than those born in the UK (33). This is in part due to the ‘healthy migrant effect’ – those who are able and willing to emigrate tend to be younger and healthier, and healthier migrants are also more likely to stay in the new countries to which they have emigrated. There are many other factors that affect the health of migrants, and this is far from universally true, but it may be an important factor in considering the health of a population such as Luton.

AGE PROFILE

Luton is a relatively young town. In 2019, the median age of the population was 34.6 years, compared with the England average of 40.0 (see Figure 1.13) and the East of England average of 41.7. By this measure, Luton is the 24th youngest local authority in England (34). However, Luton’s population is dynamic and the age structure is changing. The population aged over 85 years old increased by 44.6% between 2010/11 and 2020/21, compared with 9.6% for the population aged 65–84, and a mere 3.3% growth in the working age population (aged

18–64). The population of children and young people aged under 17 grew by 12.9%, and the population as a whole by 7.0% over the same period (35). The cumulative effect is a proportionate increase in children and young people and older people, reducing the working age population as a proportion of the total. This could result in a higher burden on healthcare and other services in the town in the future.

Figure 1.13. Age distribution of the populations of and England and Luton, 2018



Source: ONS, 2021 (36)

ETHNIC DIVERSITY

Luton is an extremely ethnically diverse town, sometimes referred to as ‘super-diverse’, with significant long-standing Indian, Pakistani, Bangladeshi, African-Caribbean and Irish communities, as well as more recent immigration from countries that joined the EU in 2004 and 2007, Turkey, and African countries including Congo, Ghana, Nigeria, Somalia and Zimbabwe. Table 1.1 shows the ethnicity breakdown of Luton compared with the England average for 2016. It is not

possible to sum up its diversity in one figure, but only 17 other local authority areas have a lower proportion of White British residents than Luton, all but two of which are in London.

Another measure of diversity is linguistic: the 2011 Census for Luton showed that 75.9% of households contained only adults with English as a main language, compared with the England average of 90.9% (37).

Table 1.1. Ethnicity distribution of the populations of Luton and England, 2016

	White British	All Other White	Mixed / Multiple ethnic groups	Asian / Asian British	Black / African / Caribbean / Black British	Other ethnic group
Luton	43%	12%	3%	31%	10%	2%
England	79%	6%	2%	8%	4%	2%

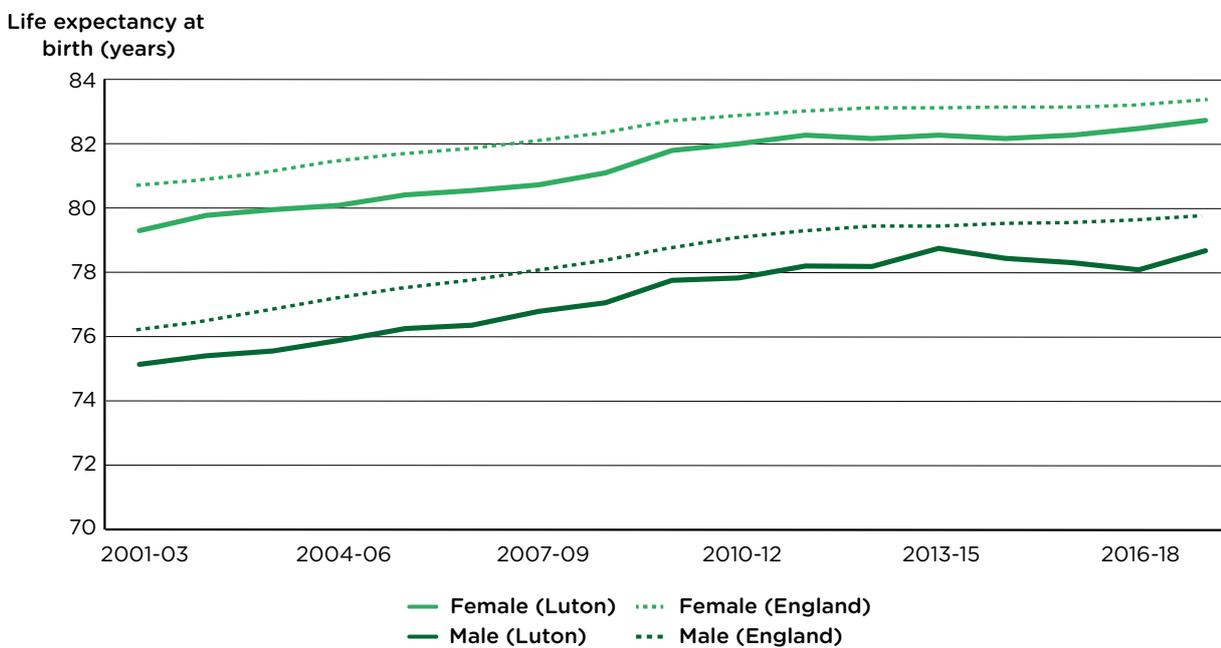
CHAPTER 2

HEALTH INEQUALITIES IN LUTON

2A LIFE EXPECTANCY

Life expectancy in Luton is lower than the England average. In the years 2017-19, before the COVID-19 pandemic, life expectancy at birth was more than one year less than the England average for men, and about eight months less for women. Compared with its region, the East of England, the situation is worse in Luton, with women living over a year less than the regional average, and men nearly two years less. Over the last two decades, Luton has consistently lagged slightly behind the England average for both men and women, as shown in Figure 2.1. As we saw in Chapter 1, this was during a period of stagnating life expectancy improvements nationally, and worsening life expectancy for many of the more deprived communities outside London and the South East.

Figure 2.1. Life expectancy at birth, Luton and England, 2001-2019

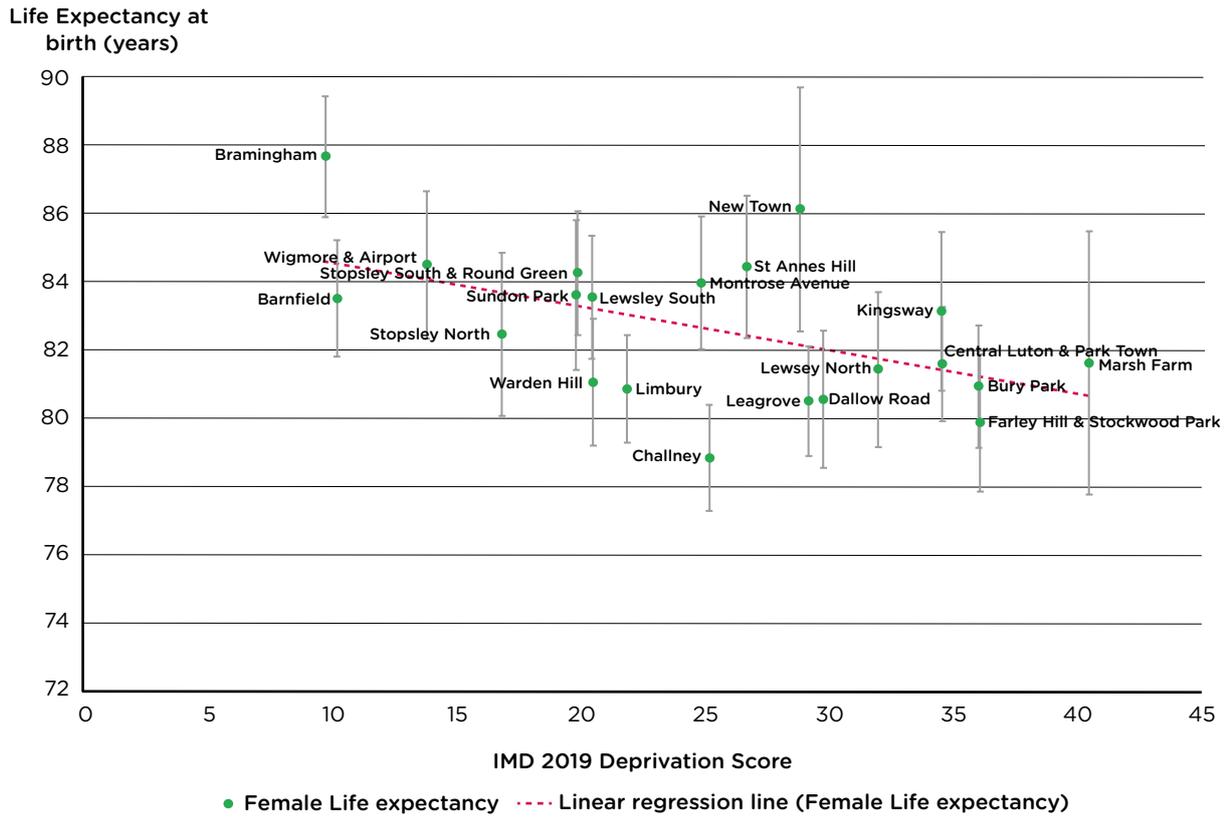


Source: ONS, 2020 (39)

There are pronounced inequalities in health in Luton. Figures 2.2 and 2.3 show large ‘error bars’, due to the small size of individual wards in the town – the true value of life expectancy is likely to lie within those ranges. Even with that caveat, there is good evidence of large inequalities in life expectancy across Luton, associated

with levels of deprivation. The dotted lines on the graphs represent a measure of correlation between life expectancy and deprivation. For women, there is at least six years of difference in life expectancy depending on which part of town you are born in, and there may be up to a decade of difference.

Figure 2.2. Female life expectancy at birth in Luton, by level of deprivation at local level, 2016–2020



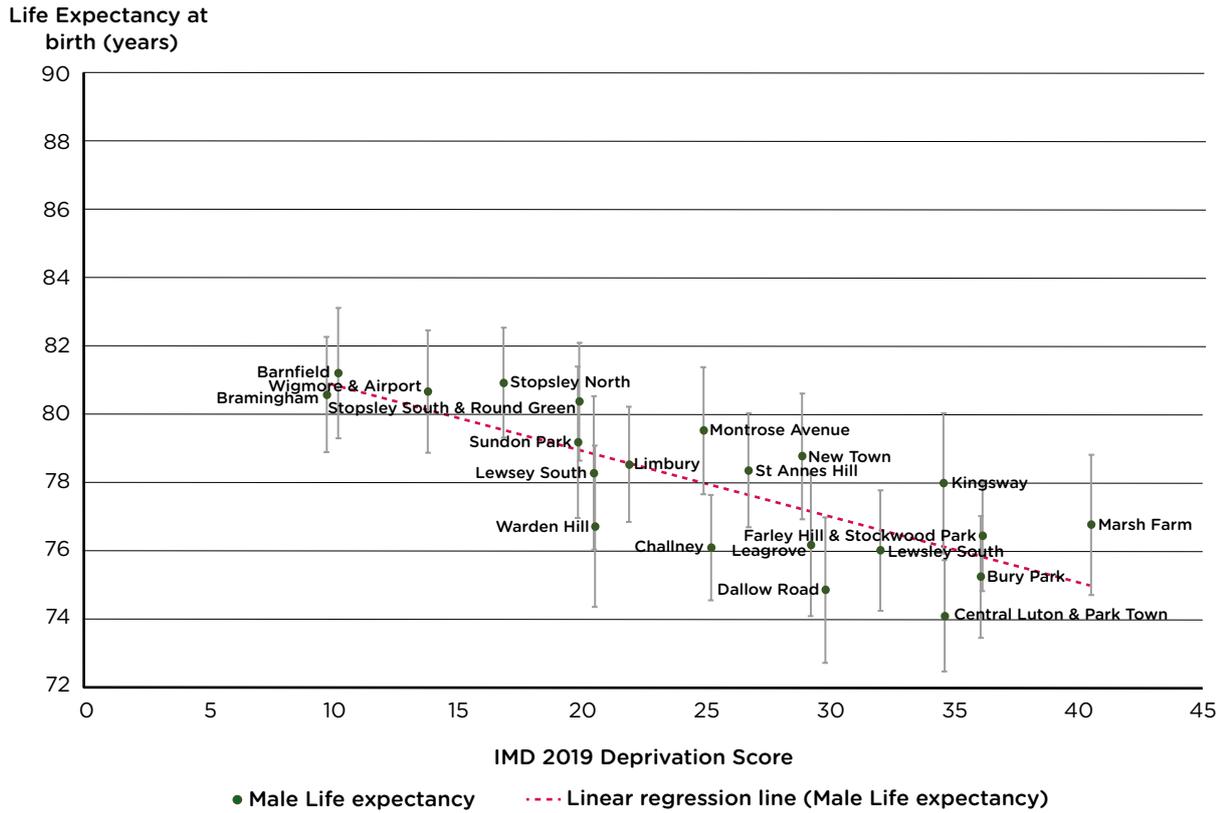
Source: ONS, 2021 (40)

Notes: The data are for IMD 2019 scores of middle layer super output areas (MSOA). R^2 0.6152 for the regression line. This is the proportion of the variance explained by the variable in the regression model

The pattern for men is similar to that of women, but their life expectancy is generally lower, as is the case worldwide. The correlation with deprivation is clearer

than for women, and similarly represents up to a decade of difference in life expectancy at birth between different parts of the town.

Figure 2.3. Male life expectancy at birth in Luton, by level of deprivation at local level, 2016–2020



Source: ONS, 2021 (40)

Notes: The data are for IMD 2019 scores of middle layer super output areas (MSOA). R^2 0.6152 for the regression line. This is the proportion of the variance explained by the variable in the regression model

We know, therefore, that inequality is costing Luton residents years of their lives, and that the burden is falling unequally within Luton, just as it falls unequally across the UK.



2B PHYSICAL HEALTH AND MORTALITY

Data from the 2011 Census suggests that 12% of working-age people in Luton live with a long-term illness, health problem or disability that limits their daily activities or the work they can do. This is not far from the England average of 12.7%, and lower than its statistical neighbours, which average 15.1%. However, there is a significant range within Luton, from 8.2% in Bramingham to 15.7% in Northwell (41).

HEALTHY LIFE EXPECTANCY

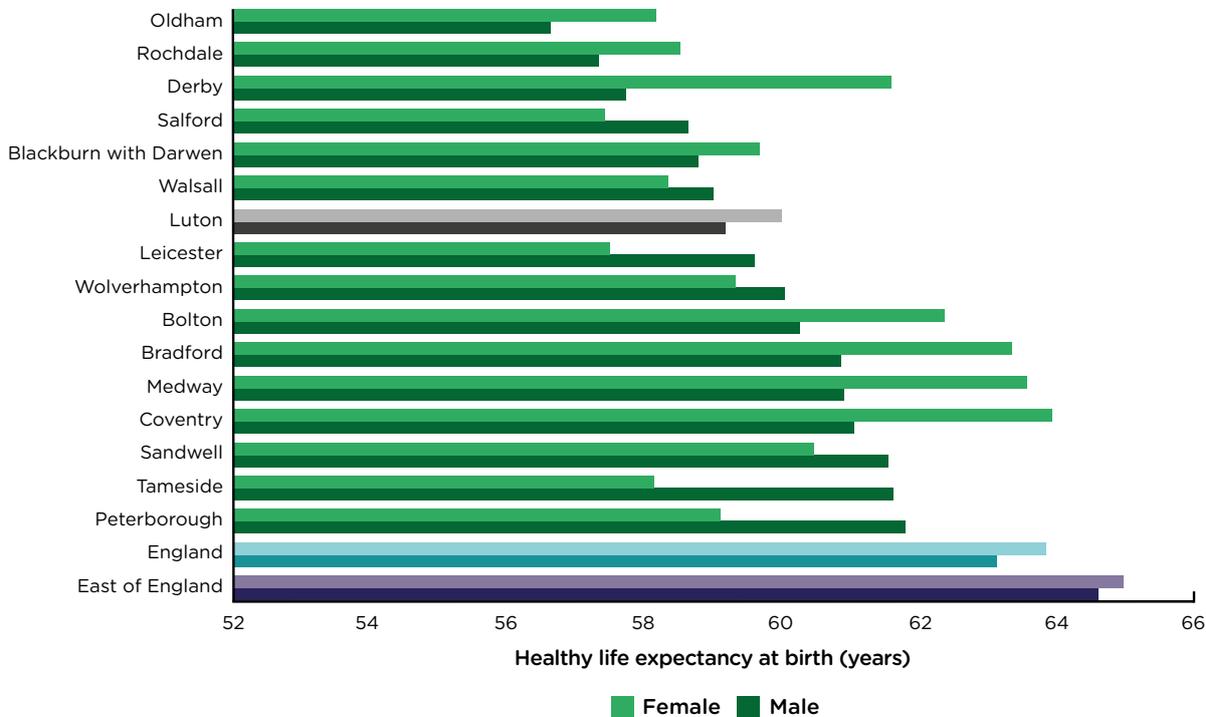
Inequalities in healthy life expectancy, or how long we can expect to live in good health, are usually even greater than inequalities in overall life expectancy. In the period 2018–2020, healthy life expectancy at birth in Luton was 59.2 years for men and 60 years for women. This is just a little lower than the England averages of 62.8 and 63.6 years respectively, and further behind the regional East of England averages of 64.6 and 65 years.

However, it is when looking at some of the least deprived areas in the country that we see what things can be like and the real scale of inequality. In Rutland, for example, a man can expect to live 74.65 years in good health – more

than 15 years longer than his counterpart in Luton. In the Orkney Islands, a woman might expect to live 77.49 years in good health – over 17 years more than her sisters in Luton. Wokingham is about one hour’s drive from Luton yet its residents can expect to live over a decade longer in good health than those born and living in Luton (42).

Figure 2.4 shows how healthy life expectancy at birth compares between Luton and its nearest statistical neighbours and with the regional and England averages, with whom it compares relatively poorly, particularly for men, although healthy life expectancy is lower than the England average for both men and women.

Figure 2.4 Healthy life expectancy at birth, Luton and its statistical neighbours, 2018–2020



Source: ONS, 2022 (43)

THE ONS HEALTH INDEX

One measure of health which is useful to consider is the Office for National Statistics (ONS) Health Index. The Health Index was initially proposed in 2018 and is intended to provide a headline measure of health for England and local areas that can be tracked over time. It incorporates health outcomes, including life expectancy and disease levels, modifiable risk factors including unhealthy behaviour and conditions that predispose people to disease like high blood pressure. It also includes some measures of the social determinants of health, as discussed throughout this report, including employment rates, quality of transport infrastructure and environmental pollution (44). It incorporates considerations of both mental and physical health.

The ONS Health Index places Luton in the bottom 20% for health in England, with data from 2019 finding Luton the 269th most healthy local authority out of the 307 included in the ONS Health Index; therefore, just 38 local authorities in the country are rated worse. Despite this, Luton rated highly for some aspects of health, above the England average, including on personal wellbeing, mental health and access to services. Luton's poor score overall is driven in part by higher mortality, but also to a great degree the social determinants of health – high crime, poor economic and working conditions, and poor living conditions – and by the behavioural and physiological risk factors that are associated with the social determinants. It also scores poorly for protective measures, such as cancer screening and vaccination uptake (45).

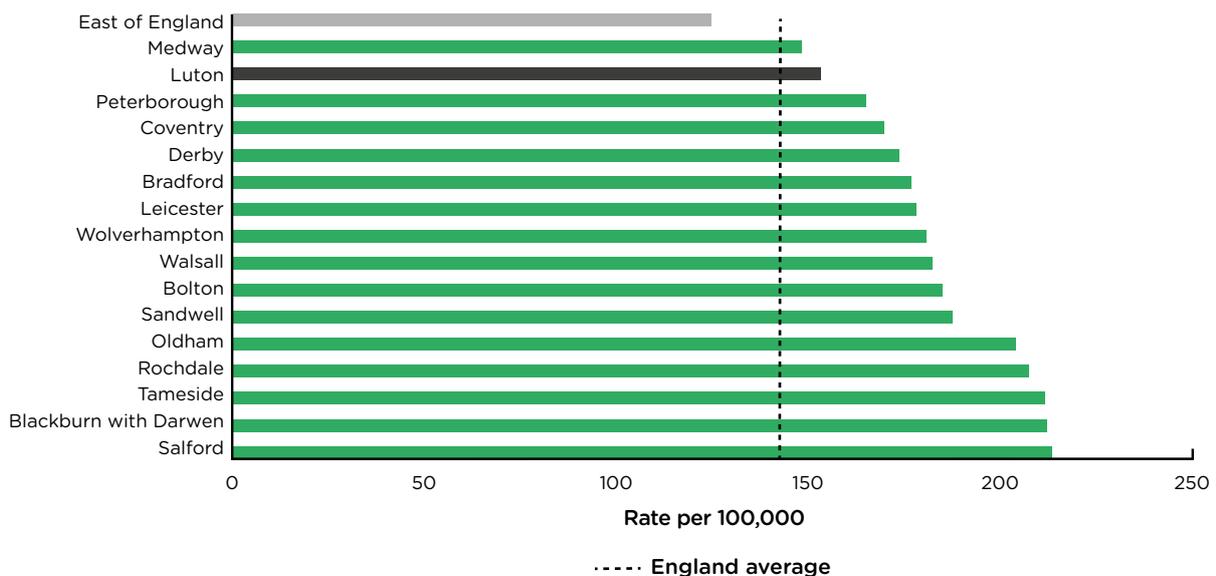
'PREVENTABLE' MORTALITY

Deaths are considered 'preventable' if they could have been mainly avoided through effective public health and primary prevention measures, not including those that might have been avoided through better healthcare. These include deaths from some cancers, and some circulatory and respiratory diseases, as well as deaths related to alcohol and drug use. This definition of preventable mortality is restricted to deaths under the age of 75 (46).

High levels of preventable mortality also relate to inequalities in the social determinants of health. Many of these deaths could have been avoided if the social and economic conditions of the area had been improved, and therefore these deaths are to some extent the results of inequality. Preventable mortality that is due to inequality represents a social injustice, drives inequalities in life expectancy, and represents years of healthy and productive life lost. Reducing preventable mortality is therefore a key part of improving health equity.

Figure 2.5 compares preventable deaths under 75 in Luton with some of its nearest statistical neighbours. Luton's levels of preventable death are higher than the England average, and significantly higher than the East of England, but compare relatively well with some of the other local authorities considered.

Figure 2.5. Under-75 mortality rate from causes considered preventable, rate per 100,000, Luton and its statistical neighbours, 2017–2019

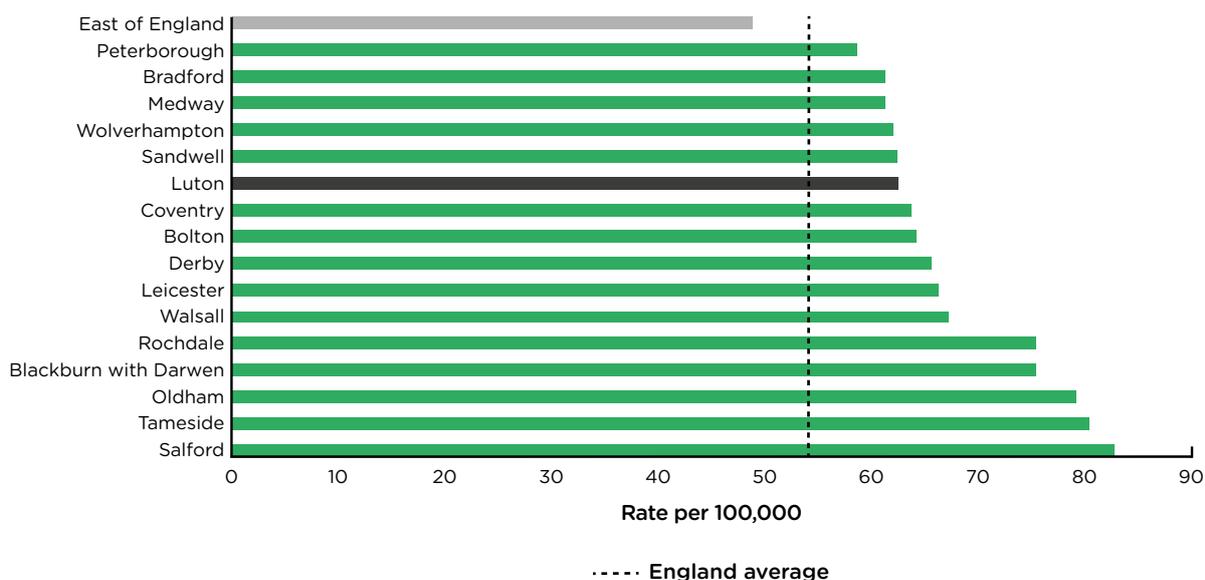


Source: OHID (47)

Figures 2.6 to 2.9 show some of the components of preventable deaths, and how Luton compares with its statistical neighbours and the national and regional averages, looking particularly at the physical health conditions that contribute. In every case, Luton fares worse than the East of England average. Compared with the England average, Luton performs poorly on preventable cancers and cardiovascular disease, but very similar to the national picture on respiratory disease and notably better on liver disease. Figure 2.6

shows Luton's high level of mortality from preventable cancers. This may be linked to relatively poor coverage of cancer screening programmes. Data from 2021 shows poor coverage for cervical and bowel cancer screening, particularly bowel cancer, which, at 56.6% of the eligible population is some distance behind the England average of 65.2%. Breast cancer screening coverage of 68.6% of the eligible population in Luton exceeds the national average of 64.1% but lags some distance behind the very best performing local authority whose rate is 81.4% (48).

Figure 2.6. Under-75 mortality rate from cancer considered preventable, rate per 100,000, Luton and its statistical neighbours, 2017-2019

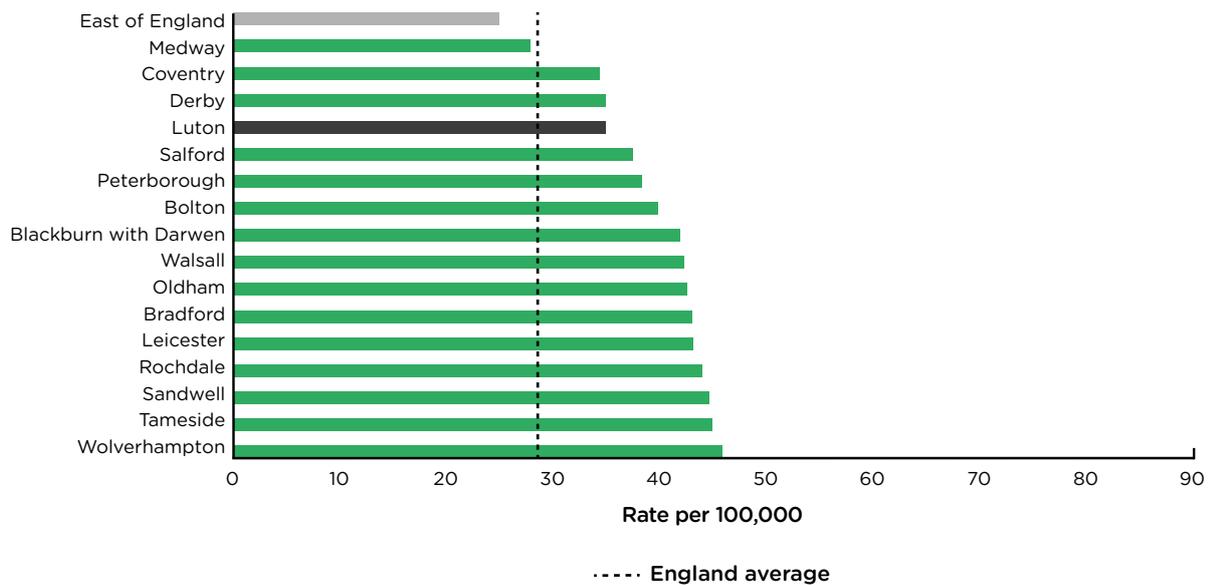


Source: OHID (49)

Luton also has a high rate of preventable mortality from cardiovascular disease, which includes some cases of heart disease and stroke. Cardiovascular disease is the leading cause of premature death in England, and is strongly related with inequality and deprivation. People living in the most deprived areas of England are nearly four times as likely to die prematurely from cardiovascular disease than those in the least deprived

areas of the country (50). Reducing deaths from cardiovascular disease requires interventions at multiple levels and there is much to be done in supporting individuals with diet, exercise and smoking cessation, but effective action also requires efforts to tackle the social determinants such as income and housing, contributes directly to the development of high blood pressure and cardiovascular disease, as well as diabetes (51).

Figure 2.7. Under-75 mortality rate from cardiovascular diseases considered preventable, Luton and its statistical neighbours, 2017-2019



Source: OHID (52)

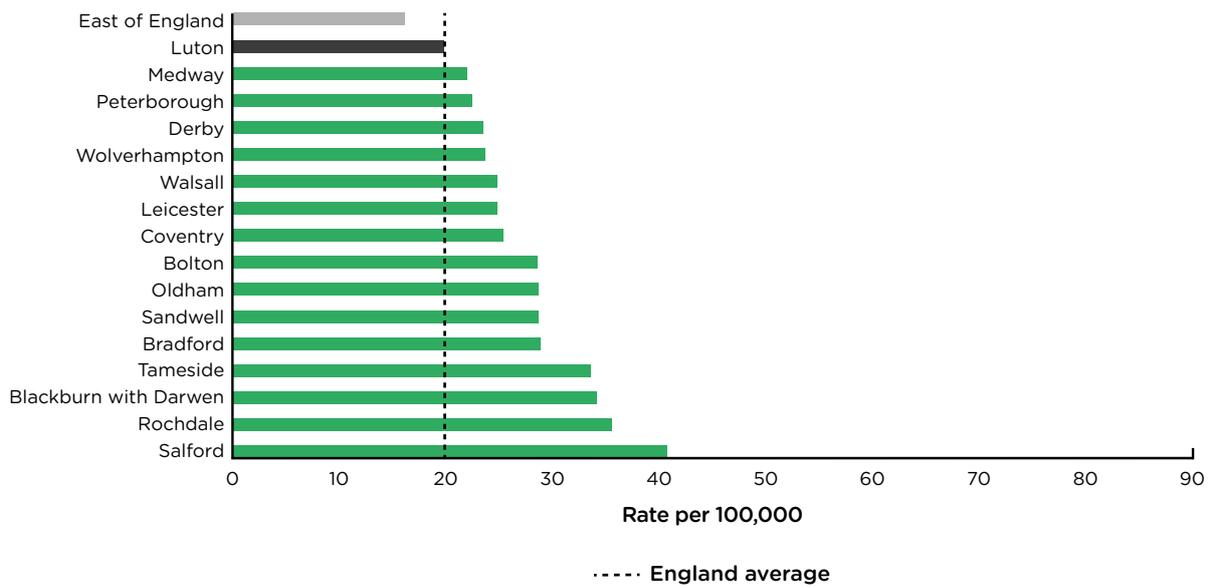
Respiratory disease is another major cause of premature death in the UK, and even more profoundly linked with deprivation than cardiovascular disease. Avoidable mortality is a category that includes both preventable disease and treatable disease that might not have proven fatal if healthcare had been better. For respiratory disease, avoidable mortality is seven times higher for those in the most deprived areas compared with the least deprived areas of England (53). As this includes treatable disease, this will be partially related to availability and quality of care. However, a great deal of the variation is driven by the social determinants of health.

One major contributor to respiratory disease is smoking, which is closely related to deprivation in the UK: in 2020, 14.8% of adults in the most deprived areas of

the country were smokers compared with only 9.0% of people in the least deprived areas (54). Housing quality also has a huge influence on respiratory disease. Cold, damp, poorly ventilated homes may increase the risk of developing asthma and having dangerous exacerbations of symptoms, as well as raising risks of respiratory infections (55) (56). Occupational risk factors play a role in the development of lung disease - miners developing pneumoconiosis, for example, or builders exposed to asbestos developing asbestosis or mesothelioma.

As seen in Figure 2.8, Luton's preventable mortality from respiratory disease is close to the England average, and better than all of its close statistical neighbours, which may be due to factors such as higher rates of smoking or higher levels of occupational risk factors within those other areas.

Figure 2.8. Under-75 mortality rate from respiratory diseases considered preventable, Luton and its statistical neighbours, 2017-2019

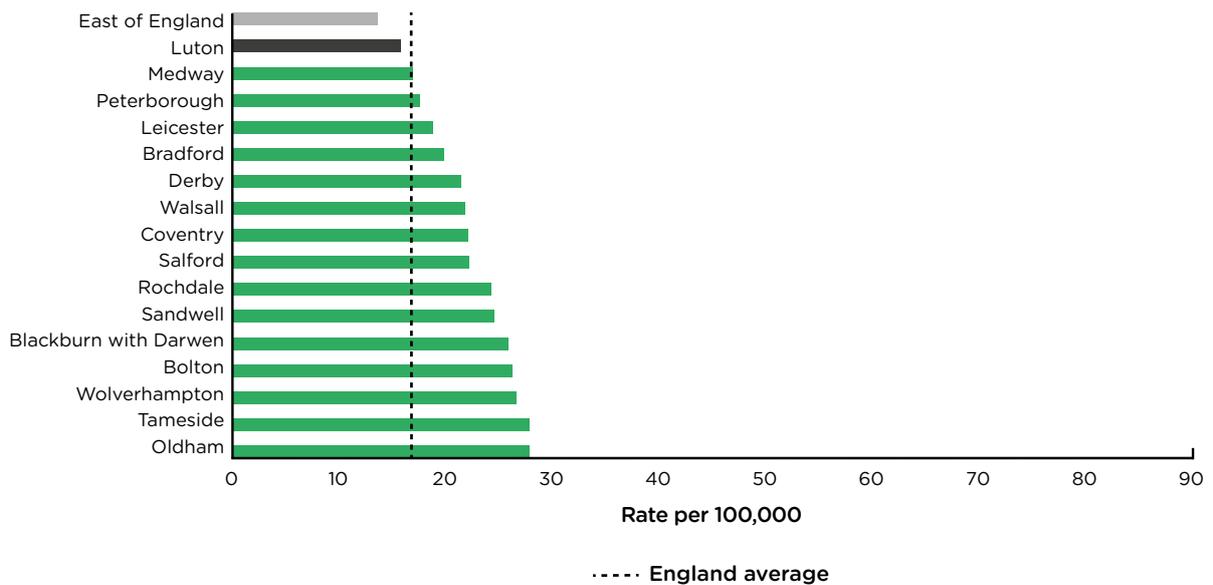


Source: OHID (57)

Most deaths from liver disease are considered preventable, with more than 90% related to unhealthy lifestyles and environments, mostly alcohol use, but also to viral hepatitis and obesity. These risk factors are again linked to the social determinants of health and to inequality. More than half of deaths from liver disease occur in working-age people (58). Deaths from

liver disease in the UK are on the increase, having risen by almost two-thirds in the last decade, and for those aged between 35 and 49 years old liver disease is now the leading cause of death (59). This increase has been driven mostly by alcohol-related disease. On this measure Luton performs relatively well compared with some areas, but much worse than the regional average.

Figure 2.9. Under-75 mortality rate from liver disease considered preventable, Luton and its statistical neighbours, 2017-2019



Source: OHID (60)

2C MENTAL HEALTH

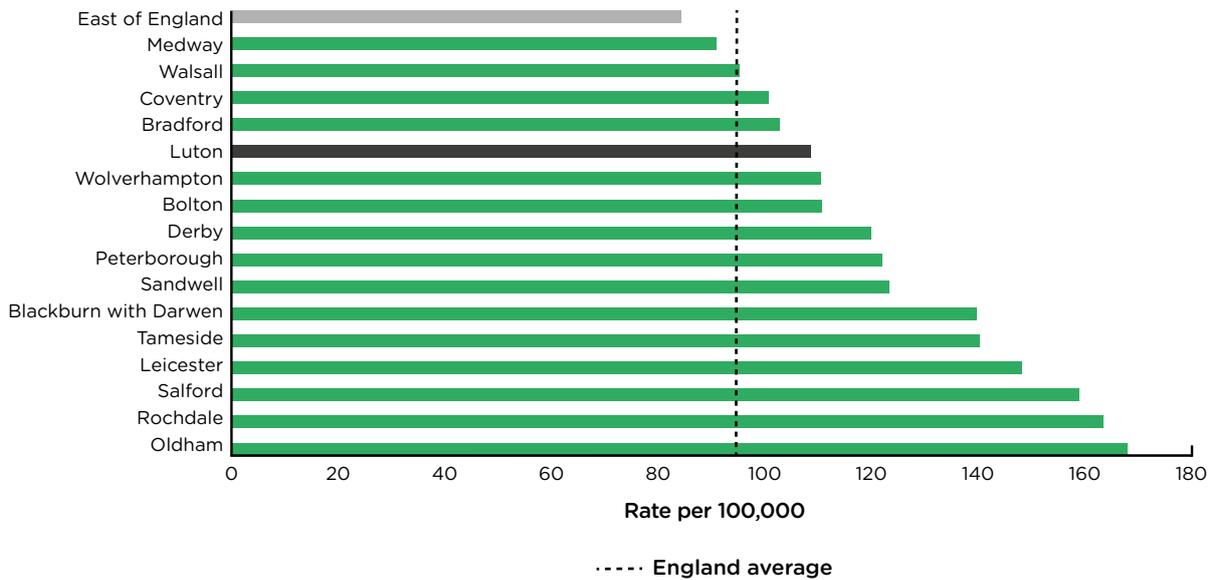
SEVERE MENTAL ILLNESS

Severe mental illness (SMI), including diagnoses like severe depression, bipolar affective disorder, and other psychotic illnesses, is associated with premature mortality. People with SMI in England die on average 15 to 20 years earlier than the average for the population as a whole, and are 4.5 times more likely to die prematurely than those without severe mental illness (61) (62). The numerous reasons for this include higher rates of suicide as well as behavioural risk factors like smoking, alcohol and drug use. Compared with all GP patients, patients with SMI have higher rates of a wide range of physical ailments including obesity, diabetes, COPD, coronary heart disease, stroke and heart failure, and the prevalence of these conditions is higher for SMI patients living in more deprived areas (61). The relationship between deprivation and SMI is complex – the stresses associated with deprivation have been implicated as contributing

to the development of SMI, and SMI frequently worsens socioeconomic circumstances including by reducing workforce participation, earning potential and social inclusion (63).

The rates of premature mortality among those with SMI vary greatly across the country, from 49 to 198 per 100,000 people in different local authorities, and this variation has been found to be highly correlated with deprivation (62). Figure 2.10 shows premature mortality in adults with SMI in Luton and its nearest statistical neighbours. It is worth bearing in mind that three of the local authorities in this group – Salford, Rochdale and Oldham – are in the 10 local authorities with the highest values in England. While Luton does not rank with the very worst, it has higher rates than the England and regional average values.

Figure 2.10. Premature mortality in adults with severe mental illness, Luton and its statistical neighbours, 2016–2018



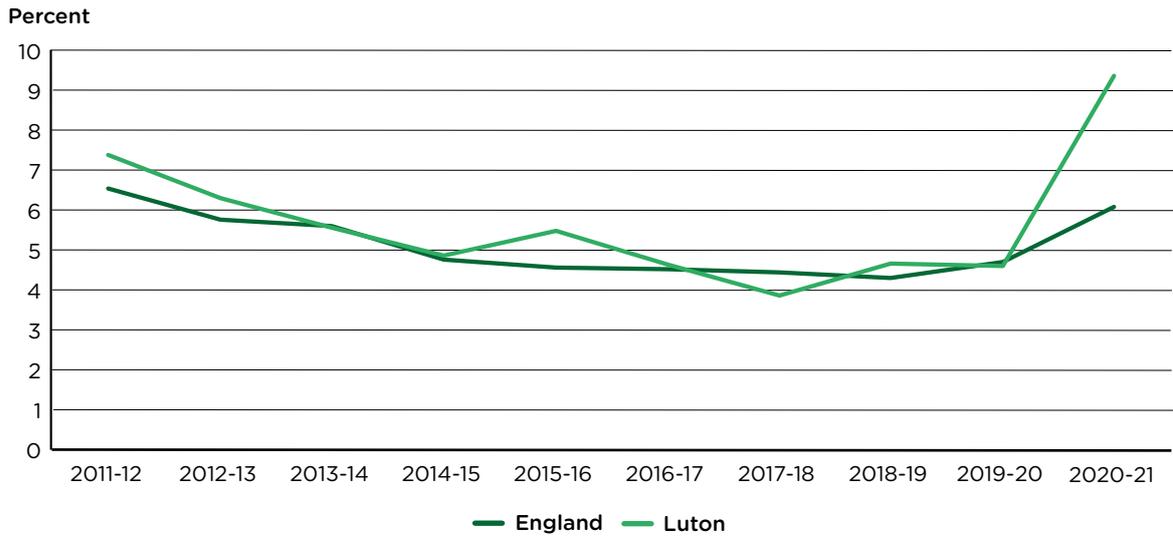
Source: OHID based on data from NHS Digital Mental Health Services Data Set and its predecessors Office for National Statistics: Civil Registration of Deaths (via NHS Digital asset) Office for National Statistics mid-year population estimates) (48)

LIFE SATISFACTION

Figure 2.11 shows the trend over time of those reporting that their life satisfaction was ‘poor’ in Luton, compared with the England average. Luton’s levels of low satisfaction have been very close to the average for the country for the last 10 years, but in the context of the

COVID-19 pandemic the results for Luton have worsened more than for England as a whole. This may be related to Luton’s relatively high mortality, high unemployment and high use of furlough, discussed below in the sections on COVID-19 and employment.

Figure 2.11. Percent reporting 'poor' life satisfaction in Luton and England, 2011/12–2020/21



Source: ONS, 2021 (64)

LONELINESS AND ISOLATION

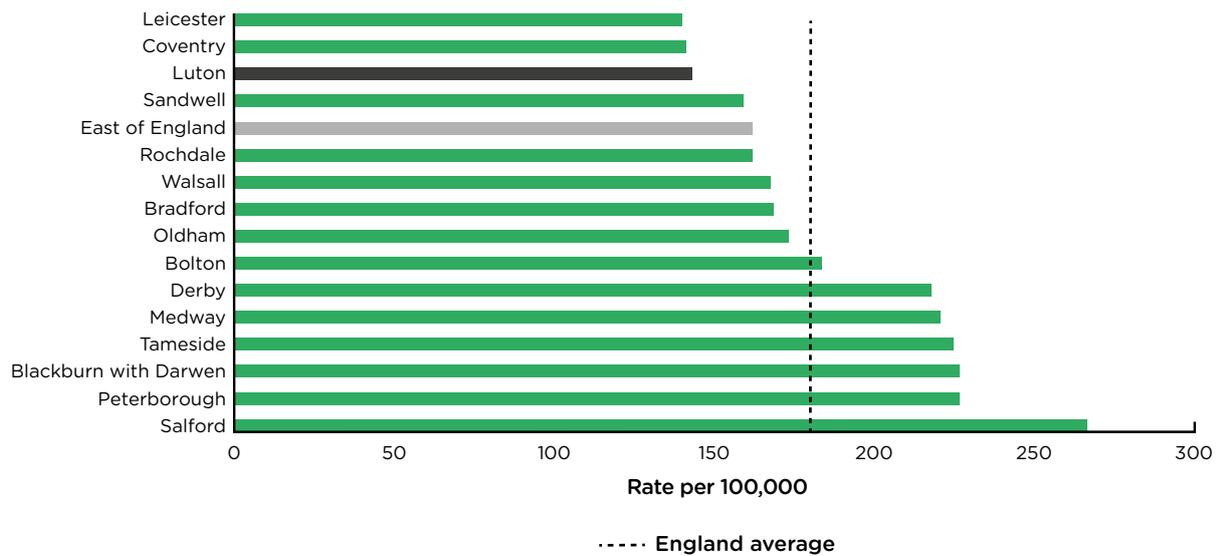
Loneliness and isolation are also related to poor mental health, and are closely linked to deprivation and disadvantage. Social isolation is an objective measure of reduced social contact, while loneliness is the subjective negative feeling that isolation can engender. Not every person who spends time alone is lonely, nor does contact with another person necessarily remove that sense of loneliness. Isolation and loneliness have been linked to a range of physical and mental health outcomes, including depression, anxiety, dementia and suicide, as well as coronary heart disease and other cardiovascular conditions, cancer (65).

Between October 2020 and February 2022, during the pandemic, 11.6% of Lutonians reported feeling lonely often or always, more than double the national average of 5%. Analysis from the Office for National Statistics has found that urban areas, areas with younger populations, and areas with higher unemployment have higher rates of loneliness, all of which apply to Luton. The same analysis has found that areas with strong local business and adult education have lower rates, so improving these factors could improve the situation in Luton (66).

SELF-HARM

Self-harm is an indicator of poor mental health in the community. There have been some indications that the pandemic has increased the risk of self-harm among UK adults, frequently linked to financial concerns (67). Again, the social determinants play a role: deliberate self-harm resulting in hospital stays has been estimated to be three times more common in the most deprived areas of the UK than in the least deprived (68). Despite this and Luton's relatively high rates of deprivation, Figure 2.12 shows Luton comparing well to the national and regional averages, as well as comparable local authorities.

Figure 2.12. Emergency hospital admissions for intentional self-harm, Luton and its statistical neighbours, 2020–2021



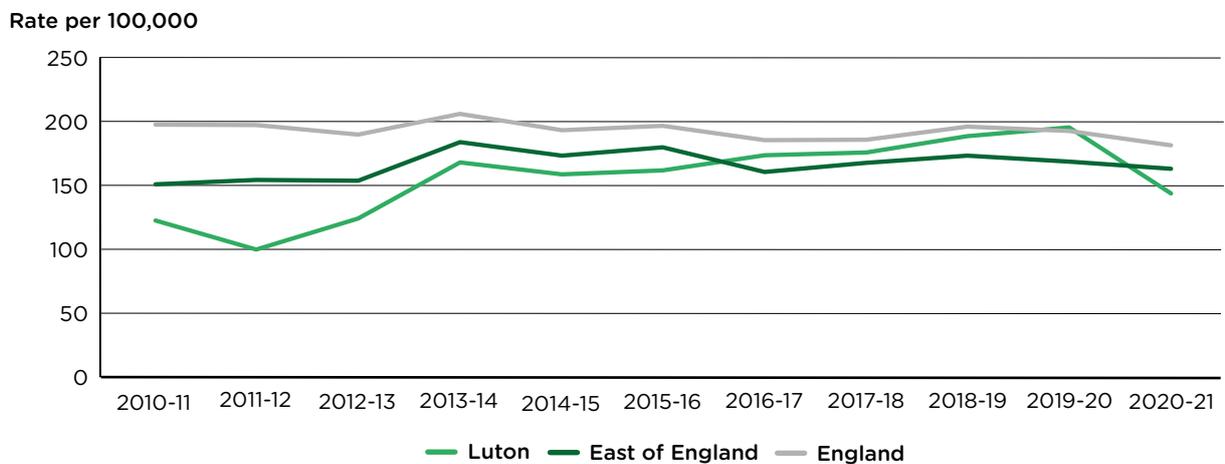
Source: OHID, 2021 (69)

Note: Rates are directly age standardised rates per 100,000 population

Figure 2.13 shows the trend in self-harm for Luton worsened gradually from 2011 until reaching a peak slightly above the national average in 2019/20. There is evidence of some improvement in the latest figures,

but it remains to be seen whether this will continue, or whether it is, wholly or in part, a result of reduced hospital access and attendance during the pandemic.

Figure 2.13. Emergency hospital admissions for intentional self-harm, Luton, East of England and England, 2010–2021



Source: OHID, 2021 (69)

Note: Rates are directly standardised rates per 100,000 population

SUICIDE

Suicide is a complex phenomenon. It is rarely possible to trace suicidal behaviour to one singular cause. Instead, suicidal thoughts and actions are influenced by a multiplicity of factors and shaped by an individual's psychology and personality. Nevertheless, without detracting from the uniqueness of each person's situation, we can see that there are social determinants of suicide, and that factors in wider society affect trends in suicide (70) (71) (72). Suicides are more common in more deprived areas of the UK. Estimates

vary but suggest twice or even three times the rates of suicide of less deprived areas (68). Globally, suicide rates are higher among older people, although suicide ranks higher as a cause of death among young people compared with other causes (73). Luton's suicide rate has fluctuated since 2001, always around or below the England average. As these are quite small numbers, it is difficult to make very confident deductions, but the suicide rate has been below the national average since 2018 and has been largely stable since then (69).

2D COVID-19 AND INEQUALITIES IN LUTON

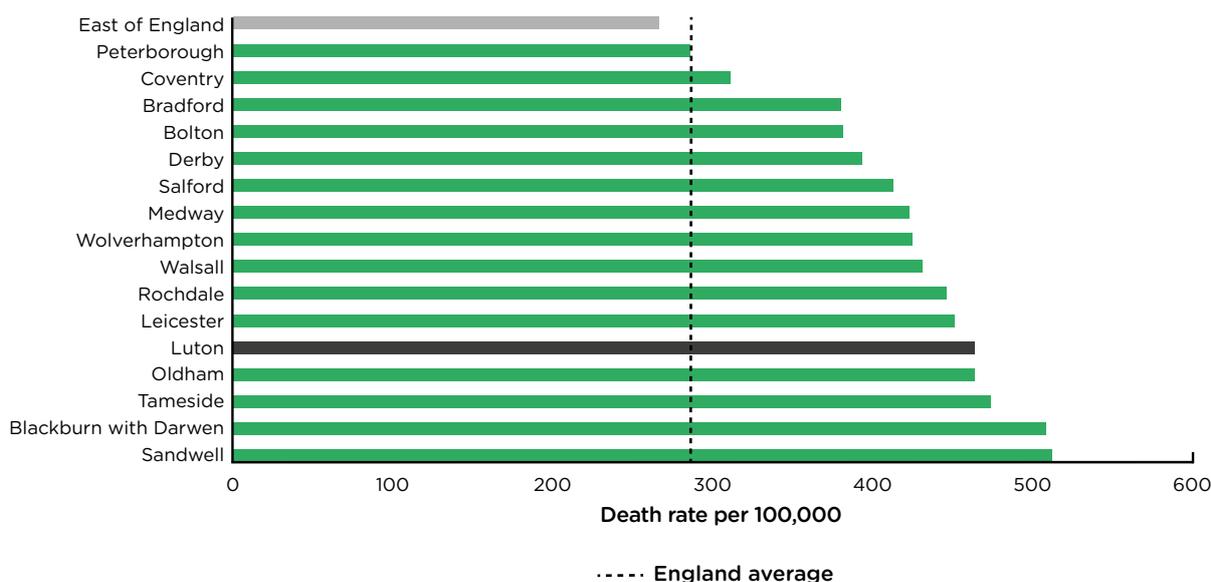
The burden of COVID-19 has fallen unequally across society, exposing and exacerbating the health inequalities that existed prior to the pandemic, including poverty, occupation, ethnicity, prior health status, age and housing conditions, as covered in detail in the IHE report *Build Back Fairer* (12).

Luton had a number of risk factors for high COVID-19 mortality. It is a densely-populated urban area, in which infectious disease can spread rapidly, and has issues with the quality of housing and overcrowding. It is very ethnically diverse, with more people of Black and Asian descent than the average, groups who were at increased risk from the pandemic. Luton is on average more deprived than much of the country, with poorer health even before the pandemic, as we have seen. It has high levels of service jobs and other frontline occupations where people were less likely to be able to isolate, as well as high levels of self-employment and insecure work,

where workers were less likely to qualify for sick pay and therefore were more likely to continue working when ill. Luton also has a large number of people employed in healthcare. All these factors meant higher risks for many Luton residents during the pandemic (74) (75).

Figure 2.14 shows mortality from COVID-19, with Luton's mortality far in excess of the national and regional averages, and worse than most of its statistical neighbours. In this case, deaths involving COVID-19 include any death where COVID-19 was mentioned on the death certificate, whether as a primary or contributory cause.

Figure 2.14. Death rates involving COVID-19 in Luton and its statistical neighbours, all ages, March 2020 to January 2022



Source: OHID 2022 (76)

Note: Rates are age-standardised mortality rates per 100,000

VACCINE UPTAKE

Luton struggled to raise levels of vaccine uptake throughout the pandemic (77). As part of the wider Talk, Listen, Change programme of community engagement in Luton, the Borough Council and the University of Bedfordshire collaborated on a survey of attitudes to the COVID-19 vaccine among ethnic minority residents between January and March 2021 (78). This research found higher levels of vaccine hesitancy among younger adults under the age of 30, and significantly lower rates of hesitancy among respondents with a chronic health

condition. The survey also found differences in attitudes by ethnicity – Indian participants were more likely to be receptive to having the vaccine, while Black African and Black Caribbean respondents were more likely to express a degree of vaccine hesitancy. Among reasons given for hesitancy, the most commonly stated was a lack of trust, either in the Government, the vaccine, or both. This study found no particular association between deprivation or level of education and the intention to have the vaccine.

This work highlights the importance of providing good quality evidence, tailored appropriately, from sources perceived to be trustworthy. The lack of trust expressed by some respondents may be the result of systemic racism and an awareness of discrimination and inequality, but may also worsen those very inequalities by further reducing access to appropriate healthcare and other services. Building those trusted relationships is an essential part of reducing inequality.

The efforts to improve vaccine uptake difficulties have prompted a range of actions to improve community engagement and understanding and break down barriers to care that could be taken forward in other contexts to improve health in underserved groups. In Luton, this has included door-to-door home visits, free 'vaxi-taxi' transportation to overcome financial barriers, community engagement programmes to involve the VCFSE sector in increasing uptake, and educational outreach events for the public. (79) (80) (81) (82) (78)

IMPACTS OF THE PANDEMIC ON SOCIAL DETERMINANTS OF HEALTH IN ENGLAND

The pandemic and efforts to control it also had impacts on key social determinants of health. The closure of early year settings and schools is likely to have disproportionately affected children who were already disadvantaged, with less access to necessary technology for home learning, less suitable home working environments and a higher likelihood of experiencing crowded living conditions, stress and poverty at home, which harm learning. Pupils with special educational needs and disabilities (SEND) were also particularly likely to need greater support, which was not available during the pandemic (12).

The economic pain of the lockdown did not fall equally, either: young workers aged 18-24 and older workers

were the most likely to have left employment, and the most likely to have become economically inactive as opposed to being registered as unemployed during the pandemic (83) (84). Unemployment in young adulthood is particularly scarring for long-term earnings and employment prospects and damaging for health and wellbeing. One national survey found that 43% of people from a Bangladeshi ethnic background and 38% of people from a Black Caribbean ethnic background had experienced loss of income as a result of the pandemic by June 2020, compared with 22% of White British people (85). This loss of income could arise from the loss of a job, or a reduction in pay or hours, which during the pandemic lockdowns happened more commonly in jobs without secure contracts, resulting in increased debt and levels of poverty, particularly among those who were already vulnerable.

These impacts of lockdown on education, levels of debt and unemployment deepen inequalities, as those already disadvantaged felt the greatest harm. In the long run, these inequalities translate into inequalities in health, as reduced educational attainment, restricted access to employment, reduced incomes and greater financial instability generate increased stress and impair the ability to lead a health-supporting lifestyle. This will affect the residents of Luton as it will affect the rest of the country.

As we enter the post-COVID world, we will also have to contend with the long-term health effects of the disease itself, which are not yet well understood, as well as the damage to mental health and the social determinants of health that has been caused by the stress of the pandemic and the lockdowns. The health service also faces long waiting lists, in many cases already hazardously long before the pandemic backlog, as well as huge reductions in screening coverage that may result in missed diagnoses.

CHAPTER 3

INEQUALITIES IN THE SOCIAL DETERMINANTS OF HEALTH

This chapter is laid out according to the eight Marmot principles. Each section illustrates the importance of key social determinants for health, and of the inequalities in these that exist in Luton. The sections end with some key messages and some recommendations for reducing inequalities in the social determinants, and thereby reducing inequalities in health.

When considering the effects of the social determinants and inequality on the health of individuals in society, it is often useful to take a 'life course' approach. This consists of considering different stages of life and development and the way in which advantages and disadvantages accumulate over the course of a lifetime, and contribute to health and lifespan. The Marmot principles represent a thematic approach to the social determinants of health, but also incorporate this life course perspective, which is why we begin with 'giving every child the best start in life'.

3A GIVING EVERY CHILD THE BEST START IN LIFE

KEY MESSAGES

- The foundations for human development are laid in early childhood, which is why giving every child the best possible start in life is so important for future health.
- Luton has higher infant mortality than the national average, and a prevalence of low birth weight that is the fourth highest in England.
- Luton has high levels of child poverty. The percentage of children living in a low-income household in Luton is 10% higher than the average for England and similar to its statistical neighbours.
- Within Luton there are large differences in rates of income deprivation affecting children, from around 5% in Bramingham to close to one-third of all children in Northwell.
- Early years care in Luton is of good quality, and although take-up is low, particularly for means-tested offers, it was increasing prior to the pandemic. Significant cuts to early years care were made in response to lost revenue during the pandemic. While the impact of these is yet to be seen, there are concerns about the financial sustainability of many providers.
- The wellbeing of looked-after children is of particular concern, and children's social care in Luton is still of variable quality.
- School readiness for all pupils in Luton lags behind the national average, although being similar to its statistical neighbours.
- School readiness among pupils eligible for free school meals, is significantly better than for FSM-eligible children nationally and in all Luton's statistical neighbours. This is a significant achievement for young children in Luton.

Disadvantages can begin to accrue even before birth and accumulate throughout life, exacerbating inequalities and eventually perpetuating disadvantage to the next generation. The earliest influences, genetic, developmental, familial, social, and educational, matter hugely, as they can set the course for a range of future outcomes. It is also the time in life when it is most effective to make interventions to reduce inequalities. A wealth of evidence shows that these interventions reap significant financial savings and are highly cost-effective. While it is possible for interventions later in life to ameliorate inequalities, they rely on the presence of strong foundations to build upon. A child's early development influences their school-readiness and educational attainment, which goes on to influence their job prospects, economic participation and income, and thus opportunities for participating in society, for retirement, for secure older age and for good health. This is why action on inequalities must start as early as possible in the life course, and why the first Marmot principle is to give every child the best possible start in life

(2). The principles that follow, covering later stages in the life course, also contribute to improving children's health. Improving the health and wellbeing of children being born today and tomorrow requires us to continue to act to improve health for older generations who may otherwise pass on disadvantages to the coming generations.

The earliest influences are felt before birth, when foetal development can be affected by the environment in utero, dependent on maternal health and wellbeing, including levels of stress as well as diet and drug, alcohol and tobacco use during pregnancy. This environment can affect cognitive development as well as the likelihood of the child developing some diseases in later life, including hypertension, diabetes, coronary heart disease and stroke (86) (87) (88). This is one way in which the health of the adult population influences the health of children, and why it is important to tackle inequalities at every stage of life, as well as providing good advice, support and care in pregnancy.

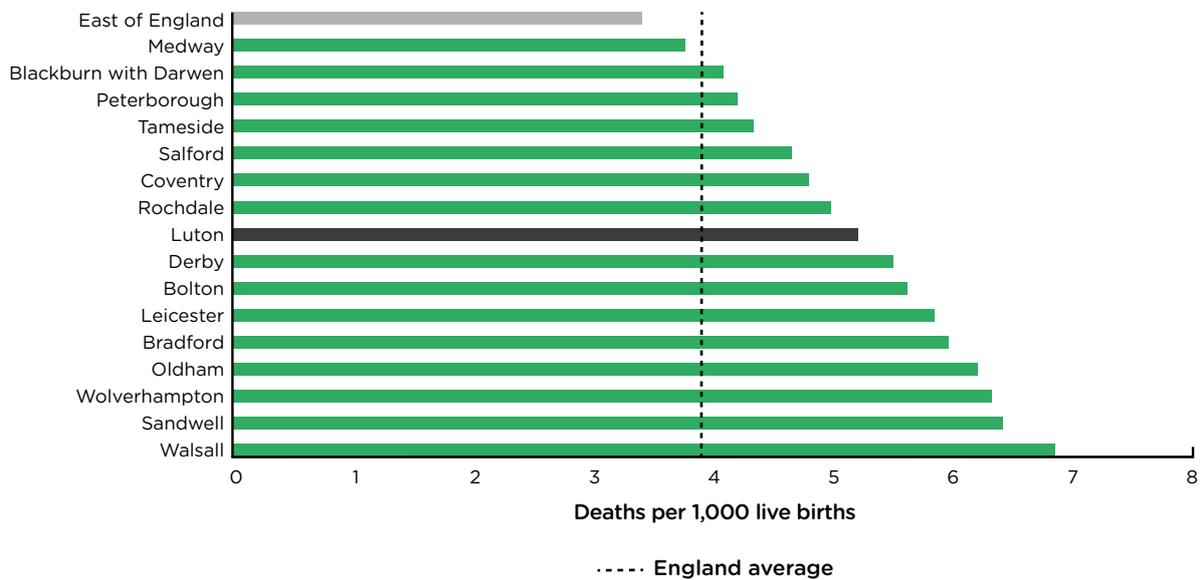
STILLBIRTH AND INFANT MORTALITY

Two measures that reflect inequalities, including in antenatal and maternal care, as well as socioeconomic disadvantage, are the stillbirth rate – the number of stillbirths per 1,000 live births and stillbirths; and the infant mortality rate– measuring deaths in the first year of life per 1,000 live births. Both stillbirths and infant mortality are relatively rare in the United Kingdom from a global and historical perspective, so care must be taken in interpreting these numbers at regional and local levels. In England, the stillbirth rate correlates closely with levels of deprivation. In the most deprived decile, the rate is 5.2 per 1,000 births, falling to 2.8 in the least deprived (89). Infant mortality is also consistently associated with deprivation, and the least deprived areas have lower infant mortality than the most deprived.

Socioeconomic factors play a significant part in infant mortality: for example, in 2020 babies with a parent from a higher managerial, administrative or professional background had a mortality rate of 2.6 per 1,000 live births, as compared with 4.8 for babies with a parent from a routine or manual labour background. There are also ethnic inequalities: in 2020, the mortality rate for Black babies was 5.3, Asian babies 4.1, and White 2.8 (90).

Figure 3.1 shows that the infant mortality rate for Luton is significantly higher than the national and regional rates, and likely to be related to risk factors including deprivation and ethnicity, as well as relatively high levels of smoking, obesity and other maternal health risk factors. However, compared with its nearest statistical neighbours, Luton ranks very near the middle of the pack.

Figure 3.1. Infant mortality rate in Luton and its statistical neighbours, 2017–2019



Source: OHID based on ONS data, 2021 (48)

Note: Rates are for infants under one year old per 1,000 live births.

The first year of life is the riskiest for children, but the effects of deprivation, discrimination and disadvantage persist into childhood. Analysis by the National Child Mortality Database found that over one-fifth of all child deaths in the UK, or over 700 deaths per year, could be avoided if children living in the most deprived areas of the country had the same risk of dying as those living in

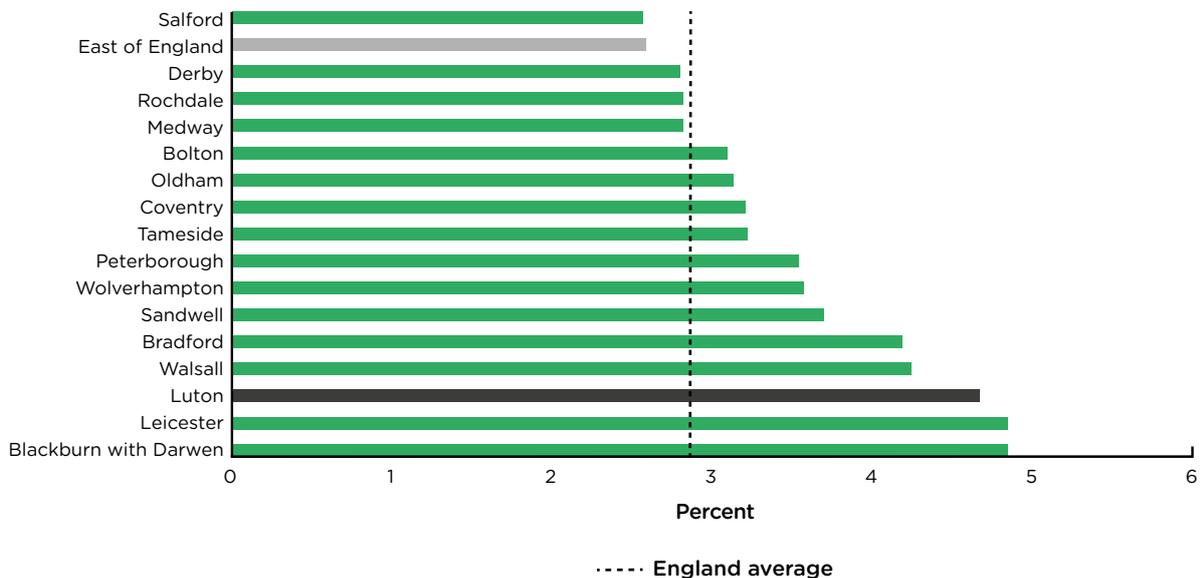
the least deprived areas, and that each increasing decile of deprivation carried with it a 10% increase in the risk of death (91). In the context of rising child poverty in the UK, the report notes rising infant mortality over recent years: in 2019, the UK ranked 22nd out of 23 Western European countries for mortality in children under 5, worse than all but one other country.

BIRTH WEIGHT

Another measure of perinatal health is birth weight, with low birth weight (under 2.5kg) being associated with increased mortality and morbidity in children (92). Luton's rates of low birth weight have been consistently high for many years, and have been worsening since 2015. Figure 3.2 shows how Luton compares with its statistical neighbours. Two of these, Leicester and Blackburn with Darwen, have the highest rates in England, and Luton places fourth highest, significantly above the England and regional averages. Low birthweight in the UK is

closely related to ethnicity, with rates of low birthweight for babies of Black and South Asian mothers being up to two-and-a-half times that of babies born to White mothers. Although some have argued that this difference represents biological norms, research has established that socioeconomic and other socially determined factors play a large role in these inequalities (93). Thus, while Luton's higher-than-average Black and South Asian population may provide a partial explanation for these figures, this cannot be entirely separated from the effects of socioeconomic inequalities.

Figure 3.2. Percent of term babies born with low birth weight, Luton and statistical neighbours, 2020



Source: OHID, 2021 (69)

IMPACTS OF POVERTY FOR CHILDREN'S LIFE CHANCES AND HEALTH

Beyond the immediate risks to health for children living in poverty, child poverty can have long-term damaging effects on life chances and the social determinants of health, and therefore on health itself. Poverty puts stress on parents and can impair their ability to effectively parent their children: parenting is influenced, although not determined, by parents' own childhoods and their current lives, including their own mental wellbeing, their social and material circumstances and their networks of support. Children growing up in deprived areas or in poverty are also more likely to experience adverse childhood experiences (ACEs), including abuse and neglect; living in a household where there is domestic violence, drug or alcohol misuse, mental ill health, criminality or separation; and living in care (86). These experiences raise the risk of poor health outcomes as well as worse educational, social and employment outcomes.

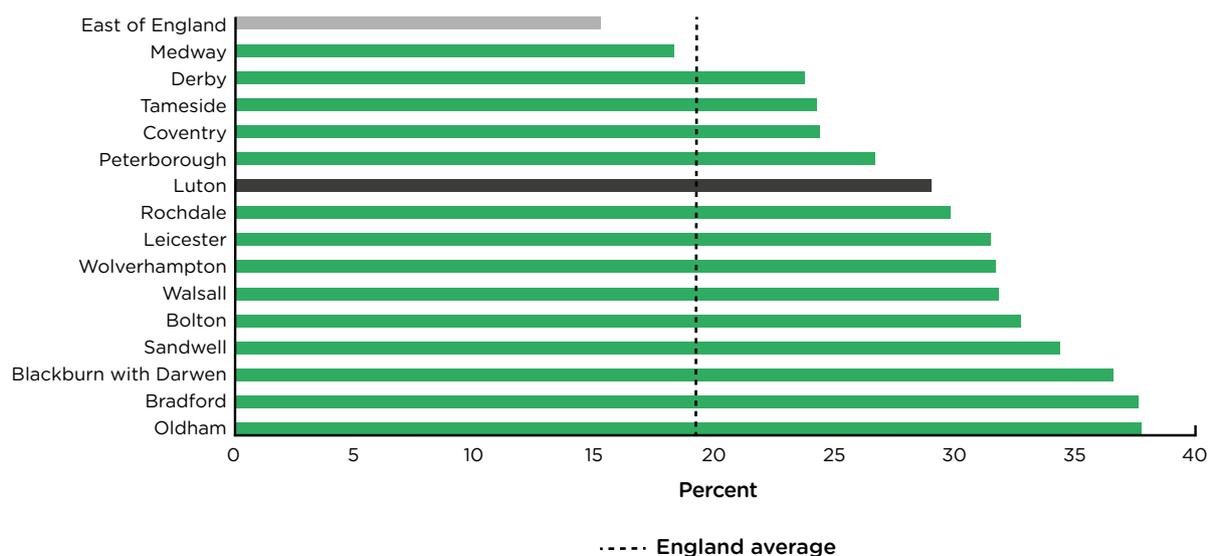
Eligibility for free school meals (FSM) is often used as a proxy measure for children from a more deprived background. In the 2020/21 school year, 20.8% of pupils in England were eligible, up from 17.3% the previous year, as the pandemic contributed to further worsening of child poverty (94). In Luton, 23.4% of pupils are eligible for free school meals. Department for Education analysis has found that pupils eligible for free school meals in Year 11 are 23% less likely to be in employment at age 27 than their peers who were not eligible (95). Eligibility for free school meals is based on receipt of certain state benefits, and is therefore dependent on changes in the benefits system, and has not been consistent year-to-year. For example, in 2018 a further income threshold was introduced for FSM eligibility for families in receipt of Universal Credit (96).



Luton has high levels of child poverty compared with the national average, as shown in Figure 3.3, charting the percentage of children living in households with an

income below 60% of the median. However, the town again sits relatively near the middle of its statistical neighbours.

Figure 3.3. Percent of children under 16 in relative low-income families, Luton and its statistical neighbours, 2019/20



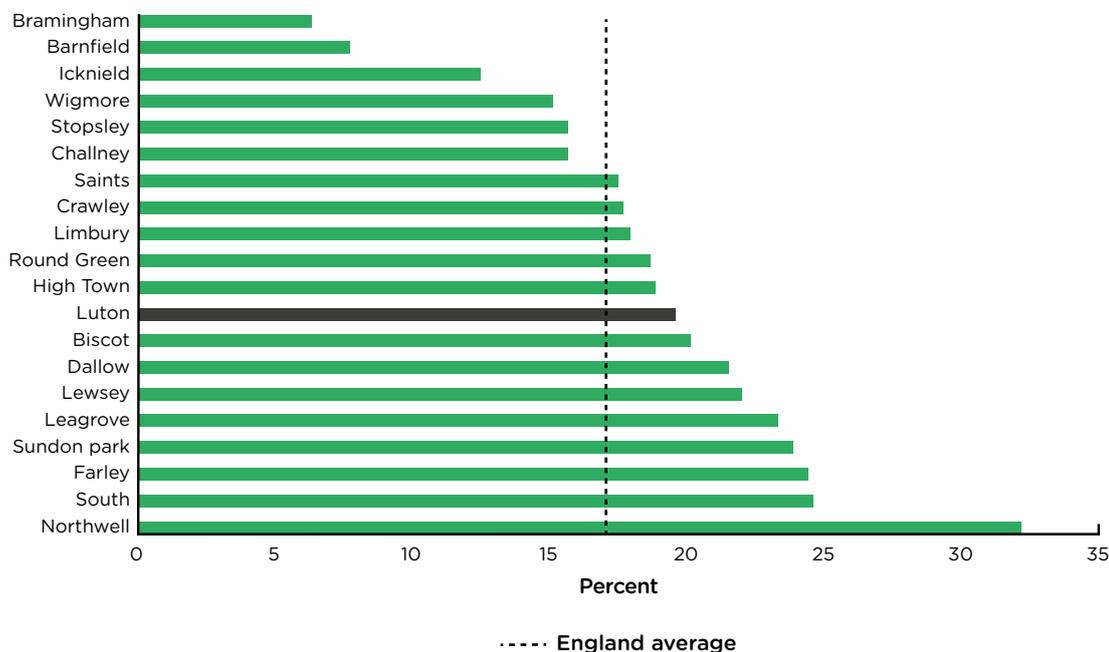
Source: DWP, 2021 (97)

Notes: A relative low-income family is defined as a family whose equivalised income is below 60% of contemporary median income. The gross income measure is Before Housing Costs (BHC) and includes contributions from earnings, state support and pensions. Income is equivalised to adjust for household size and family composition. Only families to have claimed Child Benefit and at least one other household benefit (Universal Credit, Tax Credit or Housing Benefit) are included in the statistics.

Figure 3.4 demonstrates that there is significant inequality within Luton. By this measure, the Income Deprivation Affecting Children or IDACI index, the proportion of children affected by income deprivation is

five times higher in the Luton ward of Northwell, where nearly one-third of children are in income-deprived households, than in Bramingham ward.

Figure 3.4. Percent of children living in income deprived households in Luton wards, according to the IDACI index, 2019



Source: MHCLG/DLUHC, 2019 (98)

Note: The Income Deprivation Affecting Children (IDACI) index measures the proportion of all children aged 0 to 15 living in income deprived families. It is a subset of the Income Deprivation Domain of the Index of Multiple Deprivation, which measures the proportion of the population in an area experiencing deprivation relating to low income. The definition of low income used includes both those people that are out-of-work, and those that are in work but who have low earnings (and who satisfy the respective means tests).

EARLY YEARS CARE

Early years care, before schooling begins, is critical to the later health chances of children, as early development can set the pattern for a child’s later life. Children who fall behind in pre-school cognitive development are more likely to fall behind at subsequent educational stages, and early cognitive development is strongly associated with educational success as well as higher adult income and better health outcomes (99) (100). The early years are also important for other forms of development, including social and emotional development.

Luton’s early years strategy is called Flying Start, and covers the period from pregnancy to children reaching age five, with a particular focus on areas of higher deprivation (101). This initiative is a partnership venture between the Early Years Alliance, Active Luton, the Council, Luton Rising, NHS bodies and the Bedfordshire and Luton Community Foundation. Their priorities are to improve communication and language skills, support healthy bonding between parents and children, and encourage healthy diet and lifestyles for children and their families to improve birth outcomes and health and wellbeing into adulthood. Prior to 2020, the Council

offered a service that was less targeted and available to more families in Luton, based in several Flying Start children’s centres. As COVID-19 resulted in first the closure, then a reopening with much reduced demand, of Luton Airport, council revenues were severely reduced, and an emergency budget resulted in the closure of these centres in 2021 to focus on the statutory duty to provide care for the most vulnerable children (102).

Before the pandemic, assessment indicated that Luton was able to provide sufficient childcare spaces to manage current demand and an increase in take-up. In fact, take-up was increasing, although lagging behind national numbers. There are a few different sources of available early years funding. All children aged three and four are entitled to 15 hours funded early education per week until they start Reception. Children whose families meet certain criteria, including low-income families in receipt of some benefits, are also eligible for 15 hours per week at age two, and three- and four-year-olds in some low-income families are also entitled to 30 hours rather than 15 until they start Reception.

In Luton, in January 2020, 88% of eligible children took up the universal offer of 15 hours at ages three and four, up from 87% in 2019, but comparing poorly to 93% nationally. This then fell to 81-82% during the pandemic. Take-up for the means-tested offers was lower: for two-year-old places it was 66% of eligible children in January 2020, a significant increase from 60% in 2019, and drawing closer to the national figure of 69%. However, in the wake of the pandemic this fell to just 50% in Luton by spring 2021. Take-up for the extended 30 hours for eligible three- and four-year-olds was 66% in Luton in January 2020, up from 62% in 2019 but comparing to a national rate of 80%. This too has fallen during the pandemic but is now showing signs of rebounding (103).

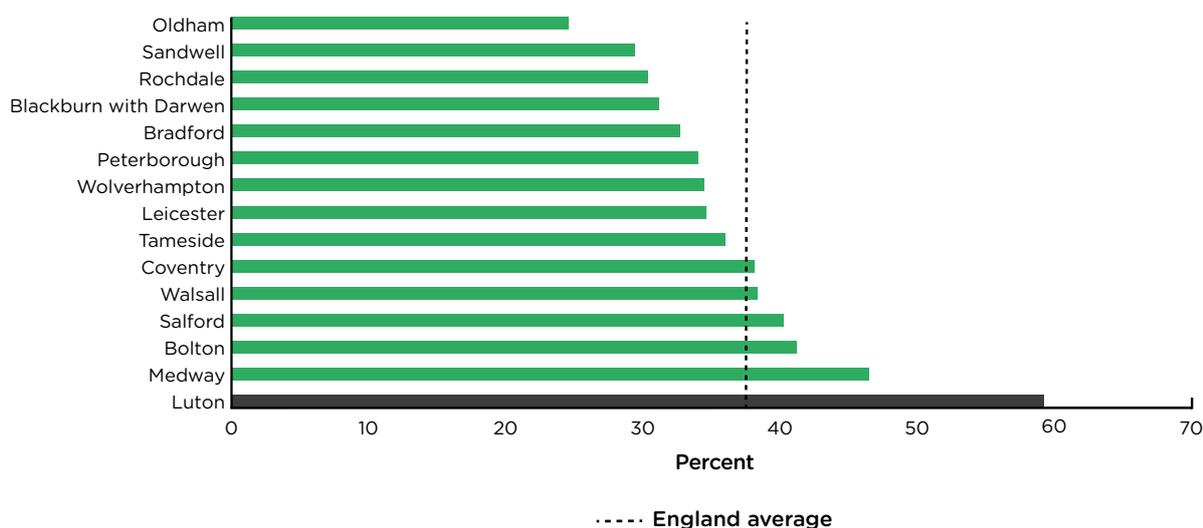
Early years care in Luton is of good quality, with 96.4% of providers being rated 'good' or 'outstanding' by Ofsted. However, there are concerns around sustainability in

the wake of the pandemic, and as forms of government support come to an end. Many providers have lost income, and 45% of those responding to one survey from April 2021 reported being concerned or very concerned about their financial situation and sustainability over the next 12 months (103).

LOOKED-AFTER CHILDREN

There are also reasons to be concerned about the wellbeing of particular groups in Luton. Looked-after children, who have come into the care of the local council often after experiencing abuse, neglect or serious family dysfunction, are vulnerable to serious inequalities in mental and physical health. Figure 3.5 shows particularly high levels of concern around emotional wellbeing of looked-after children in Luton.

Figure 3.5. Percent of looked-after children whose emotional wellbeing is a cause for concern, Luton and its statistical neighbours, 2019/20



Source: OHID, 2022 (69)

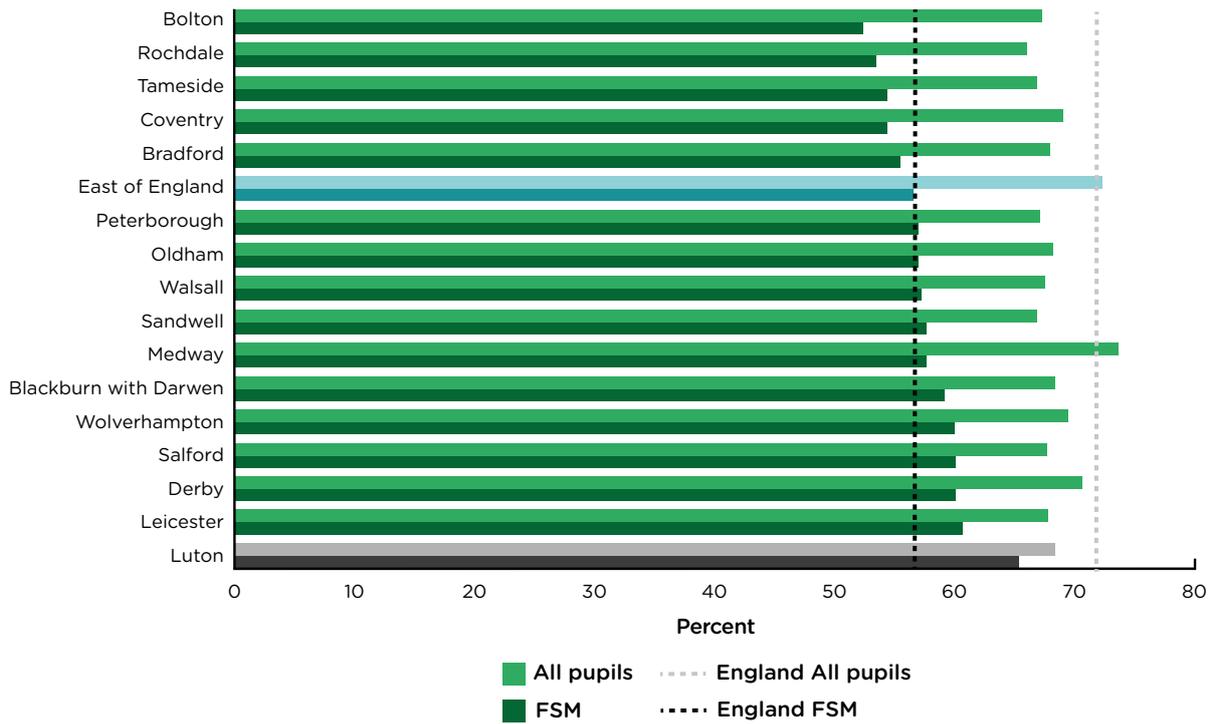
Note: Emotional and behavioural health is measured by DfE strengths and difficulties questionnaire (SDQ)

Luton's children's social care services were inspected by Ofsted in January 2020 and given an overall rating of 'inadequate'. The report stated that '[w]idespread and serious weaknesses mean that too many children in need of protection do not receive the help they need at the right time' (104). Among the areas identified as in need of improvement were the identification of risk, the high social work caseloads, and the quality of initial health assessments. The most recent monitoring visit, in December 2021, found that there had been some progress and improvement since 2020, as a result, at least partially, of increased investment and a subsequent reduction in caseloads for social workers. However, the inspectors still reported too much variation in the quality of assessment and planning for these children (105).

SCHOOL READINESS

Figure 3.6 shows school readiness in Luton, which is the percentage of children who are assessed as achieving a 'good' level of development at the end of their Reception year. This figure shows the rates of readiness for children eligible for free school meals, and for all pupils. Luton's FSM-eligible children were outperforming the national and regional figures in 2018, and the gap between them and their less disadvantaged peers was also smaller than nationally and regionally. Although Luton's pupils may not be reaching the national average level of development overall, the good performance of FSM-eligible children may indicate that the system is helping to narrow the inequality gap. This may be due to the high proportion of children in the cohort who are eligible, perhaps reducing the stigma and disadvantage.

Figure 3.6. Percent of children of school ready by free school eligibility, Luton and its statistical neighbours, 2018



Source: OHID, 2021 (69)

Note: Children are regarded as school ready if they achieve a good level of development at the end of Reception. The areas have been ranked by the percent of children eligible for free school meals (FSM) who were school ready.

RECOMMENDATIONS

GIVING EVERY CHILD THE BEST START IN LIFE

1. Increase the provision of Flying Start early years services beyond the current highly-targeted approach, developing the universal approach while retaining proportionate focus on areas with higher levels of deprivation
2. Reduce child poverty by ensuring that early years and maternity services, VCFSE organisations and employers support households to access available benefits and services and pay a living wage.
3. Assess maternity leave policies and support for child care by all employers, including public sector and private businesses.
4. Build on Luton's success in school readiness with a system-wide ambition to bring all children above the average for pupils in England.

3B ENABLING CHILDREN, YOUNG PEOPLE AND ADULTS TO MAXIMISE THEIR CAPABILITIES AND HAVE CONTROL OVER THEIR LIVES THROUGH EDUCATION AND LIFE-LONG LEARNING

KEY MESSAGES

- Educational attainment is closely related to health, and inequalities in attainment translate into inequalities in health.
- Inequalities in health and wellbeing that begin at school age are likely to persist and influence health at all ages.
- Overall in Luton, the disadvantage associated with being eligible for free school meals is less than the national average and many comparable areas although children who are not eligible for free school meals do relatively poorly in comparison with the English average and comparable areas.
- Pupils educated in Luton state schools progress to higher education at a relatively high rate, although this varies from one-third of pupils in Sundon Park to two-thirds in Barnfield.
- Luton has relatively low rates of permanent school exclusions.
- Rates of childhood obesity are high in Luton: over one-quarter of children in Year 6 are obese. There is again significant variation within the town, from around 15% in Stopsley, to double that in High Town.
- Hospital admissions for injuries are low in under-14s but increase significantly in the 15-24 age group.
- There are reasons to be concerned about drug use and other youth crime in Luton. Luton's importance to the illegal drugs trade increases the risk of exploitation and abuse for young people. However, community policing and young people's support services, including the Youth Offending Service, appear to be relatively successful in keeping young people out of the criminal justice system in Luton.

SCHOOL ATTAINMENT

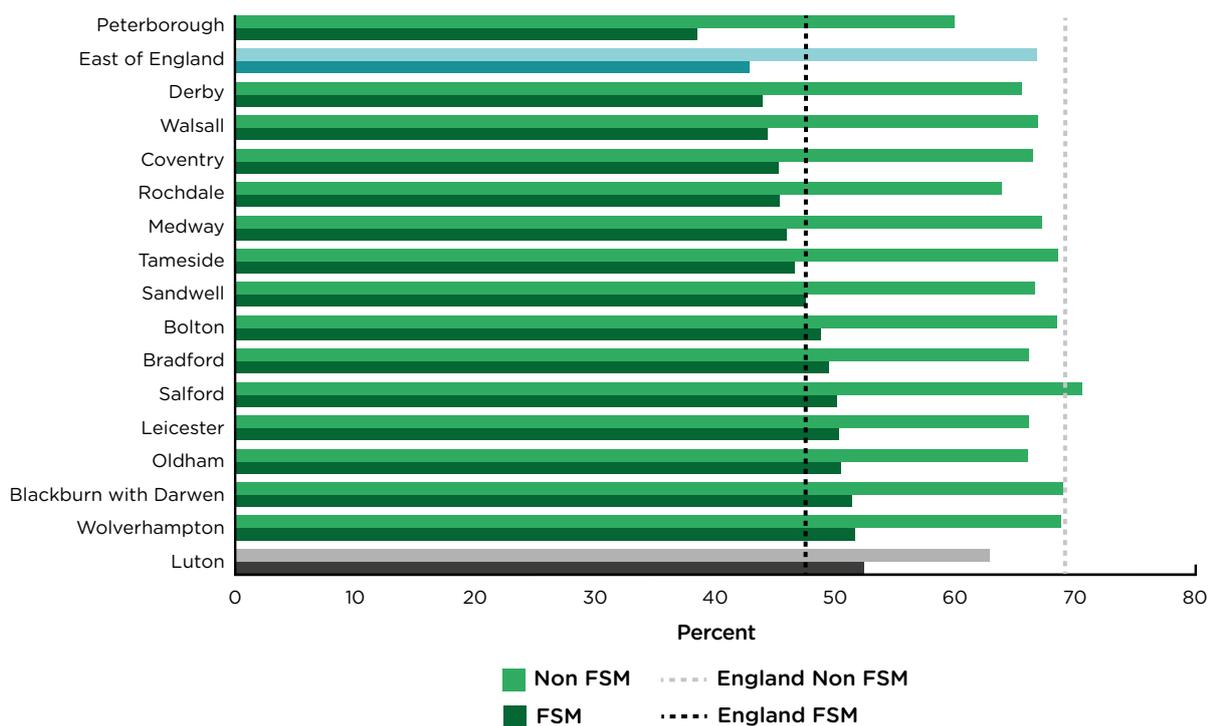
Educational attainment has a close relationship with health, and inequalities in attainment translate into inequalities in health. Higher educational attainment can also lead to lower rates of unemployment, better employment prospects, higher income and improved socioeconomic position, with attendant effects on health (2). These effects begin in school and continue throughout and into higher education.

In considering achievement and prospects at different stages in schooling, it is important to consider cohort effects – that is, looking at data from the same calendar year over time means that we are considering a different cohort of pupils working their way through the system. In urban areas with high population turnover this is particularly relevant as children may be leaving or joining a cohort in significant numbers at any point. This can make it difficult to say with confidence that the

outcomes we see are a result of the education system or of other support for children that is currently operating in Luton. For instance, of the cohort of children who started in Reception in Luton in Autumn 2010, 68% were still in a Luton school in Year 11, meaning nearly one-third had moved elsewhere (106).

Figure 3.7 shows attainment for pupils at the end of Key Stage 2 (the end of primary school in 2019). By this time pupils not eligible for free school meals were falling significantly behind the England average. However, pupils eligible for free school meals were outperforming both all the nearest neighbours and the England average. It should be noted that Figure 3.7 contrasts pupils eligible for free school meals with pupils who are not eligible, rather than with all pupils as in Figure 3.6. It is interesting to note that compared with the East of England region, Luton's more disadvantaged students are performing better, although other pupils are performing less well.

Figure 3.7. Percent of pupils reaching the expected standard in reading, writing and maths at the end of Key Stage 2, pupils by eligibility for free school meals, Luton and its statistical neighbours, 2019



Source: DfE, 2019 (107)

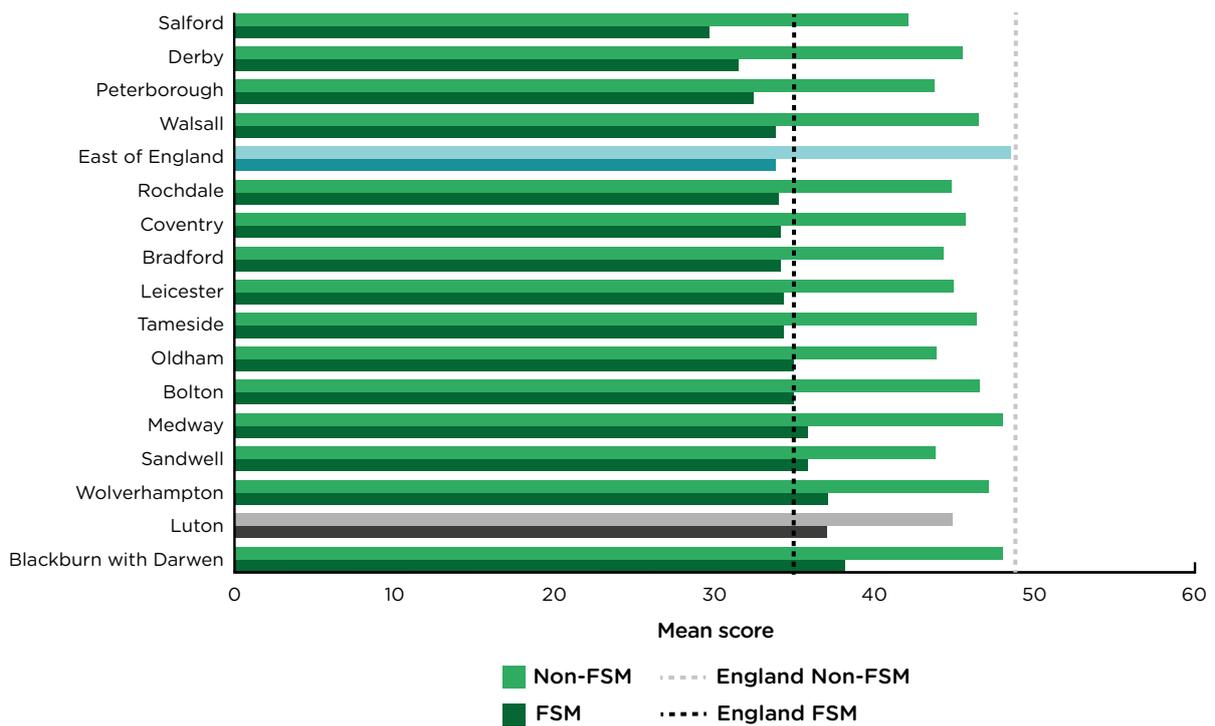
Note: Local authorities ranked by attainment of children eligible for free school meals

Luton has been identified by the Department for Education as one of 55 Education Investment Areas around the country. These areas receive additional funding, targeted at local authorities with poor educational outcomes, and the scheme is intended to provide various forms of support for schools, including retention payments to keep teachers in priority subjects (108).

As Figure 3.8 indicates, compared with its nearest statistical neighbours, Luton has a relatively high level of achievement for free school meal-eligible pupils at

Attainment 8 level (their grades for their Key Stage 4 exams, including GCSEs), but a weaker score for non-FSM pupils, consistent with the picture in Figure 3.6 for school readiness and Figure 3.7 for Key Stage 2. The comparatively good results of FSM-eligible children may represent effective targeting of support within the system. It may also be related to the high levels of eligibility in Luton, as noted above. When only a few pupils in a school are eligible for free school meals, the stigma associated may be higher, and teaching may be less tailored to their needs.

Figure 3.8 Average Attainment 8 score by eligibility for free school meals (FSM), Luton and statistical neighbours, 2018/19.



Source: DfE, 2020 (109)

Notes: Local authority ranked by attainment of free school meal eligible children

An assessment of school outcomes at Reception, the end of Key Stage 2 and Attainment 8 level shows that Luton’s more disadvantaged students, as measured by FSM eligibility, perform near to or better than the national average. Less disadvantaged students, while outperforming FSM-eligible students throughout, have lower attainment than similar students elsewhere. Educational quality varies across Luton. As of June 2022, of the 69 schools and colleges across Luton for which Ofsted holds data, 11 are rated as ‘outstanding’ and 50 are ‘good’. A further 6 are rated ‘requires improvement’ and 2 as ‘inadequate’ (110).

PROGRESSION TO HIGHER EDUCATION

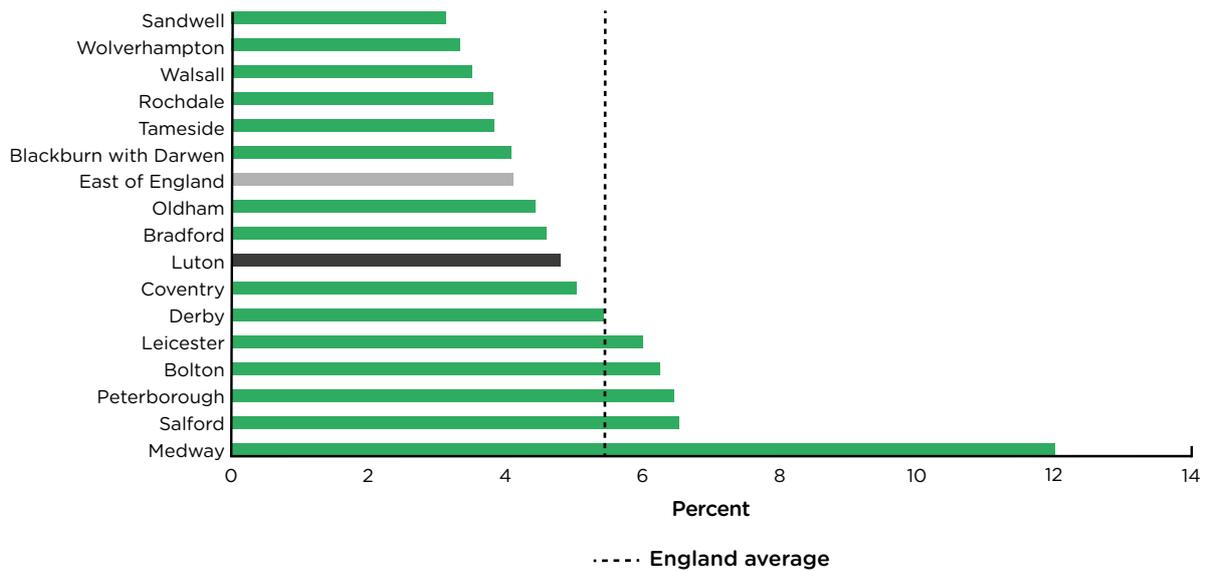
Another measure of educational outcomes is TUNDRA (Tracking UNDeRepresentation by Area). This measure takes cohorts of 16-year-old pupils in particular areas who would have taken their GCSEs between 2010 and 2014 and matches them to higher education records for when they would have been 18 or 19 to see how many progress to higher education. This measure only tracks pupils at mainstream state-funded schools, so does have some limitations. TUNDRA shows that 45.5% of Luton’s pupils progressed to higher education and compares very well nationally, locally and with its nearest statistical neighbours, only one of which, Blackburn and Darwen, has a higher rate than Luton, and only marginally higher

at 45.7%. The figure for England is 40.3%. However, the measure can mask inequality within Luton itself – the percentages for Luton’s wards range from 63.2% in Barnfield, where two-thirds of state school pupils progress to higher education, to only 33.3%, or one-third, in Sundon Park (41).

YOUNG PEOPLE NOT IN EDUCATION, EMPLOYMENT OR TRAINING (NEET)

Luton’s level of young people aged 16–17 who are not in education, employment or training (NEET) is a little lower than the national average and sits around the middle of its statistical neighbours, as shown in Figure 3.9. The cohort of 16- and 17-year-olds who are involved in this work became NEET through exclusion from school, and in Luton in this age group there are relatively low rates of permanent exclusions: 0.04 compared with national and regional rates both of 0.06 (111). Despite this relatively good performance, the Council and partners have set a target to bring the rate of NEETs to zero, recognising that every child or young person who becomes NEET, or is otherwise educationally or socially excluded, represents a failure of the system at some level. There is an ongoing programme of work in Luton to this end, with which IHE and other partners in the Marmot Town work have been involved.

Figure 3.9. 16- and 17-year-olds not in education, employment or training (NEET) or whose activity is not known, Luton and its statistical neighbours, 2019



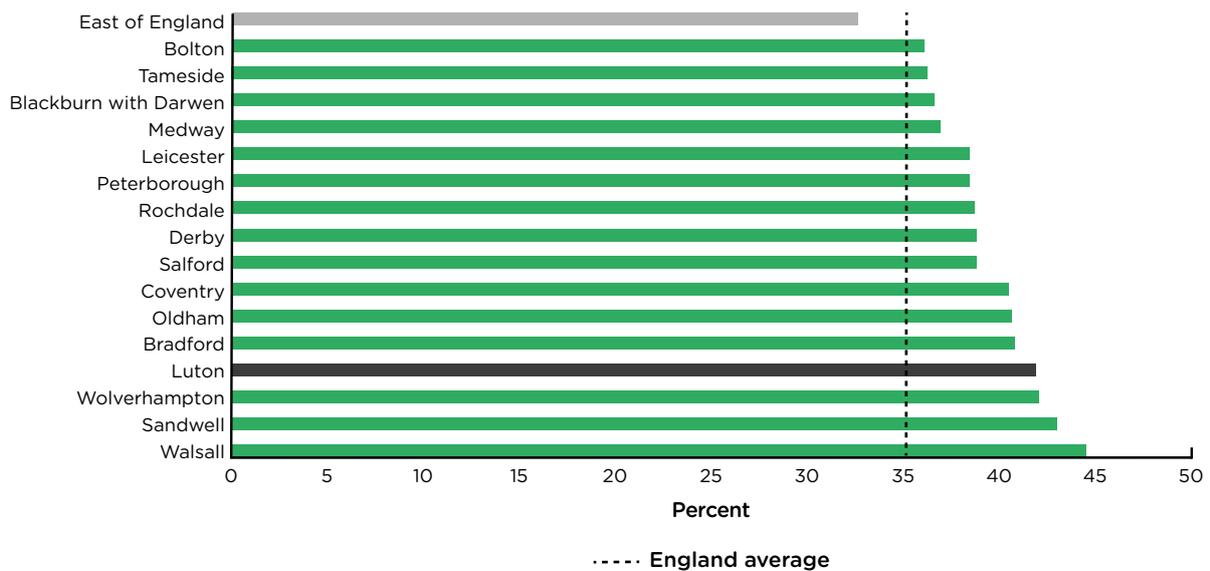
Source: DfE, 2021 (112)

OBESITY AND DIET

Other influences in childhood can make themselves felt later in life by affecting health and lifespan. Overweight and obese children are likely to remain obese in adulthood, and develop associated conditions like diabetes and cardiovascular disease at a younger

age, as well as experiencing lower social and emotional wellbeing, worse academic outcomes and poorer reported quality of life than children who are not overweight (113). Figure 3.10 shows the high levels of children who are overweight in Luton.

Figure 3.10. Percent of Year 6 children who are overweight, Luton and its statistical neighbours, 2019/20

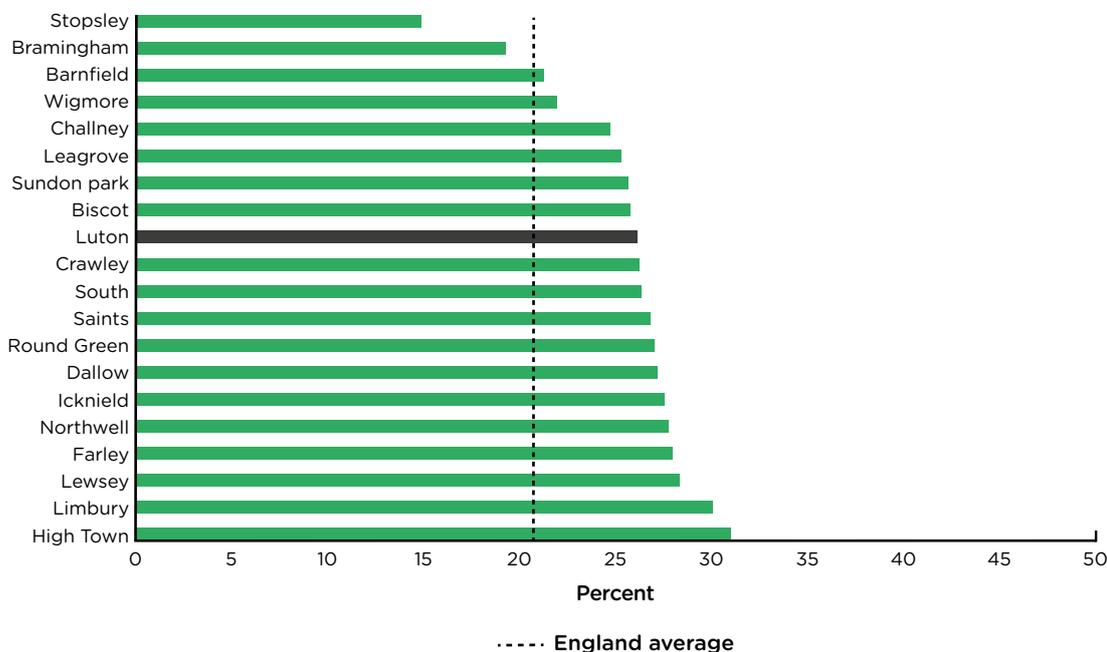


Source: OHID, 2022 (69)

Figure 3.11 shows obesity among children by ward in Luton. There is clear evidence of inequality within Luton, as obesity levels decline with decreasing deprivation.

While rates in most wards are above the England average, there are two wards, among the least deprived, where rates are below average, and one – Stopsley – well below the average level of obesity in England.

Figure 3.11. Percent of Year 6 children who are obese, Luton wards, 2017/18 – 2019/20



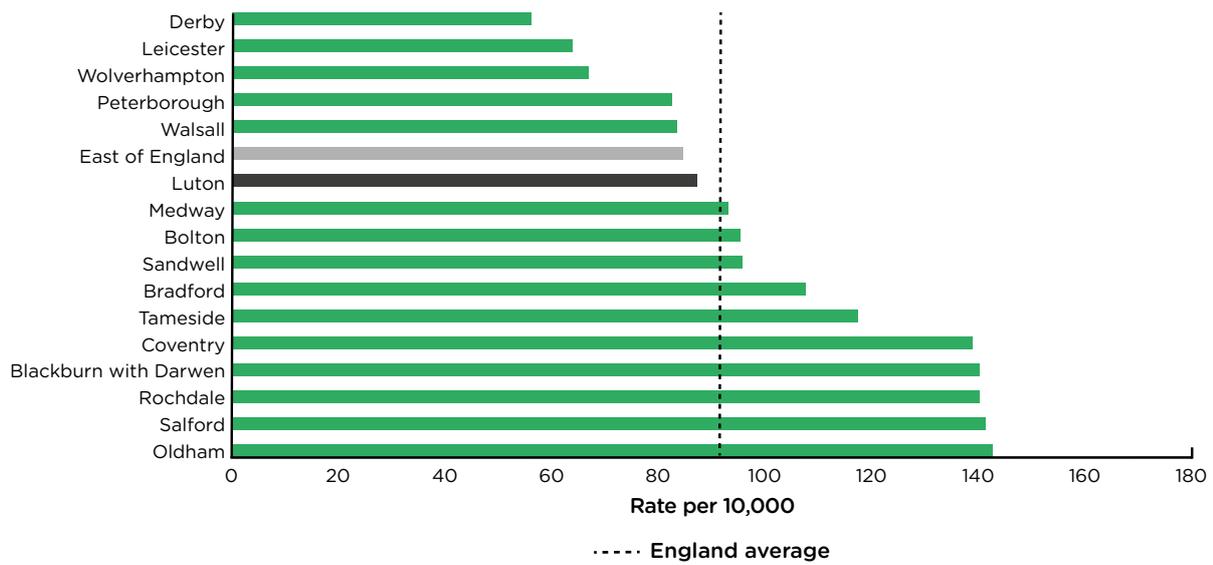
Source: NHS Digital, National Child Measurement Programme, 2021 (114)

Other concerning trends in lifestyles among children in Luton have been found in survey data. Between 2015 and 2021, the Schools Health Education Unit (SHEU) Health and Wellbeing surveys carried out in Luton schools found an increasing trend of secondary school students reporting they had no portions of fruit or vegetables on the day before the survey. For Year 8, in 2021, 18% of females and 15% of males had had no fruit or vegetables on the day preceding the survey. 2021 data is not available for Year 10, but in 2018 almost a quarter (23%) were reporting the same, and over a fifth (21%) of females, and numbers are likely to be even higher now if the upward trend has continued. The same students also showed low levels of physical activity – in the 2021 survey, 30% of males and 42% of females in Year 8 reported that they had performed no hard exercise the previous week, and in 2018 those numbers for Year 10 were 43% of males and 49% of females – very nearly half. Primary school students have also evidenced declining trends in exercise (115).

INJURIES

Figures 3.12 and 3.13 show hospital admissions related to accidental and deliberate injuries in young people, aged 0-14 and 15-24. Luton is below the national average, and many of its statistical neighbours, at ages 0-14, but leaps up to among the worst in the older age group. This may be related to increased crime and gang-related activity in young adults, given Luton's high rates of violent crime.

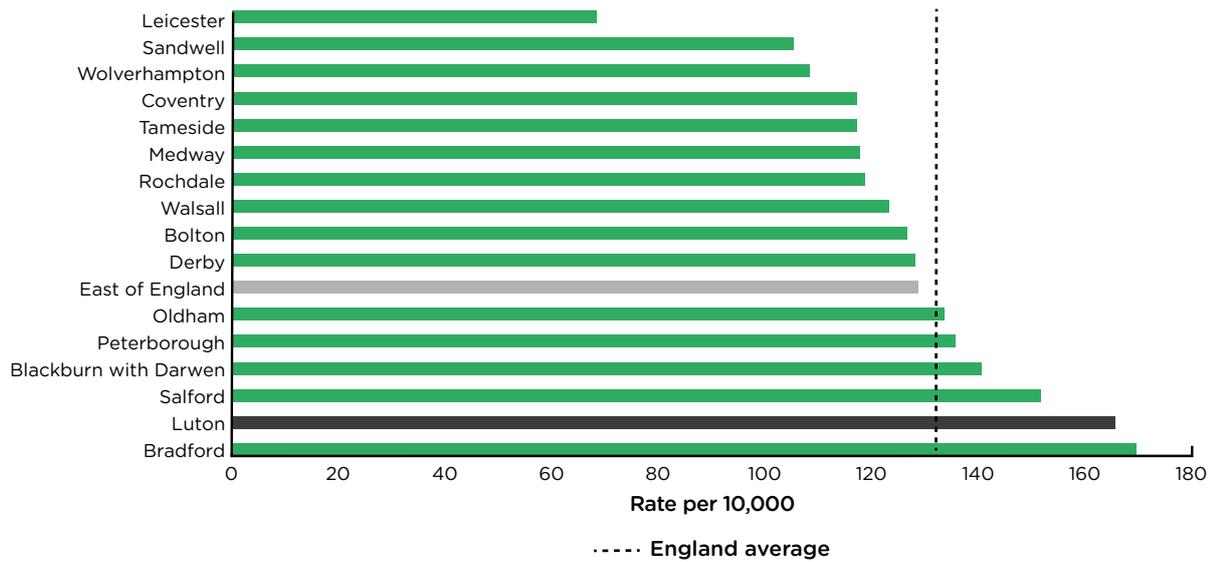
Figure 3.12. Hospital admissions caused by unintentional and deliberate injuries in young people aged 0-14 years, Luton and its statistical neighbours, 2019/20



Source: OHID, 2021 (48)



Figure 3.13. Hospital admissions caused by unintentional and deliberate injuries in young people aged 15–24 years, Luton and its statistical neighbours, 2019/20



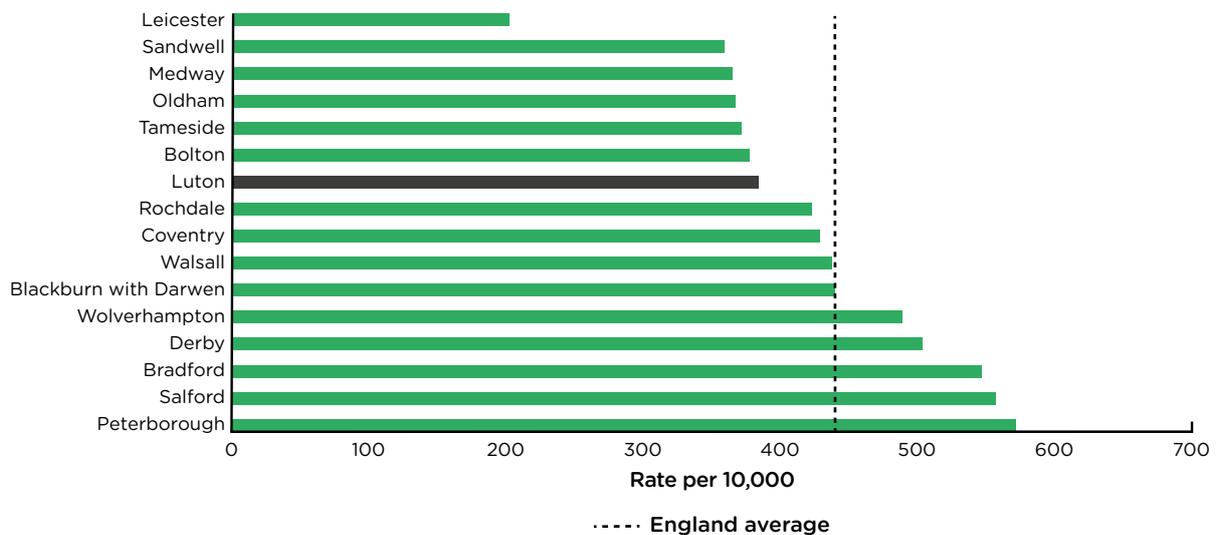
Source: OHID, 2021 (48)

MENTAL HEALTH

Youth, and particularly adolescence, is a crucial period for mental health, as it is when many mental health conditions first become apparent. Up to 50% of adult mental health disorders first present before the age of 14 (116). By definition, it is a period of change, biologically and socially, and adolescents face new pressures and stresses at home, at school and in the community. Globally, an estimated

14% of 10- to 19-year-olds experience some form of mental health condition (117). Luton's levels of hospital admission as a result of self-harm are below the national average and many of its statistical neighbours, as shown in Figure 3.14. However, it is always possible with hospital admission statistics that people in need are being missed due to not accessing services.

Figure 3.14. Hospital admissions as a result of self-harm in children and young people aged 10–24 years, Luton and its statistical neighbours, 2019/20



Source: OHID, 2020 (20) (118)

Note: Standardised rate per 100,000

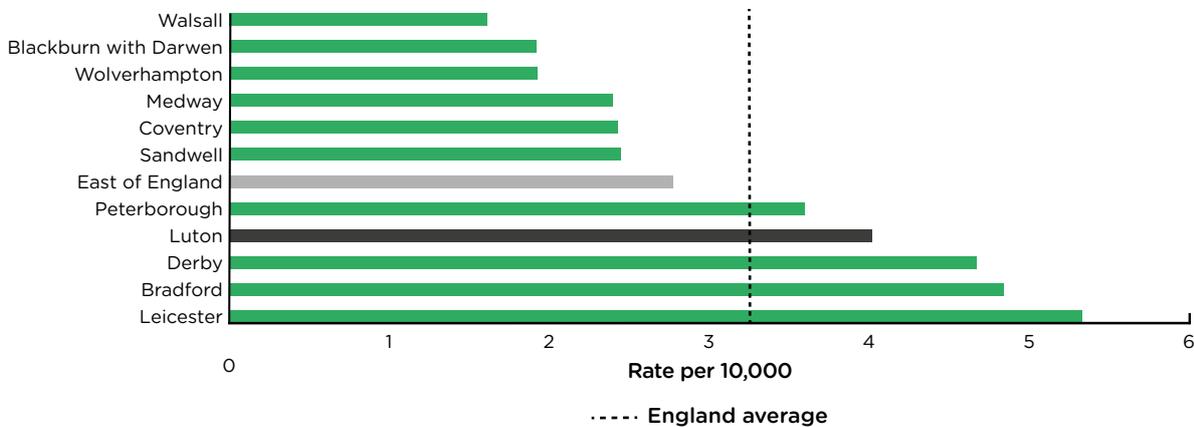
DRUG MISUSE AND CRIMINALITY

There is evidence of relatively high levels of drug misuse in Luton. In 2018/19, hospital admissions for drug-related mental and behavioural disorders in Luton were 36 per 100,000, compared with 13 nationally and 11 regionally. Admissions for poisoning by drug misuse were the same as the national average, 33 per 100,000, above the regional average of 27, and had increased since 2013/14 (119). However, there is some positive evidence for children and young people from the SHEU surveys in Luton, which showed that by 2021 fewer secondary school students were reporting that they knew a drug user, and fewer reported that they were ‘fairly sure’ or

‘certain’ that they or their friends carried weapons for protection compared with the 2015 survey (115).

Luton is a major hub for the illegal drugs trade via the airport and London, putting many children and young people at risk of exploitation and abuse by gangs. The Bedfordshire Police and Crime Commissioner has estimated that between 200 and 500kg of illegal drugs pass through Luton every month (120). Figure 3.15 shows numbers of drug offences in Luton and its statistical neighbours, although because recorded numbers vary depending on policing priorities and activity, the figure may not capture the full reality of the drugs trade.

Figure 3.15. Drug offences, Luton and its statistical neighbours, 12 months to June 2021



Source: ONS, 2021 (121)

Note: Recorded crime figures for Community Safety Partnership areas

Official crime statistics may underestimate the volume of the drugs that pass through Luton and are sold in London and elsewhere: so-called ‘county lines’ operations. County lines operations, which are present in Luton, often exploit children, young people and vulnerable adults to transport and store drugs and money, and those running the operations use intimidation, coercion and violence to maintain their hold (122). Early intervention with young people at risk of involvement in gang violence has been prioritised by Luton’s Community Safety Partnership through interventions like the Multi-Agency Gang Panel (MAGPan) (123). The Marmot Review: 10 Years On report found that cuts to spending on young people’s services were associated with rises in knife crime and stated that youth clubs and youth workers are crucial to keeping children and young people safe from involvement in violence and crime (86).

As well as the direct risks of drug use and violence associated with the drug trade, young people involved in criminality run the risk of getting convictions and custodial sentences, which can constrain life chances. The police in Luton, supported by the office of the Police and Crime Commissioner, prioritise a preventative community policing model which links closely with housing providers, drug and alcohol services, mental health services and the charity sector to identify problems and build community safety. The system also works to support out-of-court disposals for children and young people, recognising that for many, conviction and possible prison sentences work against future opportunities and damage health in the long run. The Youth Offending Service in Luton has had significant impacts in supporting young people to not reoffend.

Box 1. Luton Youth Offending Service

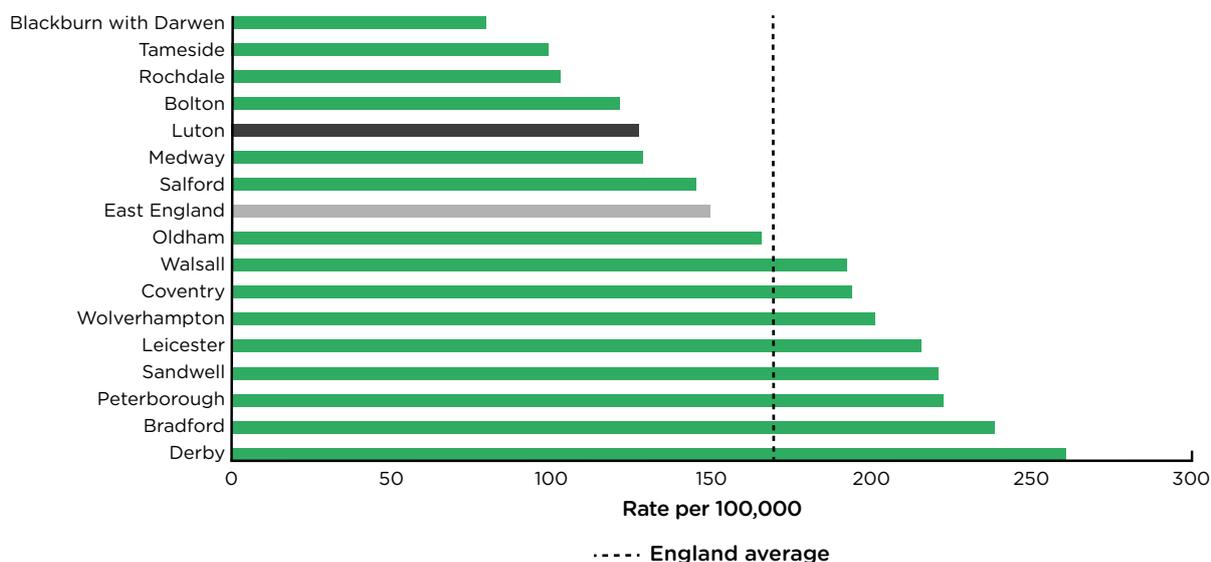
Luton's youth offending service (YOS) has been described as one of the best in the country, keeping its reoffending rate to 28% compared with 36% nationally. This has been achieved, in part, through taking a preventative and early intervention approach to young people offending or at risk of doing so (124).

The YOS works with some of the most disadvantaged young people in the local community. These young people have often been excluded from mainstream schools, and present with unmet physical and mental health needs. Austerity measures over the last decade have impacted the ability of the service to carry out early identification and intervention, meaning that needs are likely to be greater by the time the young people are identified. Delays in processing within the criminal justice system due to funding cuts further contribute by keeping young people in a form of limbo, entrenching offending behaviour and increasing their vulnerability to exploitation. COVID-19 has worsened these delays, as well as restricting access to the YOS across the board.

The young people in contact with the YOS, despite having complex behavioural, academic and health needs, often do not reach the statutory thresholds in any one domain to gain sufficient support. Once they are taken on by the YOS, other services often step back, due to a degree of stigma around offender identity, as well as a perception that the YOS has taken ownership. It is critical that agencies work together in partnership, in a coordinated fashion around the young person concerned, to improve outcomes across all areas of need (125).

Figure 3.16 shows Luton's relatively low rates of first-time entrants into the youth justice system, ranking below the national and regional averages and most of its statistical neighbours.

Figure 3.16. First-time entrants into the youth justice system, Luton and its statistical neighbours, 2020



Source: OHID (Figures calculated by OHID's Population Health Analysis team using crime data supplied by the Ministry of Justice and population data supplied by ONS), 2021 (48)

Note: Rate per 100,000.

In a report on the fear of crime in Luton, the writers identified that other residents' perceptions of young people in Luton can be negative and stigmatising, associating them with anti-social behaviour, although recognising the contributing factors of deprivation, boredom and a lack of aspiration (126). Improving

outcomes for young people should not be achieved by increasing restriction and criminalisation but by offering greater opportunities for positive activity, through community facilities and resources, youth centres, and by tackling root causes of their problems, which include deprivation.

Box 2. Young people in Luton: information from Marmot Town workshop

As part of the Marmot Town process, interviews were held with a range of stakeholders across education, children's services and the youth justice system, among others, culminating in a workshop in Luton in May 2022 to discuss issues facing the town's children and young people. Population turnover was identified as a major issue in a number of ways. Initially it is a problem because it simply makes it difficult to keep track of what interventions are working and how the outcomes for children in Luton are related to the provision of services there. There were also concerns that people moving in and out of Luton would have less awareness of what was on offer, and therefore there was a recognition that communication is crucial to reach everyone in Luton. In particular, it was felt that the voices of children and young people themselves were being missed. The group noted the increasing trend in the SHEU survey for young people in Luton to report that they had no adult that they felt they could trust. Given that lack of trust, it would be difficult to get young people to report honestly on their experiences and the difficulties they face.

The group also discussed the language around disadvantage, deprivation and social determinants. It is important to recognise that the importance of social factors for children's later life chances should not suggest that children and young people from a disadvantaged background are not able to succeed. Poverty does not have to be a destiny. Individual outcomes are a result of the disadvantages and exclusions faced but are often mitigated by the assets and resilience a person and community may have.

Another issue brought up during the Marmot Town process is that of pride and aspiration. As long as Luton is perceived negatively as somewhere people do not feel there are opportunities, do not feel safe, do not want to raise children, or simply consider lacking, then the aspiration for many people, especially young people, will be to leave Luton. Although Luton has many good jobs, people holding those jobs often opt to live outside the town, taking money out of the local economy. Similarly, any action to improve the life chances and aspirations of young people may simply lead to more people moving away. This is why it can be so difficult to reduce the deprivation of an area, even if some people's lives are improved. It was noted that growing families often moved out of Luton due to perceived downsides of raising children there, combined with high house prices.

Improving the lives of children and young people in Luton therefore involves improving Luton itself and its image, so that it is perceived as a desirable and safe place to raise children and an interesting and fun place for young people to remain. It is crucial to communicate that there are many assets in Luton and advantages for its residents.

RECOMMENDATIONS

ENABLING CHILDREN AND YOUNG PEOPLE AND ADULTS TO MAXIMISE THEIR CAPABILITIES AND HAVE CONTROL OVER THEIR LIVES THROUGH EDUCATION AND LIFE-LONG LEARNING

1. Prioritise and invest in Luton's education service, including sharing best practice around raising the attainment of children eligible for free school meals, with the aim of raising attainment to the level of the England average for all pupils.
2. All system partners (education, police, children's services, public and private sector employers, VCFSE providers) to work in partnership to support looked-after children and care leavers alongside other groups at risk of exclusion and exploitation to build skills and enter employment, further education or training.
3. Jointly commission (from the NHS, local government and national government) additional programmes to support young people's mental health in schools, the community and at work. Businesses to make full contributions to supporting young people's mental health at work.
4. Increase levels of funding for youth services, focusing on areas with higher levels of deprivation.
5. Connect public and private sector employers with education and the VCFSE sector to develop skills among young people that meet the needs of employers. Introduce an alumni network for the University of Bedfordshire to raise aspirations and opportunities for young people in Luton.

3C CREATING FAIR EMPLOYMENT AND GOOD WORK FOR ALL

KEY MESSAGES

- Unemployment and poor-quality work, with low pay, excessive hours and insecurity, contribute to poor health; conversely, good quality work can be protective of health.
- Preceding the COVID-19 pandemic, productivity in Luton was on the rise, although there were concerns about the quality of jobs and there was still work required to 'level up' Luton's economy.
- The economic effects of the pandemic hit Luton hard, largely due to its dependence on the aviation industry and airport, resulting in a drop in productivity and rising unemployment.
- Luton saw the biggest percentage decline in GDP per head in the UK between 2019 and 2020.
- The number of out-of-work benefit claimants in Luton increased more rapidly than the average for Great Britain during the pandemic.
- In 2020-21, nearly one-quarter of working age people in Luton were economically inactive - this is driven in part by high levels of economic inactivity among women.
- Luton has a high proportion of 18- to 24-year-olds claiming out-of-work benefits and unemployment at these ages is particularly damaging to long-term prospects.
- Care leavers are struggling to get into education, employment or training, with only 41% of 19- to 21-year-old care leavers in Luton finding a placement in 2020/21. This is a drop of over 15 percentage points in five years, causing the rate to fall below the national average for this group.

Unemployment, particularly when it is long-term, contributes significantly to poor health, while good quality employment supports good health (2). Poor quality work, which is characterised by adverse physical or psychosocial conditions, poor pay and insufficient hours, precarity, job insecurity and the risk of redundancy, is harmful to physical and mental health (127) (128). Those with a lower social position often find it harder to get into work, and when they do, the work is more likely to be low-paying, insecure, routine and repetitive, dangerous, stressful, and offer low satisfaction - all of which are damaging to physical and mental health.

Paid employment can represent a way out of poverty, but only if the wages and working conditions are sufficient to support an adequate standard of living (129) (130). In the UK, the majority of those living in poverty are now in work; having a job does not guarantee a sufficient income (86). This can also lead to a vicious cycle, as lower income can lead to poorer health, and poorer health can reduce chances of employment and earning capacity (2). The cycle can even perpetuate into the next generation: forced to take multiple jobs and work unsociable hours to make ends meet, workers in precarious employment will spend less time with their families. Children who receive less attention at home from absent or exhausted and preoccupied parents are likely to have reduced cognitive

development compared with their peers before formal education even begins (131).

In the last 10 years, the unemployment rate has decreased in the UK but there has been an increase in insecure employment: jobs that are frequently low-paid and unskilled and offer insecure contracts (86). Insecure employment can include self-employment or employment on temporary or zero-hours contracts (132). Workers on zero-hours contracts may both lack a reliable income and experience a very unbalanced power dynamic with an employer who expects them to be available at short notice. Job insecurity is associated with poorer health (133). People in lower-skilled and lower-paid occupations and people from minority ethnic groups are more likely to be on zero-hour contracts than those in higher-skilled occupations and people from White (all White) backgrounds (86).

Hierarchy in the workplace plays a significant role in shaping health inequalities, as first established by the Whitehall studies of UK civil servants. The higher rates of disease, both physical and mental, among those lower in the civil service hierarchy were found not to be entirely explained by differences in lifestyle, like smoking and drinking alcohol, and these civil servants were not facing absolute poverty or deprivation. It was the 'psychosocial

conditions' at work – particularly associated with high demands on a person but also having a low level of control over work tasks, causing stress – that were found to play a key part in generating inequalities in health (134) (135). Another factor which is stressful is being asked to expend a great deal of effort in a job and receiving little reward in the form of pay, recognition or status (136) (137). Stressful jobs are associated with worse physical and mental health, including higher risks of obesity, heart disease and diabetes, aspects of the 'metabolic syndrome' (138) (137). Worse jobs tend to be clustered at the lower end of the socioeconomic gradient, thus worsening the inequalities in health across society (127).

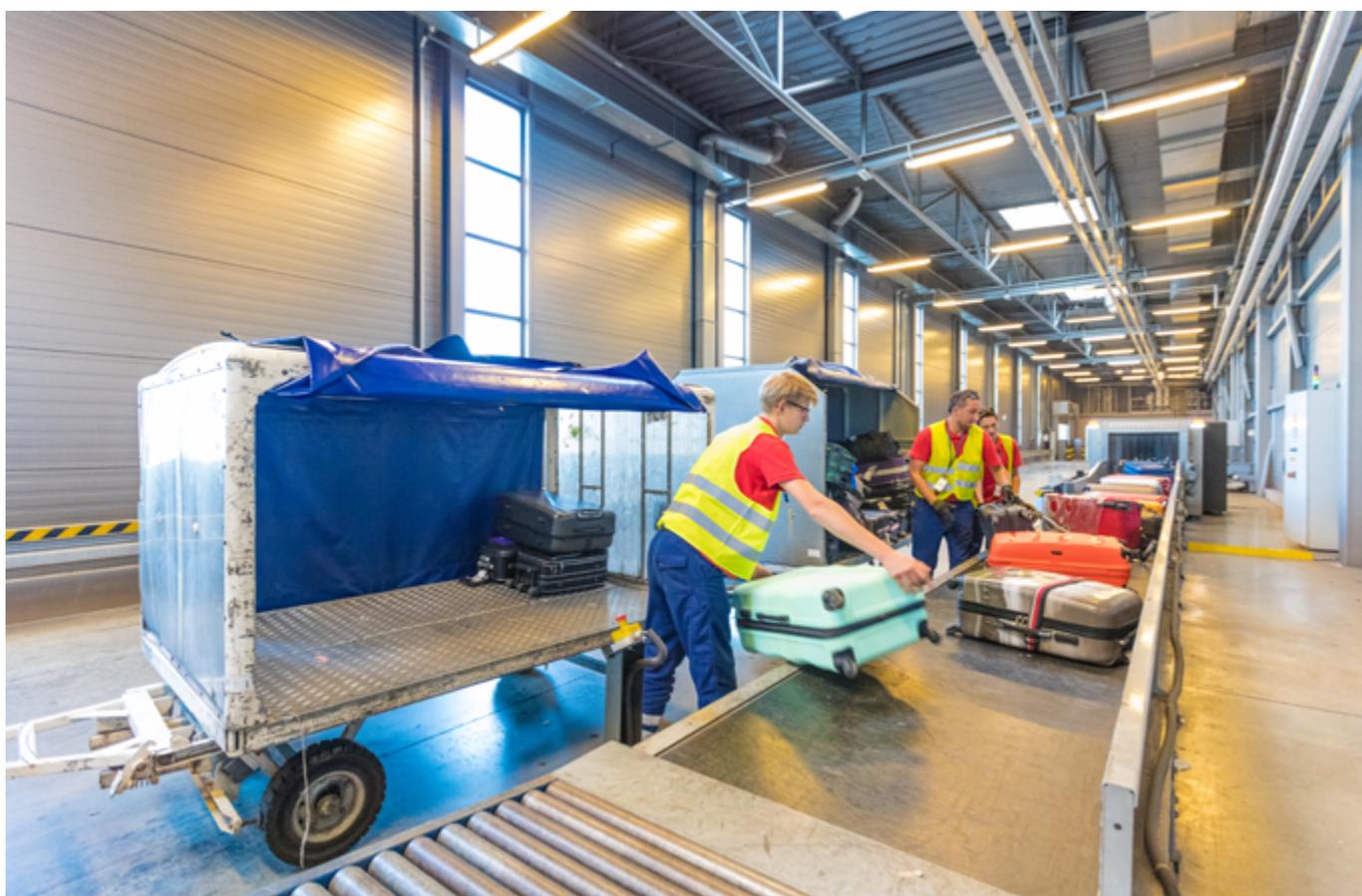
Working long hours, defined as 48 hours or more per week increases the risk of fatigue and accidents. There is some evidence that it can lead to stress, depression or mental ill health, incidence of stroke and ischaemic heart disease (139). In the UK approximately one in eight workers works more than 48 hours per week, rising to one in six in London (140). One in four of all sick days taken in the UK is directly attributed to workload problems (141).

Lower-skilled work is associated with higher rates of mortality (142). Investment in recruitment, training and retraining, particularly in underserved regions may help move people into higher-skilled, higher-paid jobs that protect their health, but we must also strive to improve conditions of work in order to protect those in lower-skilled and lower-paying jobs, who must also have the chance of a long and healthy life.

QUALITY AND CHARACTERISTICS OF JOBS IN LUTON

Concerns about the quality of jobs in Luton date to before the pandemic when an estimated one in five jobs was not paying a living wage; only 34% of jobs were in management and professional occupations, compared with 46% nationally; and only 11% of those self-employed in Luton were in high-skilled areas, compared with 22% nationally (143). There are also concerns around the growth of zero-hours contracts and other precarious forms of employment: the Council estimates there are 23,000 employees in Luton on zero-hour or agency contracts, almost one-quarter of the approximately 103,000 jobs in Luton, including the self-employed. (144) Luton has around the national average rate of self-employed people, 9.5% who often lack access to the kind of benefits and support that can be provided by an employer, as well as lacking job security.

Historically a centre of hat-making, Luton has more recently been associated with car manufacturing, Vauxhall having opened its factory there in 1905 (closing for good in 2000). Luton's economy is today predominantly service-based, reflecting the wider UK, but it retains a significant manufacturing sector, including some automotive assembly still, making up over 17% of the economy (145). All sectors can be characterised by long hours and effort reward imbalances, contributing to inequalities in health.



Many of Luton's jobs depend on its international airport, London Luton. People are employed by the airport directly, and by airlines EasyJet, Thomson and Monarch and aerospace firms GKN, Leonardo MW and Menzies Aviation (146). In 2019, the Council estimated over 10% of the population was employed in jobs related to the airport (143). The airport has plans to expand, which could be a driver of growth for the area. The automotive industry also remains a significant employer, with the IBC Vehicles factory and General Motors UK headquarters located in Luton. There are also several large temporary employment agencies and private security providers, and service jobs include Sainsbury's, Asda and McDonald's. Besides GM, companies headquartered in Luton include Whitbread and Stonegate Pubs. Major public sector employers include the Borough Council and the Luton & Dunstable NHS Trust, and education providers including the University of Bedfordshire, Luton Sixth Form College, Barnfield College and The Shared Learning Trust (146).

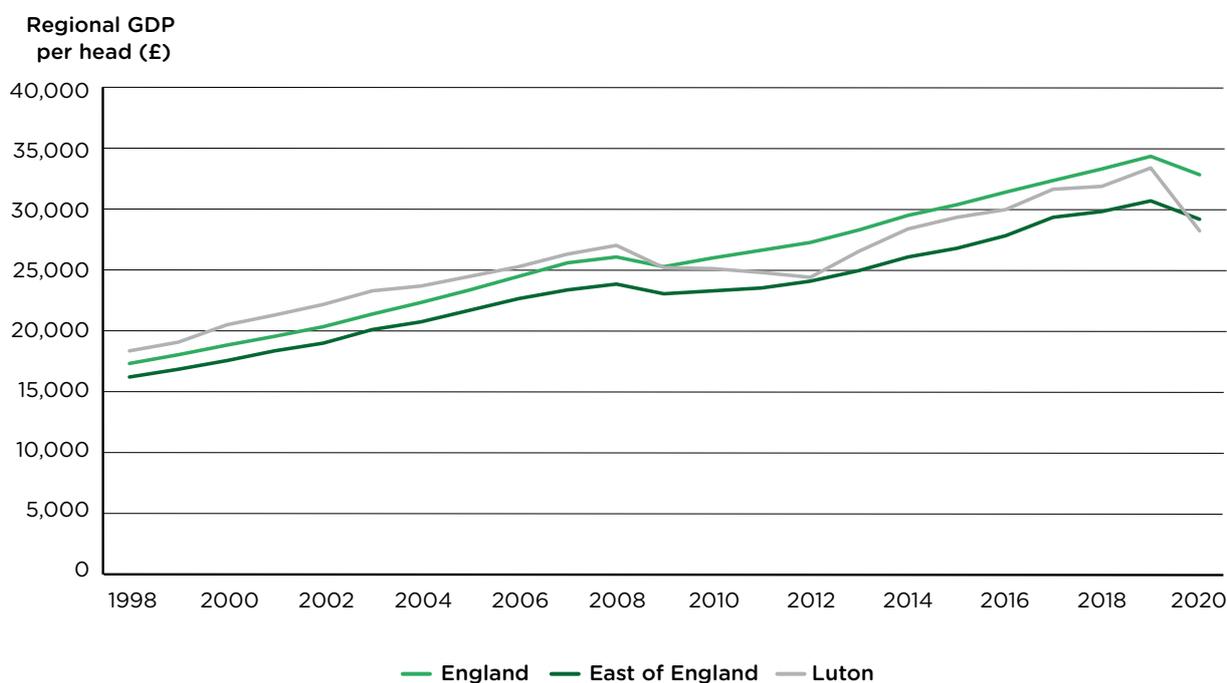
The town's reliance on aviation for jobs resulted in particular vulnerability to the COVID-19 pandemic. There was high use of the Government's furlough scheme in Luton, and job losses outstripped the national average. In total, 39,500 jobs held by Luton residents were

furloughed at some point during the period covered by the Coronavirus Job Retention Scheme. At the peak, in May 2021, 12% of eligible jobs were furloughed, compared with 8% for England as a whole (147).

Analysis by the Centre for Cities in 2021 identified Luton as one of the UK's urban areas that faces both a 'levelling-up' challenge and a COVID challenge. In Luton's case, a relatively modest levelling-up challenge has been exacerbated by one of the largest pandemic-related economic hits of any UK urban area (148), due to its dependence on the airport and services for income and jobs.

Figure 3.17 shows GDP per head for Luton from 1998 to 2020. Although productivity fell sharply during the mid-2000s, over recent years Luton's economy rebounded, with GDP per head increasing by 11.6% between 2016 and 2019, outstripping England's growth of 9.5% and the East of England's growth of 10.3%. Luton's economy was worth an estimated £7.1 billion in 2019, prior to the impact of the pandemic. However, the hard-hitting impact of the pandemic as described caused the total value of Luton's economy to fall by more than £1 billion to just over £6 billion and the town experienced the bigger per-head fall in GDP in the UK in 2020, at 21.7% (149).

Figure 3.17. GDP per head at current market prices, Luton, 1998-2020



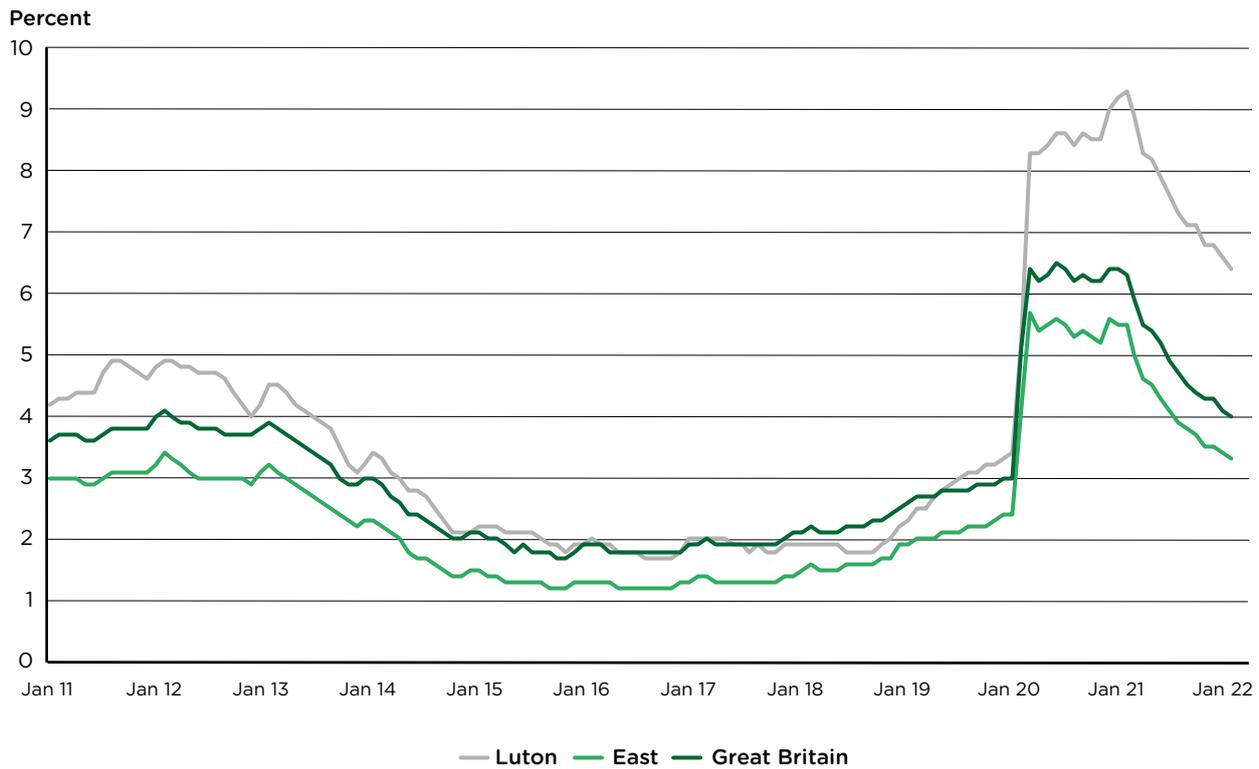
Source: ONS (149)

UNEMPLOYMENT AND ECONOMIC INACTIVITY

Unemployment and worklessness are major issues in Luton, and these figures were significantly affected by the pandemic. Figure 3.18 shows the proportion of people in Luton claiming out-of-work benefits from 2011 to April 2022. This figure uses benefit claimants, therefore excluding those who are ineligible for benefits or who do not claim them. Prior to the pandemic, the claimant count had been falling in Luton since 2013,

before increasing in 2018, in a reflection of the national trend. In both the pre-pandemic and pandemic trends, Luton has followed the national trend but at a higher level. Unemployment in Luton, comprising those actively looking for and available to start a job, is also high - 6% in 2021, compared with 4.4% nationally. This is an estimate based on local sampling and adjusted with reference to the claimant count (150).

Figure 3.18. Percent of economically active people in Luton aged 16 and over claiming out-of-work benefits, Jan 2011-April 2022



Source: NOMIS, 2022 (150)

Reducing unemployment requires approaches which focus on removing barriers to work, as well as being able to offer a range of appropriate job openings. Social, health and economic support, combined with

improving jobs skills, maybe required before a person is able to become, and stay, employed. Box 3 sets out how Liverpool City Region has addressed systemic issues underlying high rates of worklessness.

Box 3: Supporting Households Into Work in Liverpool City Region

Launched in February 2018 and developed through the Liverpool City Region Devolution Agreement, the £4.5m Households into Work (HiW) is a significant labour activation programme for the Liverpool City Region. As a collaboration between the Liverpool City Region Combined Authority (LCRCA), six local authorities and Department for Work and Pensions, HiW was designed to address the systemic issues associated with long-term and entrenched worklessness in a region where there were around 130,000 residents in receipt of out of work benefits, representing one of the highest rates of any economic area nationally. Unlike more traditional employment support programmes, which focus on developing an individual's progress through skills-based interventions alone, HiW adopts a flexible, person-centred approach to take account and respond to the multiple employment barriers that many people face, ranging from skills assessment, community engagement, debt and finance advice, mental health support, drugs and alcohol and housing issues.

An evaluation of pilot programme data (covering February 2018-20) found that the key barriers to employment in this client group were mental health issues (65 percent); chronic health conditions (23 percent); and care responsibilities (26 percent). Another evaluation of the programme found that HiW demonstrated the value of an asset-based approach, placing the client at the centre of both service design and delivery, which helps to better tackle long-standing and entrenched worklessness. Additionally, the evaluations found the programme brought together collective skills and knowledge assets that existed within organisations from across the City Region, translating them into a single source of service delivery and thereby adopting a whole systems approach. Following on from the completion of the pilot phase of the programme in March 2020, HiW was extended for a further two years and has become a component of the LCRCA levelling up plans. Policymakers and practitioners are working together to plan for secure resourcing to continue the work of the programme beyond 2023 (134) (135).

Experiencing unemployment early in a career can be particularly scarring to future job prospects. In common with the national picture, Luton's highest levels of unemployment benefit claimants are among young working-age people, with 7.2% of the resident population aged between 18 and 24 claiming out-of-work benefits in February 2022. This is much higher than the regional rate of 4.5%, or the rate for Great Britain of 5% (150). There are limitations to using benefits claimants to measure unemployment, particularly among young people. They may not claim benefits, even when eligible, or may not be eligible for other reasons. The numbers of young people not in employment, education or training (NEET; see section 3B) between the ages of 18-24 are not available at a local authority level. In England, the proportion of 18- to 24-year-olds who were NEET was 12.6% in 2021, representing a historic low (151).

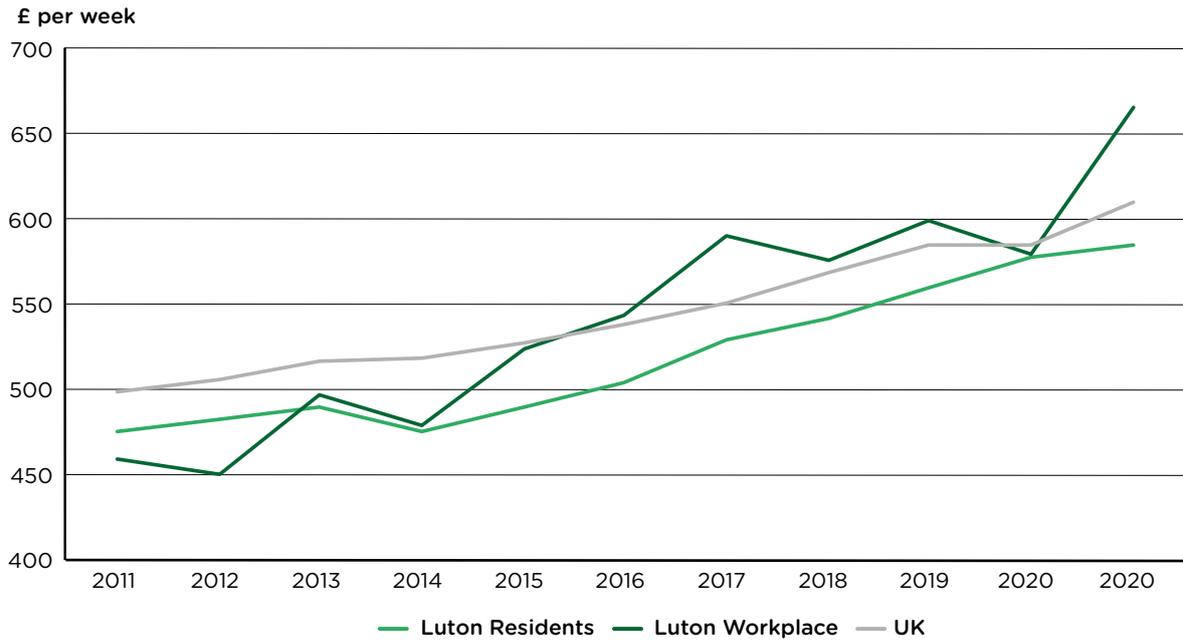
Economic inactivity is also high in Luton. In the year 2020-2021, 24.7% of working age people in the town were classed as economically inactive, meaning that they were not working and were either unable to take a job or did not wish to. This compares with 21.6% nationally and 19% regionally. Around one-quarter of these are students, some are retired and some have long-term illness – but all these groups make up a smaller proportion of the economically inactive in Luton than they do nationally and Luton's higher rates of economic inactivity are due to

a greater proportion than average who are looking after the home or the family. This is likely to relate to Luton's relatively low female labour force participation – 67.2% of working age women are in employment compared with 71.5% for Great Britain and 74.5% for the East of England region (150). The Luton Employment Strategy specifically notes the need to help women from minority ethnic backgrounds into work, through tackling barriers to work including English language competency, self-confidence and childcare obligations (152). As well as providing services such as English language classes, this should also involve encouraging employers to provide flexible and supportive working environments.

EARNINGS

As Figure 3.19 shows, those who work in Luton earn more than those who live in Luton. Earnings for higher-skilled jobs and higher-paid jobs are higher for Luton workers compared with Luton residents, suggesting that many of the higher-skilled workers are choosing not to live in Luton but to commute in, and also that Luton employers may not be seeking to recruit locally, or may not be finding the skills they need from within the town (145). This situation reflects and contributes to inequalities in Luton. However, the upward trend in Luton residents' earnings, alongside similar upward trends in house prices, may suggest that this situation is changing.

Figure 3.19. Residents' and workplace-based weekly earnings, Luton, 2011–2021



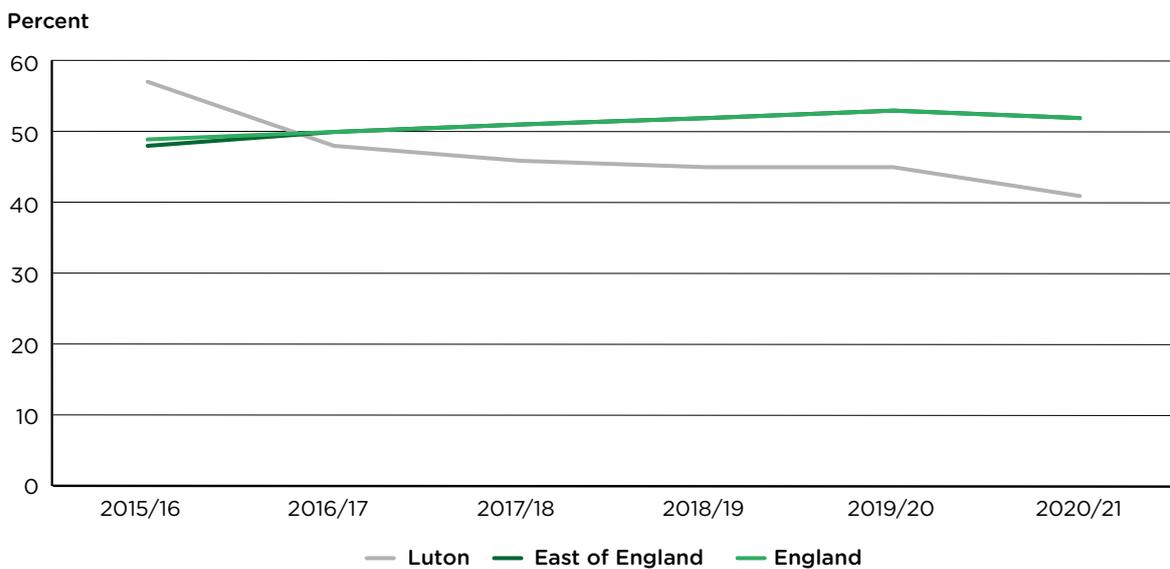
Source: ONS, 2022 (153)

CARE LEAVERS

Looked-after children and young people leaving care particularly require additional support in gaining entry to the world of work. Figure 3.20 illustrates the impact of the difficulty Luton has had in providing that support. The percentage of care leavers in education, employment or training has declined in recent years, falling below the national and regional averages. Luton's Employment and

Skills strategy recognises the need for the local authority and statutory services to provide support for these vulnerable groups, 'reflecting the attitudes, concerns and aspirations of a responsible parent'. This support is provided in part by Luton's virtual school, which tracks the progress of young people in care and care leavers, and coordinates additional support (152).

Figure 3.20. Percent of care leavers in Luton in education, employment or training at ages 19–21, 2015–2021



Source: LG Inform, 2021 (154)

It is important that the employment that is being provided is appropriate, good quality work that supports health. This requires taking an informed and flexible approach to young people at risk of becoming NEET to avoid placing young people inappropriately.

RECOMMENDATIONS

CREATING FAIR EMPLOYMENT AND GOOD WORK FOR ALL

1. Develop in partnership (the LEP, local authorities and public services) a local good work charter for public and private employers, which builds on the national Good Business Charter, and make becoming a signatory to this local charter a prerequisite for NHS and public sector contracts. Work with partners including South East Midlands Local Enterprise Partnership (SEMLEP) to encourage all employers to sign up. Include:
 - A minimum income for healthy living.
 - Maximum 40 hour week.
 - Provision of in-work benefits.
 - Provision of advice and support at work eg debt, financial management and housing.
 - Provision of education and training on the job for all ages.
2. Luton Borough Council to create, in partnership with employers and VCFSE, an employment agency to match employees with good quality work opportunities with employers signed up to the good work charter.
3. Strengthen equitable recruitment practices, including provision of apprenticeships and in-work training, and recruitment from more deprived communities and those underrepresented in the Luton workforce including young people, care leavers, those with disabilities, ethnic minorities and women.
4. Increase funding for lifelong learning/adult education more in areas of higher deprivation and link to job market demands. Seek partnerships with employers to support adult education and upskilling.

3D ENSURING A HEALTHY STANDARD OF LIVING FOR ALL

KEY MESSAGES

- Poverty damages health in a number of ways, from reducing access to healthy and nutritious food and good quality, sufficiently warm housing, to restricting opportunities to engage fully with society and directly causing physiological stress and harming physical health.
- Luton has high levels of poverty, with one-third of households living on an income insufficient to support a decent standard of living.
- As well as high levels of child poverty there is also high rates of poverty among older people in some wards in Luton. In Biscot and Dallow, over 40% of older adults are living in poverty, compared with less than 8% in Bramingham.
- The cost-of-living crisis is likely to fall disproportionately on those already experiencing deprivation. While there are no official data on food poverty, given the high rates of poverty in some areas in Luton, it is likely to be a significant and increasing concern.
- Prior to the energy price cap rise, Luton had more fuel poverty than the national average and this situation is likely to grow more serious.
- There is a digital divide in Luton, with some of the most deprived parts of town characterised by very low engagement with the internet.

Poverty, which was rising pre-pandemic in England and exacerbated during the pandemic has contributed to a growing cost-of-living crisis in the UK, with prices of consumer products rising across the board (155). The increasing cost of living is disproportionately affecting those who are already on low incomes. In Great Britain in 2020, households in the poorest decile spent 54% of their average weekly expenditure on essentials including rent, electricity and gas, food and transport compared with the richest decile, who spent only 42%. The poorest 10% of households spent 7% of their income on gas and electricity, while the richest only spent 2% (156). These figures from 2020 are likely to understate the problem as it exists today, given that costs, particularly fuel costs, have risen further. The increase in national insurance and the loss of the universal credit uplift will result in further difficulties paying bills.

POVERTY AND HEALTH

Poverty can affect health in a variety of ways. There is a minimum income for healthy living, which allows people to pursue healthy and dignified lives that they have reason to value. This includes nutritious food, good quality housing and the ability to heat it, the resources to allow a health-supportive lifestyle, and also full engagement with society, which is necessary for good mental health and wellbeing. Inadequate incomes lead to deprivation and the inability to maintain healthy and fulfilling lives.

Having a reasonable income cannot guarantee good health but what is certain is that having an income insufficient for one's needs will contribute to worse health. Inadequate incomes lead to poor health by making it harder to: avoid stress and feel in control of one's life; access resources and services including housing, food and heating; and adopt and maintain healthy behaviours. It also removes the sense of having a supportive financial safety net (86) (157). The relationship also works in the other direction: lower

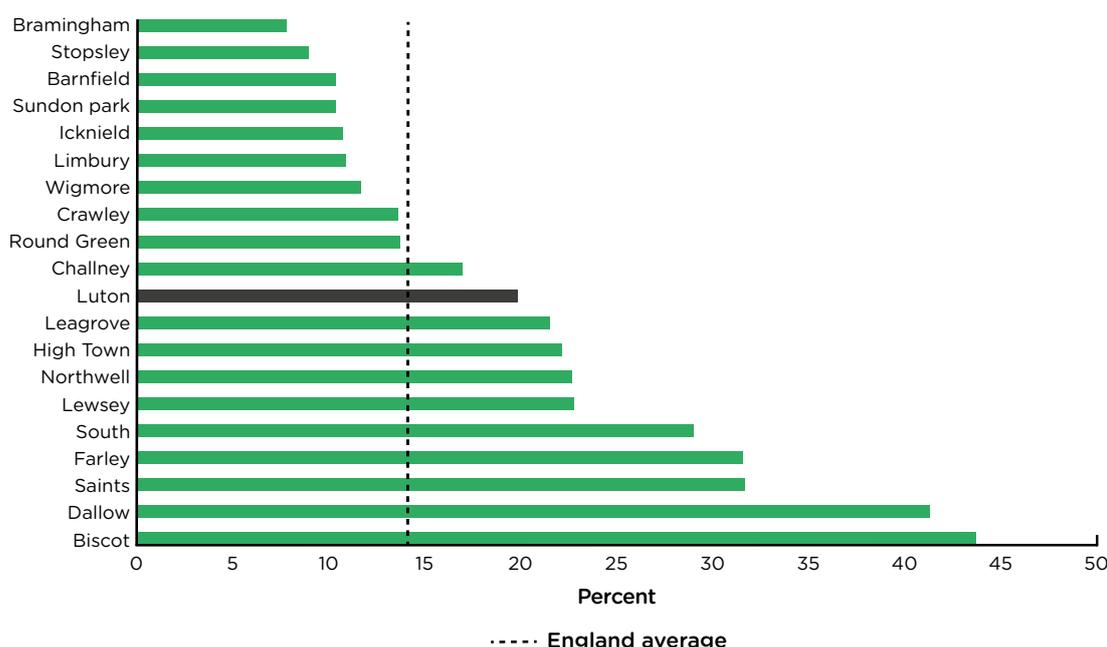
income can lead to poorer health, and poor health can reduce earning capacity (2).

As well as the widespread harmful impacts of experiencing poverty during childhood, covered in section 3A, poverty in older age can be a major risk to health in a potentially vulnerable time of life, when support needs and costs are likely to be higher. Sufficient income is necessary to live a fulfilling, engaged and dignified life as an older person, and not to suffer social exclusion and isolation.

POVERTY AND DEPRIVATION IN LUTON

Rates of poverty are high in Luton, with 15.5% of residents being income deprived (income deprivation is defined as people out of work or in work on a low income) (21). Rates of child poverty are high (see 3A) and there are concerning rates of poverty affecting older people, too, as shown in Figure 3.21. While this is high across Luton and in excess of the national average, there are again significant inequalities within the town: in Biscot and Dallow, over 40% of older people were living in poverty in 2019, compared with less than 8% in relatively less deprived Bramingham.

Figure 3.21. Percent of older people in Luton wards who are income deprived, 2019



Source: MHCLG/DLUHC, 2019 (98)

Note: Figures from the Income Deprivation Affecting Older People Index (IDAOPi).

Luton, as we have seen, was particularly hard-hit by job losses in the wake of the pandemic. Loss of incomes can have further knock-on effects, as already meagre savings are depleted, resulting in further cash-flow problems, rising debt and worsening deprivation. Again, these impacts fell unequally – many higher-income families were able to save money during the pandemic, while lower-income families were more likely to have had to use savings to cover everyday spending and take on additional debt (12).

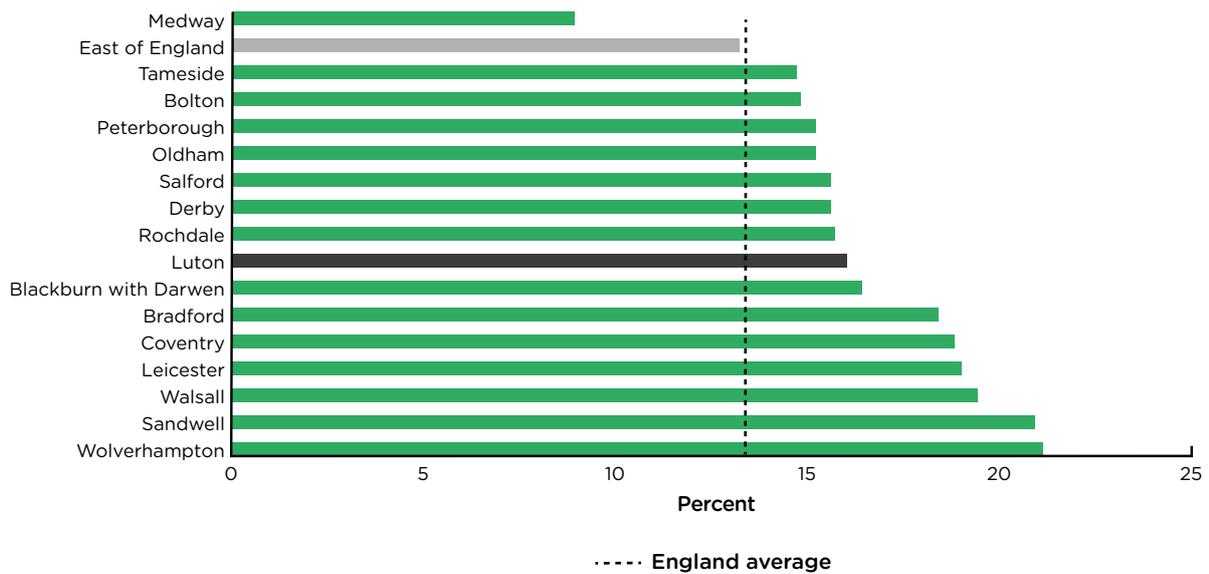
FUEL POVERTY

Fuel poverty, is a particular concern in the context of rising fuel costs. A household is defined as being in fuel poverty if its required fuel costs are above average and spending that amount on fuel would leave it below the poverty line. In 2019, 3.16 million households were in fuel poverty, estimated to be 6.32 million after the price cap rise in April 2022, and predicted to reach 8.5 million by the end of 2022 (158). As well as the health effects of cold

homes discussed in section 3E below, rising energy bills reduce the cash available for other expenditure critical to health, including food. Increases in energy costs have the potential to leave poor families in a situation where they have to choose whether to ‘heat or eat’ (159) (160).

Figure 3.22 shows Luton has more fuel poverty than the national average, similar to many of its statistical neighbours. The figures used are from before the rise in the energy price cap in April 2022, and so are likely to be a significant underestimate of the real numbers. For reference, the End Fuel Poverty Coalition estimated that 26.7% of households were in fuel poverty nationally after the price cap rise, more than double the rate shown in the official figures used in Figure 3.22. All preceding figures, however, predate the Government announcement in May 2022 of a £400 rebate to energy bills for every household in the UK, with additional payments for households in receipt of various forms of state benefits (161). This is a rapidly changing situation, but remains a cause for significant concern.

Figure 3.22 Percent of households in fuel poverty in Luton and its statistical neighbours, 2019



Source: BEIS, 2019 (295)

There is some evidence that investing in improving thermal comfort in the home can have positive health effects, especially when targeted at cold homes and people with pre-existing respiratory disease (162). Better thermal insulation also lowers energy bills, making more money available for people to spend on other needs, and contributes to reducing greenhouse gas emissions. It is, however, also crucial that efforts to insulate homes are done with due attention to ventilation, as poor-quality insulation can reduce ventilation, release dangerous compounds, and raise levels of pollutants in the home, with attendant health risks (163) (164).

FOOD POVERTY

When it comes to food, quantifying levels of food poverty, particularly at the local level, can be difficult, due to the ad hoc and unofficial nature of many food banks. One provider alone, the Trussell Trust, handed out 223,962 emergency food parcels in the East of England in 2021-22, a number that has more than doubled since 2014-15 (165). There are now multiple food banks in Luton itself.

THE DIGITAL DIVIDE

Another major social inequality is the 'digital divide' between those with reliable access to fast internet, suitable internet-enabled devices and the skills and knowledge necessary to make use of these, and those who lack one or more of these crucial components. Internet access has significance for job opportunities, social engagement, health literacy and access to services, and is, indispensable for full participation in society. Researchers at the University of Liverpool have attempted to classify internet users by the way they access and engage with the internet, and have classified local areas by their predominant type of user. Mapping Luton in this way shows a range of levels of interaction with the internet, but particularly concerning are clusters classified as 'e-Withdrawn', the group with the lowest level of access and interaction with the internet, which are present in some more deprived parts of Luton, including Bury Park, Biscot, Marsh Farm, Lewsey Farm and Farley Hill (166).



RECOMMENDATIONS

ENSURING A HEALTHY STANDARD OF LIVING FOR ALL

1. Work with the local community, anchor institutions and employers' institutions to provide credit and reduce levels of debt.
2. Commission VCFSE sector to provide social welfare, legal and debt advice, including fuel and food poverty support, in the NHS, schools and workplaces.
3. Partner with energy companies to identify and support those in need of support to heat their homes through retrofitting to reduce fuel poverty and improve domestic energy efficiency in areas of high deprivation.
4. Invest in bridging the digital divide, with a focus on areas of high deprivation and digital exclusion, strengthen digital skills using VCFSE partners to deliver training and support.

3E CREATING AND DEVELOPING HEALTHY SUSTAINABLE PLACES AND COMMUNITIES

KEY MESSAGES

- Healthy and sustainable places support good mental and physical health. This requires access to safe green spaces, clean air, opportunities for active travel, good quality housing and a range of amenities and community resources.
- One-third of Luton's population is physically inactive. Although there are good quality green spaces in Luton, they are not easily accessible from some neighbourhoods.
- Luton has made some advances in reducing car dependency, but there remain significant problems with congestion. Rates of cycling are particularly low in Luton, with only 0.2% of adults cycling for travel at least three days a week.
- Although Luton has made progress in reducing emissions of key pollutants, the town is the worst of any large urban area in the UK in terms of dispersal of emissions, leading to poor air quality. More than 6% of all deaths in Luton in 2020 were estimated to be related to long-term exposure to particulate emissions.
- Housing quality and security of tenure are crucial for health, and Luton has significant issues with both, arising in part from its large private rented sector.
- It is estimated that over 3,700 people in Luton are experiencing unsatisfactory housing conditions, more than double the number in 2013. There is much the Council can do to improve housing conditions, as landlord to around 10% of homes in Luton, as a housebuilder, and with enforcement powers over private landlords.
- House prices in Luton have grown much faster than wages, and the median house price is now seven-and-a-half times the median gross annual earnings for a Luton resident.
- Luton is failing to build sufficient homes to keep up with demand. In 2017/18, Luton had 1,314 households in temporary accommodation, or 16.7 per 1,000 households, nearly five times the rate for England. This situation has been further aggravated by the pandemic.
- Luton Council has had great success in reducing the numbers of rough sleepers by working together in partnership with the VCFSE sector.
- Crime, and particularly violent crime, is high in Luton, damaging health directly and raising levels of fear and stress, which undermine health and social cohesion.

Healthy and sustainable places support good mental and physical health by enabling, facilitating and encouraging healthy, active and socially engaged lifestyles. This requires access to safe green spaces, clean air, and opportunities for active travel, as well as good quality housing, local amenities and a range of opportunities for social interaction.

ACCESSIBILITY

Access to good quality green space is important for physical and mental health and ensuring this access for all can help reduce health inequalities. (167) It should also be possible to walk to a range of places such as social amenities and workplaces from one's home, to encourage active travel and social engagement. The '15-minute city' is one vision of a healthy and sustainable place, providing a mix of amenities and places to meet and work within a 15 minute walk, encouraging active travel and reducing transport pollution as well

as improving social capital and fostering a sense of community among residents (168). It is also crucial that places are accessible for older people and those with disabilities to enable full engagement with the local community. A range of cultural and recreational opportunities, including an inclusive and accessible night time economy, is key to attracting and retaining young people and creating an exciting, vibrant community. This is especially important in the wake of the pandemic, and the damage done to this sector.

In 2020, Friends of the Earth looked at quantifying access to green spaces for neighbourhoods across England, rating them on a scale from A to E, where E-rated neighbourhoods were the most deprived of green spaces and all the benefits they provide, while A-rated neighbourhoods had good access to green spaces, including gardens and parks. Of 21 neighbourhoods in Luton, none received an A rating, and four received an E. Of the rest, five received a B, and six each received a C or D (169). While Luton does have some beautiful parks and other green spaces, they may not be easily accessible to all residents. Green spaces also need to be perceived as safe in order to attract use. While more Luton residents make use of outdoor space for exercise and health reasons than the national and regional averages, that is still only just over 20% of the population, and over one-third of the population in the town is classed as physically inactive (69).

PUBLIC AND PRIVATE TRANSPORT USE

Reliable and affordable public transport plays a role in improving accessibility, as well as reducing particulate emissions, increasing job opportunities and access to services and leisure opportunities, and encouraging hybrid travel with an active component (i.e. walking or cycling). In Luton 72.6% of households owned a car or van in 2011 (170). Car ownership has risen across the country since then, including in Luton, where there has been an increase of 14% in car registrations since 2010 (171) (172). The Campaign for Better Transport rated Luton 14th best out of 29 urban areas in England for avoiding car dependency in 2014, an improvement over previous years (173). Luton scored particularly well for encouraging walking and cycling, and has have benefited from the development of the Luton Busway, a major improvement in the town's public transport infrastructure. However, in 2019-20, only 62% of bus passengers considered bus travel in Luton to be good value for money (174).

High levels of car use and congestion discourage active travel. Only 13.4% of adults in Luton walk for travel at least three days a week, compared with an England average of 15.1%. For cycling, the situation is much worse – compared with a national average of 2.3% of adults cycling for travel at least three days a week, Luton sees just 0.2%. It has also been noted that a combination of the positioning of the M1 motorway, the railway, and surrounding environmentally-sensitive areas mean that significant traffic is funnelled through the town centre, resulting in congestion and high levels of health-damaging pollution (175).

AIR QUALITY

Car use is also a major contributor to air pollution and poor air quality along with emissions of other pollutants. Worldwide, the WHO attributes an estimated 4.2 million deaths a year to ambient air pollution, and a further 3.8 million premature deaths to indoor pollution in the home (176). In the UK, the Royal College of Physicians has attributed 40,000 deaths a year to outdoor air

pollution, as well as over 20,200 hospital admissions and more than 6 million sick days (177).

In the UK, poorer air quality and proximity to polluting sites are associated with greater deprivation (178) (179). There are also inequalities in exposure specifically to traffic-related pollution: areas with more households in poverty are exposed to poorer air quality, despite generating fewer emissions, and areas with households least able to access a vehicle suffer more from vehicle emissions (180). There are also inequalities along ethnicity lines, with research finding that neighbourhoods in England with a greater than 20% non-White population had higher average levels of key pollutants than those with 20% or less, even controlling for factors like urbanisation and deprivation (181).

There are many different pollutants that contribute to ill health and premature mortality. Two of the most frequently cited are PM2.5 and nitrogen dioxide (NO₂). Exposure to PM2.5 has been linked to respiratory and cardiovascular morbidity and mortality: children, older people and those with pre-existing disease are at particular risk (182). Domestic, commercial and industrial combustion is the largest single source of PM2.5 in Luton (183). However, Luton compares relatively well with other UK urban areas on PM2.5 emissions, ranking 46th in a comparison of the UK's 63 largest towns and cities (where the first ranking had the highest emissions) (183).

Nitrogen dioxide has also been associated respiratory illness, cancer and premature mortality. The largest single source of nitrogen dioxide emissions in the UK is road traffic, followed by the energy sector (184). In Luton, around 40% of emissions are attributable to road traffic, and the next largest contributor, at close to another 40%, is other transport (183). A percentage of that may be related to the railway, but the majority will be from the airport. While NO₂ levels fell during the COVID-19 lockdowns, they have rapidly returned to pre-COVID levels (185), although Luton ranks 52nd for per-capita emissions out of 63 towns and cities in the UK (183).

Luton Borough Council has identified two main areas of concern for NO₂ emissions: along the length of the M1 motorway; and along the A505 (Dunstable Road) in the town centre and part of Bury Park (186). Both these areas have been declared Air Quality Management Areas (AQMAs) – these are areas that fall short of national standards, and the status can be revoked when standards are achieved. However, it has been noted that AQMAs are not greatly effective in improving air quality: of 902 AQMAs introduced since 1995, 670, more than two-thirds of the total, were still active in 2020 (183). Not all the pollution in Luton comes from Luton itself. South East England has poor air quality throughout, due in part to emissions from London and pollutants from continental Europe.

The health effects of these emissions are significant. In Luton, around 6.2% of all deaths are estimated to be related to long-term exposure to PM2.5, higher than in any other UK urban area except three: London, Slough and

Chatham (183), despite emissions not being especially high when compared nationally, as described above. This may be because ambient levels of pollutants depend on more than just local emissions. As mentioned, particulates from other areas can drift in, but also the nature of the built environment can affect dispersal. One study placed Luton bottom out of the 146 most populous urban areas in the UK for air pollution concentration compared to emissions (187) (188). In other words, Luton had the worst air quality for its level of emissions, suggesting that other factors are preventing the dispersal of pollutants – including levels of traffic congestion, a densely-built and -populated urban area, and poor air flow through streets.

Luton Borough Council has engaged in a range of initiatives to improve air quality, from installing electric vehicle charging points to traffic measures aimed at reducing congestion and promoting walking, cycling and bus access to train stations (186). However, these are relatively small and piecemeal interventions. The large drops in emissions, particularly of NO₂, during lockdown point to the potential gains from policies that target improved air quality by significantly reducing traffic emissions. These could include introducing a Clean Air Zone, charging high-emission vehicles to enter or transit the town centre.

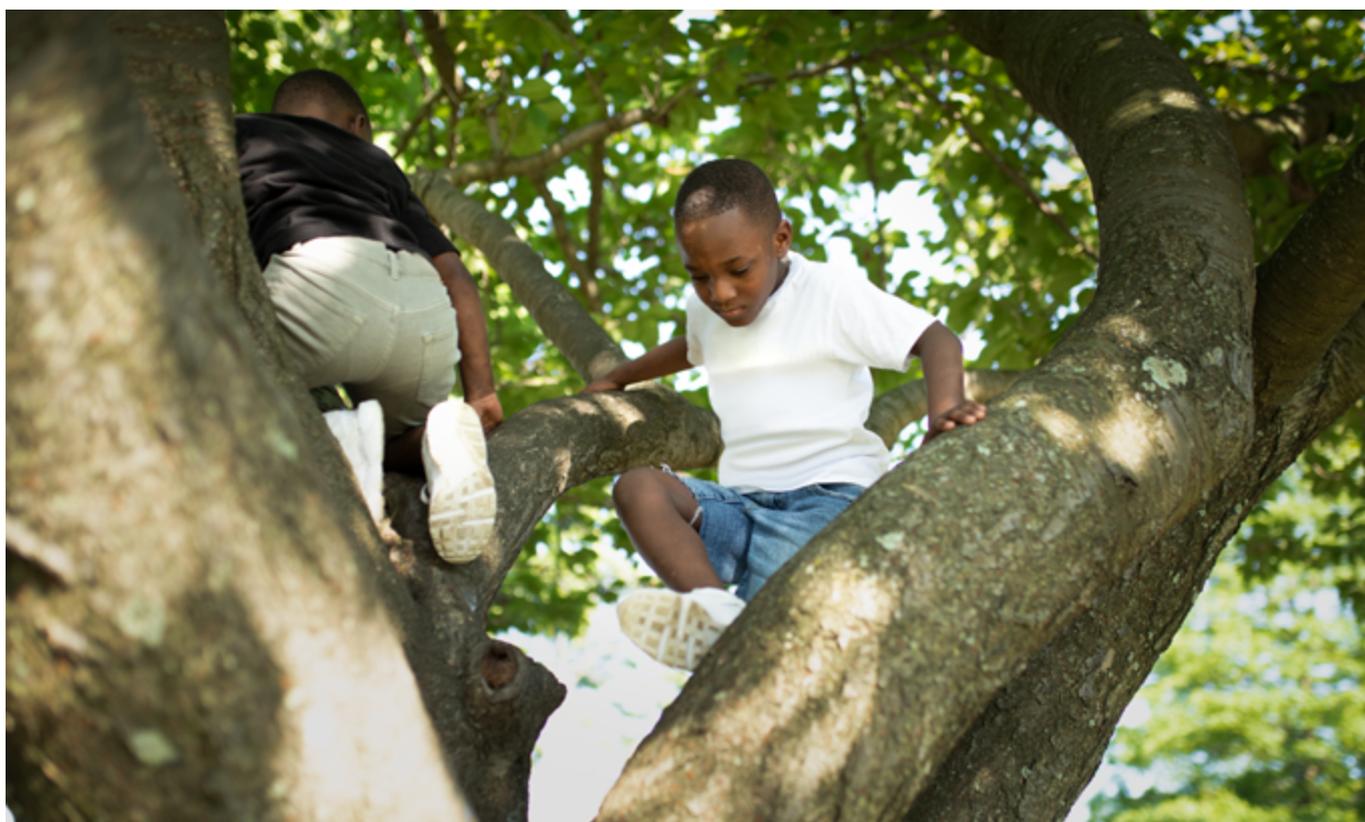
FUTURE URBAN DEVELOPMENT

Luton is expected to see more development and densification over the coming years, and more high-rise buildings. This is not necessarily a negative for health, but it is crucial that the development that occurs, and the neighbourhoods that are created, provide good quality,

affordable, energy-efficient homes with secure tenures, to be supportive of health and health equity. Increased population density can coexist with these aims, and can aid the development of walkable communities, if designed with care. As noted above, urban design can also contribute to the retention of harmful pollutants, as well as excess heat, and these factors must also be considered.

There are regional developments noted in Luton's forthcoming housing strategy which may be conducive to increased housebuilding and greater focus on health. The Oxford to Cambridge arc is predicted to experience significant economic growth, and Luton, which sits in this arc, is well-placed to attract new development. The strategy notes that the new BLMK Integrated Care System may be an opportunity to link housing with health priorities as part of a 'health in all policies' approach. (189) Such policies will have to balance the need for good quality new homes with the preservation of accessible green spaces.

The integral relationship between health, wellbeing and spatial planning is well recognised in Luton, as shown in the Luton Health Places Framework, Box 4. The framework is aimed at place makers, who include planners, developers, designers, policymakers, service providers, infrastructure providers and all those who influence the design, layout and function of places and developments in Luton, as well as public health practitioners and wider health and social care sector partners. It is also recognised that achieving net-zero emissions, becoming a Marmot Town, creating 'Child Friendly Places', and involving local communities in place-making decisions are essential components of creating healthier places in Luton.



Box 4: Luton's Healthy Places Framework

The Luton Healthy Places Framework highlights eight elements that contribute to a healthy place. The elements are primarily based on the key principles of the NHS Healthy New Towns Project. The eight elements are: movement and access; housing and building design; complete, compact and connected places; open spaces, play and recreation; the food environment; the local economy and employment; healthy high streets (licensing and trading standards); and air quality.

- The Healthy Place Framework provides a clear statement of Luton's commitment to healthy place-making and aims to achieve a number of objectives. It seeks to highlight health and wellbeing as fundamental to the social, environmental, and economic development of Luton's communities, and to ensure health and wellbeing are woven through the future development of plans, policies, design guides and codes, including planning as well as other sectors such as housing, transport and the natural environment. It is designed to aid 'place makers' in the delivery of healthy developments and communities by increasing local capacity and knowledge of health and wellbeing and the relationship to spatial planning issues, and outlines how Public Health can engage in the planning process.
- Using health impact assessment tools can also ensure that health and wellbeing, including health inequalities, are considered in the determination of planning applications. Consultation tools such as 'The Place Standard' can be used as a framework for consultation on developments, helping residents talk about how they feel about their place in a methodical way (190).

HOUSING

Good quality housing is essential for health. Housing that is in disrepair, overcrowded, damp or cold increases mortality and ill health. Children are particularly at risk, with evidence that experiencing poor housing conditions during childhood and early adulthood increases the risk of developing severe ill-health or disability by up to 25%, as well as increasing the risk of respiratory problems, slowed physical growth, delayed cognitive development and mental health problems like anxiety and depression (191) (192). Overcrowding further increases risks of respiratory and other infections (192) (193). Poor quality, unsuitable and overcrowded housing has been implicated in the higher rates of infant and child mortality associated with deprivation (91). It has been estimated that it costs the NHS in England £1.4 billion per year to treat ill health resulting from poor housing conditions for first-year treatments alone (194).

Poor quality, poorly insulated housing that is damaging to health is a problem nationwide. The lower a person's socioeconomic position, the more likely it is that they will live in a poor quality, cold home, and those living in cold homes experience higher mortality and worse physical and mental health than those who do not, section 3D (195). It has been estimated that over 20% of excess winter deaths are attributable to cold homes, a situation that is only likely to worsen with rising energy costs and fuel poverty (196).

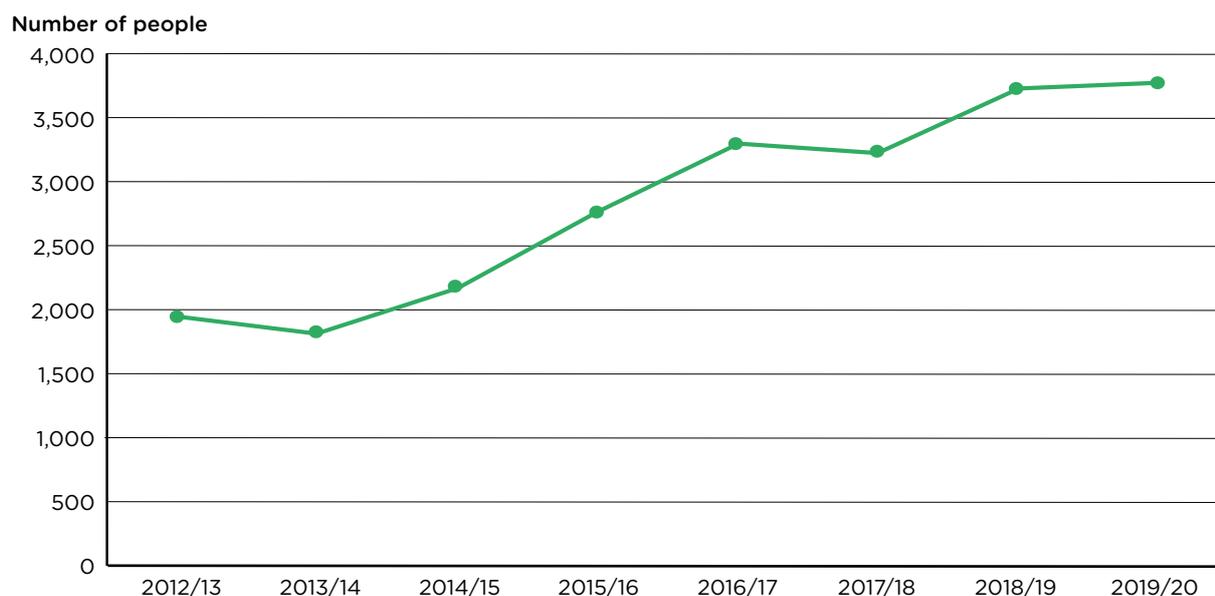
The private rental sector has the lowest quality housing of any sector, with 23% of all homes in the UK private rental sector considered 'non-decent' and not reaching minimum standards of quality (12) (197). The Government has signalled its intention to improve the

quality of homes in the private rental sector in the 2022 Levelling Up White Paper, announcing plans for a legally binding Decent Homes Standard, as well as consulting on a National Landlord Register and moving towards ending section 21 'no fault evictions', which can leave families homeless with resulting damage to their health and life chances (198).

Housing quality and availability are major issues in Luton. Luton is an urban area where the only sites remaining for development are brownfield sites, house prices are rising, and affordability is declining. Luton has a large private rented sector, and issues with quality and sustainability of housing stock. Twenty-nine per cent of homes in Luton are rented privately, double the proportion that are social housing.

It is estimated that over 3,700 people in Luton were experiencing unsatisfactory housing conditions in 2019/20, a number that has more than doubled since 2013, as shown in Figure 3.23. There is much that the Council can do to improve living conditions, as landlord to around 10% of homes in Luton, as a housebuilder, and with enforcement powers over private landlords.

Figure 3.23. Number of people living in Luton occupying insanitary or overcrowded housing or otherwise living in unsatisfactory housing conditions, 2012/13 - 2019/20



Source: MHCLG/DLUHC, 2020 (199)

While the lowest standards of housing may be found in the private rented sector, the tragedy of the fire at Grenfell Tower in West London has highlighted that social housing can also fall far short of acceptable standards of quality and safety. The Government has introduced a new Charter for Social Housing Residents 2020 to ensure that standards are met, and in Luton the Council and Housing Associations have a significant maintenance and enforcement role in this sector as well (200). Luton Borough Council has plans for a Tenants’ Charter to protect the rights of social housing tenants. (189)

HOUSING AFFORDABILITY AND TENURE

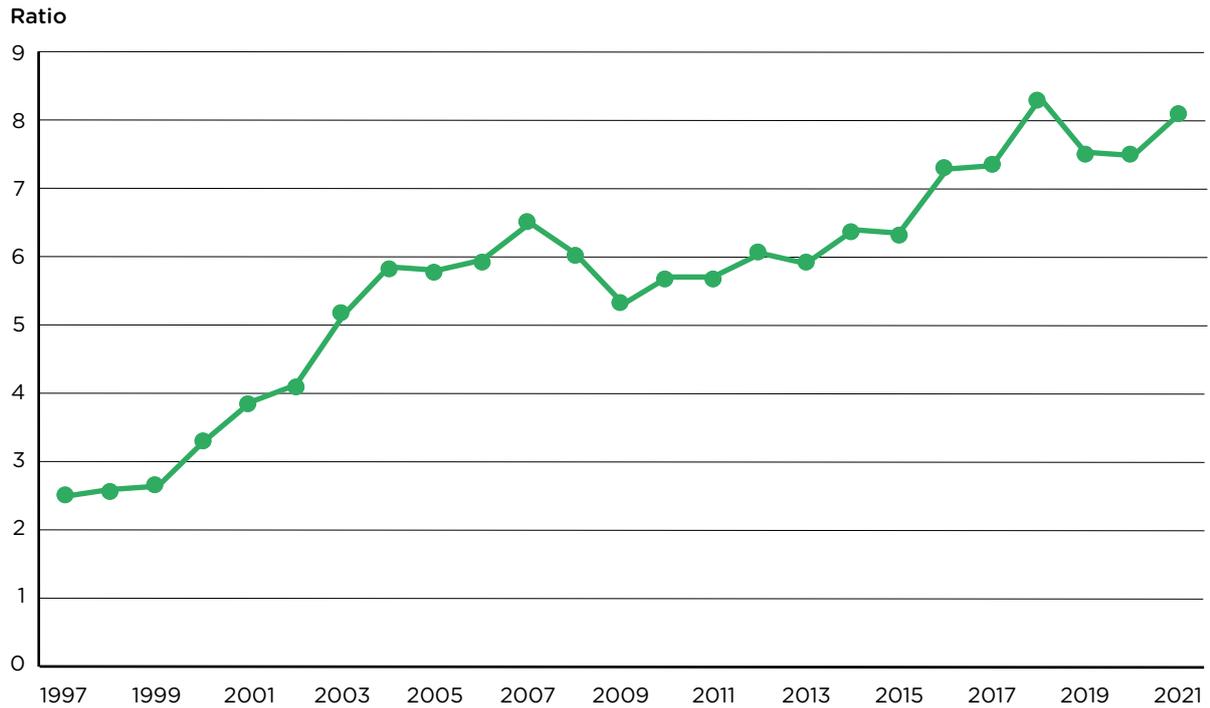
Affordable housing is essential for reducing health inequalities. The cost of housing drives many families into poverty and impacts their ability to lead a healthy life, in addition to the negative mental health impacts associated with stress and anxiety. Not being able to afford decent housing has been linked to raised blood pressure, depression and anxiety (201). In the UK, 16% of the population are living in relative poverty measured before housing costs are taken into account, but when including housing an additional 2.9 million people are categorised as being in poverty, raising the overall percentage to 20%. Before accounting for housing costs, 2.8 million children live in poverty but including

housing costs puts another 1.1 million children in poverty, increasing the percentage of all children from 19% to 27% (202). Not being able to find housing near work also increases commuting times, contributing to air pollution, and worsening work-life balance.

Analysis of affordability in Luton in the 2019 housing strategy found that a household subsisting on one median salary would need to spend 35% of that income to afford a one bedroom, privately-rented flat. Those in the bottom decile of earnings would not be able to afford any private rents, and could afford at most a two bedroom flat at local housing allowance social rent (203). In June 2022, the local housing allowance rate for a family in need of four bedrooms in Luton was only £264.66 per week (204).

The average house price in Luton rose by more than £50,000 from 2015 to 2021. As shown in Figure 3.24, house prices have grown much faster than wages, and the median house price in 2021 was nearly seven-and-a-half times the median gross annual earnings for Luton residents. This puts home ownership out of reach for many, and entrenches inequality, as those who are fortunate enough to have purchased a home see their wealth increase. Nevertheless, house prices in Luton remain lower than in many surrounding areas. This could represent an opportunity to attract people into Luton.

Figure 3.24. Ratio of median house price to earnings in Luton, 1997-2021



Source: ONS, 2022 (205)

Note: Based on median gross annual workplace-based earnings.

Box 5. Selective licensing in Waltham Forest, London

The London Borough of Waltham Forest has introduced a selective licensing scheme for landlords. At present, three types of licences cover homes in the borough: a government mandatory scheme for large houses of multiple occupancy (HMOs) containing more than five sharers; an additional licensing scheme for HMOs of three or four sharers; and a selective licensing scheme in 18 of the borough’s 20 wards that covers HMOs of two sharers and single families. It is estimated that around 80% of the rental properties in the borough are licensed.

The scheme was launched at the start of the COVID-19 pandemic. The team is now pursuing landlords that have not registered. They are raising awareness about the scheme with tenants by publicising drop-in sessions at which problems can be reported.

The enforcement policy is intentionally ‘light touch’. Under the selective licensing scheme, single family homes are not inspected at the point of the licence being granted. If the team receive a complaint from a tenant, they inspect and ask the landlord to remedy the faults. If those faults are not dealt with, they can follow up with further enforcement. HMOs are all inspected before the licence is given, and if faults or hazards are found the landlord is given a schedule of works to complete before a licence will be granted.

Licensing income is ring-fenced and pays for the administration and enforcement of the scheme, meaning the local authority can have a large team inspecting properties. Prior to the introduction of licensing there were only five officers inspecting private rental properties, which meant that only the most serious ‘category-one’ hazards were dealt with. Category one hazards are ones considered to be an immediate risk to a person’s health and safety.

The scheme provides protection for tenants and places an additional responsibility on landlords to ensure their tenants behave appropriately. The landlord is responsible for making sure gardens are tidy or that anti-social

behaviour in properties is dealt with. For tenants it means they know to whom to turn when faced with poor living conditions in privately rented properties. This includes issues that would not have met the criteria for the severe hazards the team previously dealt with exclusively.

The scheme has proven to be a deterrent to criminal and irresponsible landlords, leading to successful prosecutions and civil penalties, without placing too onerous a burden on the majority of responsible landlords. The scheme has also helped to improve the condition of thousands of properties. In addition, tenants are more informed about their rights and are better protected against illegal eviction. (210)

HOUSING SUPPLY

Housebuilding in Luton is not keeping up with the need for new homes. In 2017, Luton identified the need for 17,800 new homes, in the town and surrounding boroughs, but the most recent housing plan includes only 8,500 new homes. Over the last five years, Luton has averaged just 713 new homes a year, of which an average of 115 a year have been 'affordable' (189). The Council currently estimates that 300 new affordable homes for rent are required each year above the current supply. At present, Luton only requires 20% of homes in large developments to be affordable, in comparison to 30% in neighbouring local authorities (189). The high costs of cleaning up brownfield sites contribute to the low level of affordable homes being constructed, as they reduce viability for developers.

Throughout the UK construction of new social housing, both Housing Association and council housing, has been limited for many years by falling social rents and restrictions on the freedom of local authorities to build more council housing. Recent policy announcements have suggested greater freedom for local authorities to build, in part through flexibility in the use of Right to Buy proceeds (203).

Greater Manchester have taken several significant steps to improve housing quality, availability and reduce homelessness, summarised in box 6.

BOX 6. Actions on improving housing in Greater Manchester

Greater Manchester's A Bed Every Night scheme and Housing First policy offer support accommodation for people who sleep rough and support to improve their physical and mental health. The NHS provides funding for the scheme as it is viewed as a form of prevention, reducing need for NHS services. The Mayor's Homelessness Fund enables businesses and individuals to donate towards supporting local services to support homelessness reduction (92).

The Let Us ethical lettings agency in Greater Manchester provides management services to private landlords through the services of housing association partners, aiming to improve the private rental sector (93).

In March 2021 the Better Homes, Better Neighbourhoods, Better Health 'Tripartite Agreement' between Greater Manchester Housing Providers, Health and Social Care Partnership and the Combined Authority was launched. The partnership aims to plan new housing and communities to enhance health, support more vulnerable households, support homeless people and those sleeping rough, and expand the ethical lettings agency to make an additional 800 homes available to those who are homeless or sleeping rough by 2024 (94).

Greater Manchester's 2019–2024 Housing Strategy has two priorities: to provide a safe, healthy and accessible home for all and to deliver the new homes Greater Manchester needs (95). It commits to providing 50,000 affordable homes, of which 30,000 will be for social rent, by 2037 (95). However, this is too few and too slow to meet the demands for affordable housing, and given the impacts of the pandemic, the Strategy's priorities are unlikely to be met in the 2019–24 timeframe.

HOMELESSNESS

A lack of housing supply combined with high levels of private rental, in which sector evictions are significantly more common, has resulted in high levels of homelessness in Luton. In 2017/18, Luton had 1,314 households in temporary accommodation, or 16.7 per 1,000 households. This compared with 3.4 per 1,000 households for England, and a mere 2.3 for the East of England average (211). This situation has been aggravated by the pandemic – between October and December 2021, the latest period for which data are available, a further 249 households were assessed as homeless and 182 were imminently threatened with homelessness (212).

At the sharper end of housing problems are rough sleepers. Levels of rough sleeping rose in Luton between 2011 and 2017 in the context of rising poverty and homelessness nationwide. In 2018, the Government published a National Rough Sleeping Strategy, with an ambitious commitment to halve rough sleeping by 2022 and to end it for good by 2027. At that time, Luton's number of rough sleepers on a typical night was believed to be the fourth highest in the country, and so Luton was able to successfully bid for additional funding that had accompanied this ambition, the Rough Sleeping Initiative Grant. Luton has worked hard to improve things for rough sleepers, using national funding streams. Box 7 sets out several positive actions to reduce homelessness in Luton. Together, these actions have achieved an 85% reduction in mental health sections among the rough sleeping population and a 92% reduction in rough sleeping, as reflected in Figure 3.25.

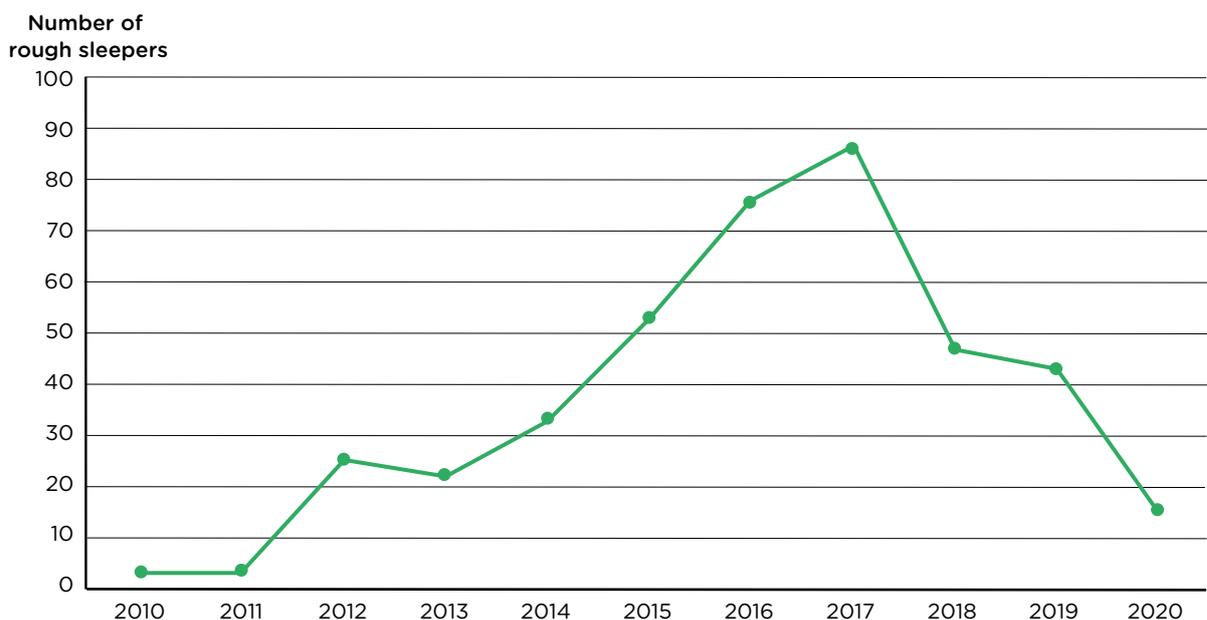
Box 7. Actions on homelessness in Luton

The Luton Homelessness Partnership was established in 2019, bringing together local government, NHS bodies, local and national charities, faith groups and academic partners to tackle homelessness in Luton through co-production with people with lived experience of homelessness (213).

A central coordination post was created with the aim of developing a partnership response and appropriate pathways into housing and health for people rough sleeping in Luton. Luton Borough Council took an asset-based approach and commissioned services from existing providers in Luton who were committed to ending rough sleeping and homelessness. Each provider was commissioned to deliver a component of the whole programme and contracted to work in partnership with other providers in the town.

Luton achieved further grant funding from several sources and was able to commission a health and housing response, shaped by service users and providers. This work resulted in the creation of an independent Luton Homeless Partnership in 2019, of which Luton Council is member alongside VCFSE partners including local and national charities, faith groups and housing associations, as well as East London NHS Foundation Trust (see Box 11), the University of Bedfordshire, and the private sector represented by The Mall, Luton (213).

Figure 3.25. Numbers of rough sleepers in Luton, 2010–2020



Source: MHCLG/DLUHC, 2020 (214)

SOCIAL COHESION AND ISOLATION

Communities are shaped in part by the physical features of the neighbourhoods they inhabit, including housing, shops and restaurants, roads and other transport infrastructure, but also by less tangible aspects of social capital and social cohesion. While these can be complex concepts, and are not always defined in the same way, they relate to connectedness, mutual trust and support in a community, and there is a significant body of evidence linking social capital to improved health outcomes (215) (216). These effects may be due to improved access to community resources; moderating influences on individual behaviour; as well as the direct reduction of stress that accompanies living in a safer, more cohesive and more trusting community (217). This is part of the reason why the level of deprivation in a neighbourhood affects residents' health, independent of their own resources – the neighbourhood itself and its collective resources are important (218).

In contrast to cohesion, social isolation is linked to poorer health outcomes (138). Social isolation is an objective measure of reduced social contact, while loneliness is the subjective negative feeling that isolation can engender. Not every person who spends time alone is lonely, nor does contact with another person necessarily remove that sense of loneliness. Isolation and loneliness have been linked to a range of physical and mental health outcomes, including depression, anxiety, dementia and suicide, as well as coronary heart disease and other cardiovascular conditions, cancer and increased susceptibility to infectious disease (65).

Less deprived communities tend to report better social cohesion. In 2020/21, among respondents to the Community Life Survey in England, 90% of those living in the least deprived areas agreed that their local area was a place where people from different backgrounds get on well together, compared with 75% of those living in the most deprived areas. Those living in the most deprived areas were also less likely to report that they felt a strong sense of belonging to their local neighbourhood, or that they were generally satisfied with their neighbourhood as a place to live (219).

Social cohesion in Luton has been examined on a number of occasions, most recently with the report of the Luton Commission on Community Cohesion in 2011. At that time, 82% of Luton residents agreed that their local area was a place where people from different backgrounds got on well together, which is similar to the national figure today, and has remained fairly constant nationally over at least the last seven years (220) (219). This is consistent with the qualitative findings

of the report which, while acknowledging tensions between communities in Luton, found that the majority considered the diversity of Luton to be a strength. One issue raised by the report was language as a barrier to social cohesion – in the 2011 Census, 5.4% of people in Luton could not speak English very well or at all, more than in any of its statistical neighbours except Leicester (7.5%), and significantly higher than the England average of 1.3% (221). Supporting individuals with language skills should form part of the approach to improving cohesion.

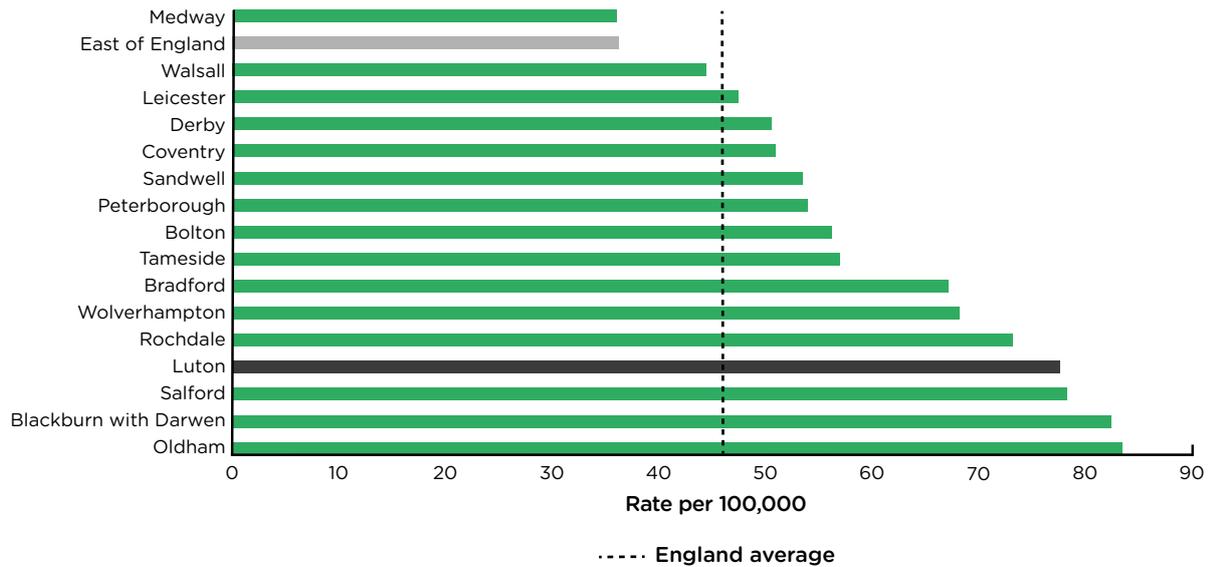
Between October 2020 and February 2022, during the pandemic, 11.6% of Luton residents reported feeling lonely often or always, more than double the national average of 5%. Loneliness and isolation are closely linked to deprivation and disadvantage. Analysis from the Office for National Statistics has found that urban areas, areas with younger populations, and areas with higher unemployment have higher rates of loneliness, all of which apply to Luton. The same analysis has found that areas with strong local businesses and adult education have lower rates, so improving these factors could improve the situation in Luton (66).

CRIME AND THE FEAR OF CRIME

Social cohesion also relates to levels of crime. In addition to the direct health effects of violent crime, crime can reduce social cohesion and impair the ability of residents to feel safe in their neighbourhoods and in control of their lives. In addition to the stress caused, this can have indirect effects such as discouraging social engagement and physical activity in the local area. Exposure to violence can have long-term psychological effects, particularly in children (222). There are clear socioeconomic inequalities in the experience of crime: both victims of crime and offenders are more likely to live in England's most deprived areas than in better-off areas, and people living on lower incomes are much more likely than wealthier people to be the victims of crime, including experiencing six times the risk of domestic violence (86) (223). Reducing crime and the fear of crime has health benefits, and it is the poorest who would benefit most from such a reduction (223).

Crime is a major issue in Luton. In 2021, Luton's crime rate was 82 crimes per 1,000 people, higher than the rate for England of 74. One-third of these crimes were violent and sexual offences (224). Figure 3.26 shows Luton's high levels of violent crime, measured by hospital admissions for violence. Fear of crime has also been an issue in Luton, based in part on reality, but also affected by bias, perception and media coverage (126).

Figure 3.26. Hospital admissions for violence (including sexual violence) in Luton and its neighbours, 2017/18 – 2019/20



Source: OHID, 2021 (69)

A public health approach to policing should involve the police and other partners in tackling the social determinants of crime and in early prevention (225). While Luton’s Fear of Crime Task group has found

that increased police visibility was frequently cited by residents as key to improving perceptions of neighbourhood safety, they also noted that improved community engagement was critical (126).

RECOMMENDATIONS

CREATING AND DEVELOPING HEALTHY SUSTAINABLE PLACES AND COMMUNITIES

1. Introduce a Clean Air Zone, and develop better walking and cycling infrastructure with attendant programmes to support active travel particularly among more deprived communities.
2. Develop a decent homes standard for Luton including social and private rental sector, establish private landlord registries in all areas to facilitate inspection and support enforcement powers. Ensure that 30% of housing in large developments are affordable homes.
3. Strengthen the partnership between housing and health care organisations, in order to support NHS advocacy and referrals for people experiencing housing conditions which harm health.
4. Prioritise reducing social isolation as a public health intervention, in partnership between the NHS and the VCFSE and private sectors.
5. Develop place-based partnerships to strengthen approaches to community policing and strengthen the public health approach to violent crime.

3F STRENGTHENING THE ROLE AND IMPACT OF ILL HEALTH PREVENTION

KEY MESSAGES

- A social determinants approach to prevention involves examining the 'causes of the causes' of ill health. Ill health prevention and good health promotion are necessary for both social justice and cost-effectiveness in the healthcare system
- Over half of the population of Luton are estimated to have low health literacy. Clear and good quality information is needed to improve this situation.
- Many health behaviours are linked to deprivation through a number of pathways, that go beyond health literacy. Deprivation makes leading a healthy lifestyle more difficult and can make prioritising health impossible.
- Many indicators of health behaviour in Luton are concerning: two-thirds of Luton residents are overweight or obese, and alcohol-related harm and levels of smoking both exceed the national average. All of these are linked to deprivation.
- Efforts at disease prevention need to ensure that they are targeted at the most disadvantaged, who stand to benefit the most, rather than the less disadvantaged, who may be 'easy wins'. At the same time, these programmes need to engage with the reality of the lives led by those experiencing deprivation and disadvantage and work to reduce inequalities in health.



UNDERSTANDING INEQUALITIES IN HEALTH BEHAVIOUR

Taking a preventative approach to illness often focuses on individual behaviour and the impact that can have on health. There are many avoidable risk factors that contribute to the development of ill health, including poor diet, lack of exercise, smoking, excessive alcohol consumption and drug misuse. Health behaviour is closely related to the social determinants and to deprivation and disadvantage. People from more disadvantaged socioeconomic groups are more likely to smoke, to be overweight or obese and suffer higher levels of harm from alcohol. Taking a social determinants view involves thinking about 'the causes of the causes' – why people make what may appear from the outside to be poor decisions about their lives and their health.

One influence on health behaviour is health literacy – how far an individual may struggle with understanding or interpreting information about health and healthy lifestyles. Researchers at the University of Southampton have attempted to estimate health literacy at a local authority level by analysing demographic and socioeconomic characteristics. By their methodology, 54% of the working age population in Luton are estimated to have low health literacy, compared with a national average of 41% (226). Health education thus needs to be improved, with clear communication of health information at every level, in a range of languages and in an appropriate and comprehensible cultural context. This lesson is relevant to all public services and sources of crucial advice on the social determinants of health, from finances, to employment, to housing.

There are other reasons why there are socioeconomic inequalities in health behaviours. Sometimes it is simply a question of resources – in the case of diet, a healthy diet can be more expensive than an unhealthy one, for example. Families who are in the lowest 10% of household income would have to spend nearly three-quarters of their income after housing costs on food to afford the recommended NHS 'Eatwell' plate. The Eatwell guide splits food into five categories: fruit and vegetables; starchy carbohydrates; dairy and alternatives; proteins; and oils and spreads. The plate depicts these in the recommended proportion they should take up of a person's diet (227). Rising fuel and housing costs are further reducing available funds for a healthy diet.

More disadvantaged people are often time-poor as well as cash-poor, and while it can be cheap to make healthy meals at home, it is also demanding on time and energy. The stress of poverty can narrow the 'mental bandwidth' available for other tasks. The ability to cook meals also requires a reasonable kitchen space and equipment. Buying food in bulk, which is cheaper, is often out of reach for those with less control over their cash flow and no savings. Similarly, it can be much easier to exercise regularly if you have access to green spaces, a workplace that supports cycling, or can afford a gym membership and have time to exercise as well as meet household responsibilities.

There are other factors related to the stresses of economic and social disadvantage. Quitting smoking or cutting down on alcohol may simply not be a priority when you already have multiple sources of stress in your life. There is also a degree to which these choices may be more rational if you are suffering worse disadvantage. Traditional economics treats individuals as rational decision-makers, and even in this simplified view, accepts that we discount future benefits, as they are more uncertain. If you have fewer prospects for the future, including the knowledge that your life expectancy is lower than your better-off neighbours, your motivation to give up immediate pleasures may well be lower. In the case of alcohol, people of lower socioeconomic status actually drink less than wealthier people, but paradoxically suffer more from the harms associated with excessive alcohol use. This may be due to differing patterns of use (for example, 'binge' drinking against regular use) or to do with the way alcohol use interacts with other health behaviours, such as smoking, and stress (228) (229).

There are also ethnic inequalities in health behaviour. In the UK, smoking rates by ethnicity are highest among those identifying as mixed or other ethnic origin, at over 20%, and high among men identifying as of Pakistani or Bangladeshi ethnic origin (230). Obesity disproportionately affects some ethnic minority groups: 67.5% of Black adults are overweight or obese compared with 63.7% of White British adults and 32.2% of adults of Chinese ethnicity (231). These inequalities are related in part to cultural norms or even genetic factors, but also reflect other socioeconomic inequalities that are experienced by many minority ethnic communities.

ALCOHOL AND OBESITY IN LUTON

Luton has high rates of alcohol-related harm. In 2020, Luton had 40.6 alcohol-related deaths per 100,000 of population, compared with 37.8 for England and 32.4 for the East of England region, and rates of alcohol-related and alcohol-specific hospital admissions were similarly high (232). Concerns around alcohol are particularly acute in the context of the COVID-19 pandemic, with evidence that alcohol consumption increased during lockdown, particularly in more deprived households, with a subsequent 18.6% increase in alcohol-related deaths in England between 2019 and 2020 (233) (234). Excessive alcohol use is less common in many ethnic minority communities (235).

Obesity and diabetes are closely related to deprivation across England (236). Research has suggested that cuts to Sure Start centres between 2010/11 and 2016/17, which fell hardest on more deprived areas, resulted in increased childhood obesity in those areas that had the greater reductions in spending, exacerbating the link between obesity and deprivation (237). In Luton in 2020/21, 67.5% of adults were overweight or obese, with only 56.8% classified as physically active, as opposed to 63.5% and 65.9% respectively for England (69). This

is likely to contribute to Luton's high levels of diabetes, with an estimated prevalence of 8.4% in 2019/20, compared to the national average of 7.1%, and exceeding 10% in the wards of Biscot, Leagrave and Saints (41). As well as the links to deprivation, diabetes prevalence will also be affected by age and ethnicity – we might expect Luton's higher proportion of Black and Asian residents to increase the prevalence, although its relatively young population would reduce it.

Food is an integral part of family and community life, and an important part of Luton's heritage as a multicultural town. Over the years shifts in work patterns, food production and food sales, as well as migration, have led to changes in where, what and how most residents eat. There are fewer home-cooked meals being made, more people eating out, and greater consumption of processed food high in calories and in sugar, fat and salt. Food marketing has contributed to this shift and has made choosing healthier options more challenging. Box 8 sets out Luton's 2018 food plan to support healthier eating.

Box 8. Luton's Food Plan 2018-2022

Luton's Food Plan was developed by the council's public health team to make healthy food choices available and attainable for the population of Luton. It aims to challenge current eating culture by taking a whole-system approach to understanding and disrupting the underlying causes of poor health and wellbeing through food. The views of approximately 500 of Luton's residents were taken into consideration in producing the plan, which came into operation in April 2018. It identified three priorities: 'getting our house in order' (recognising Luton Council as a large employer and a role model in procuring and offering healthier food options); greening the borough and 'growing your own'; and improving access to healthier food options. Three working groups were established with individual project plans for each of the priority areas to deliver healthy eating interventions for Luton and then to monitor and evaluate their impacts. These plans were co-produced with internal and external partners.

Among the plan's many initiatives, 'Tuck-In' was a food improvement programme encouraging businesses to make small changes in the way they prepare, cook and advertise their food by reducing salt, sugar, fat and portion size. This ran between August 2018 and March 2019. Fifty-two businesses signed up and as a result, 163,000 meals a month were positively impacted. The Healthy Start Voucher Scheme is a means-tested scheme providing pregnant mothers and children under four with vouchers for milk, fruit, vegetables and vitamins. The Veg Fest Project supports schools to set up growing areas and gardening clubs that teach children about where food comes from and how to grow it. Thirteen schools and an estimated 390 pupils participated. The Community Food Hub addressed issues of food poverty in Farley ward and provided access to fresh produce across Luton. Five community gardens were developed in the town.

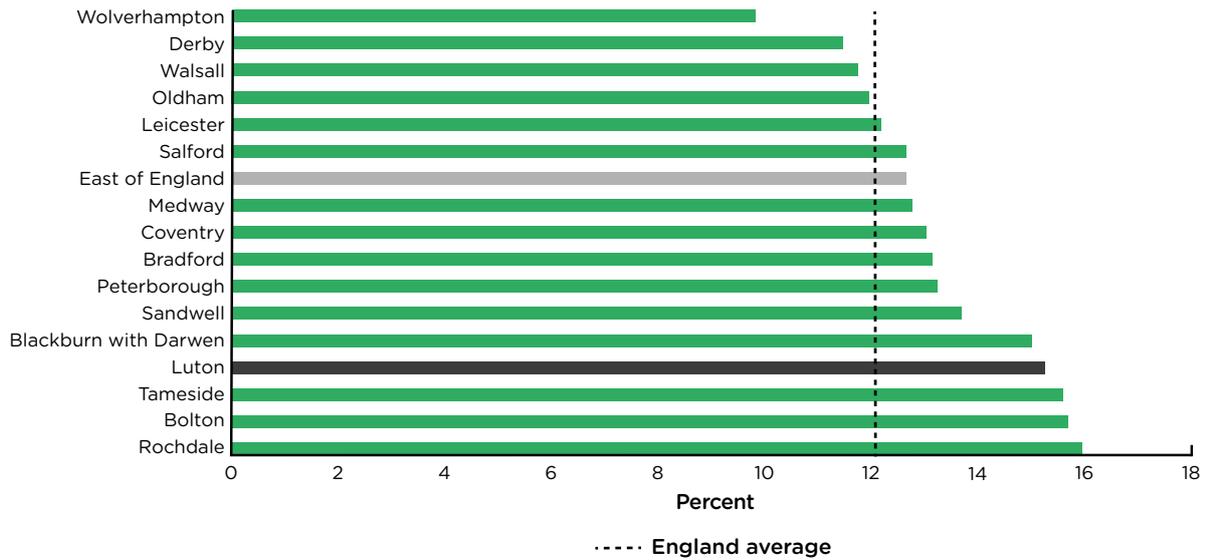
SMOKING IN LUTON

In 2020, 15.3% of adults in Luton were smokers, compared with 12.1% in England. Although detailed socioeconomic breakdowns are not available, we do know that the prevalence among working age adults in routine and manual occupations is particularly high – 31.2% in Luton, compared with 21.4% in England. In the town there were 1,616 hospital admissions in 2019/20 attributed to smoking and from 2017-19 219.2 deaths per 100,000 of population have been attributed to smoking (69). These inequalities result in uneven preventable mortality associated with cardiovascular disease, lung disease and liver disease. However, the estimated prevalence of Chronic Obstructive Pulmonary Disease

(COPD) in Luton is, perhaps surprisingly, quite low – only 1.3% compared with the England average of 2% (41). COPD is a long-term condition associated almost exclusively with smoking. Luton's low prevalence may be related to the relatively young age of the population given that COPD takes time to develop, commonly decades of smoking. If this is the case, then high levels of COPD can be expected in coming years.

Figure 3.27 shows how Luton compares with some of its statistical neighbours, with a higher prevalence of smoking than most, and being much closer to the highest rate than the lowest.

Figure 3.27. Smoking prevalence in adults aged 18 and over, Luton and its statistical neighbours, 2020



Source: OHID, 2022 (69)

DISEASE PREVENTION AND HEALTH PROMOTION

Taking a social determinants approach to health equity is all about creating the environment and the opportunities to enable people to lead healthy, dignified lives. The further ‘upstream’ action is taken, the more effective it can be.

Research has consistently shown that investment in prevention and early intervention saves money by reducing demand on the NHS and public services, improving health and wellbeing and supporting economic growth (238). The British Medical Association estimated in 2018 that preventable ill-health accounts for 50% of all GP appointments, 64% of outpatient appointments and 70% of all inpatient bed days. It also reported that effective action on smoking, drinking alcohol, physical inactivity and poor diet could reduce the uptake of health services in England by 40% (239).

More broadly, deprived communities often experience worse access to healthcare and poorer quality care than better-off people, despite having greater levels of need. This is known as the ‘inverse care law’ (240). Interviews with representatives of the health system in Luton carried out for this report consistently identified access to services as a major barrier for some communities. Providing information about services in a full range of languages and appropriate interpreter support is difficult enough in such a polyglot borough. Beyond that, there are cultural differences that may impair access to services.

Efforts to reduce health inequalities must take account of this phenomenon and work to actively compensate for its effects by focussing effort and resources in more deprived areas, taking the social gradients in health into account in a proportionate universalist approach. Box 9 sets out how GPs in one deprived area in Lancashire addressed the inverse care law and also took action to improve the social determinants of health in the community.

Box 9. Primary Care - Healthier Fleetwood

Fleetwood in Lancashire is an area of widespread social disadvantage and life expectancy is lower than the average for England. In Pharos ward, life expectancy is 76 years for women (England: 83 years) and 74 years for men (England: 79.8 years), while healthy life expectancy is 55 years for men and 56 years women, compared with the English average for both men and women of 63 years (136). Fifty-three percent of Fleetwood's population are in England's most deprived quintile.

In 2016 local healthcare services in Fleetwood were struggling. There was a severe shortage in GPs, with the three GP practices missing half of their 16 GPs. This staffing crisis, and the need to address local health inequalities, prompted one local GP, Mark Spencer, to reach out to local partners to establish a cooperative solution. It was agreed that mobilising partnerships and working collaboratively offered the best chance of success, so Fleetwood, a strong partnership of residents, healthcare providers, local government, housing organisations, the VCFSE sector and other groups, was established.

The GPs have moved from managing illnesses to helping people to improve their lifestyles and preventing illnesses from developing. The partners meet weekly and work collaboratively, making it easier to identify who is needed to solve problems - for individual residents and the community as a whole. Healthier Fleetwood has had many successes in supporting positive changes in the town. Partners have listened to residents and worked to facilitate activities that enable them to improve their health and wellbeing. Activities connect people, address social isolation, improve diet, increase physical activity and promote better community cohesion. GPs have extended the surgery room to work with residents in community wellbeing projects. The local Health and Wellbeing Centre organises events such as free sports lessons, mental health support classes and drop-in sessions to engage residents with new programmes. Local schools are also partners, providing mental health support and, after listening to parents, including more actions to build resilience and ambition in Fleetwood's school children.

Residents were central to the creation of Healthier Fleetwood and they continue to be active partners - residents chair and organise the scheme. In the initial meeting, local residents were asked what mattered most to them. Involving residents has made the initiative sustainable. Putting local residents in charge of their own communities and working together to design services appropriate to their needs gives residents a sense of ownership and creates a system with longevity at its core.

Mark Spencer says: 'This work doesn't take seven-to-eight months, it takes seven-to-eight years', yet the Fleetwood practices did see immediate impacts: in 2017/18 they had the worst rates for A&E attendance in the CCG but within the year these rates had dropped by 21.3 percent, 11.7 percent and 18.5 percent across the three practices. (203) (204) (205).

NHS bodies and other healthcare providers can improve health not just through their core practices and prevention work, but by acting directly on the social determinants of health for their employees, their service users and their local community. As employers, they can ensure they pay a living wage, provide regular hours that are not excessive, and ensure healthy working conditions. For service users, they may be able to provide support in obtaining appropriate housing, or access to expert financial or legal advice. They can

also act as anchors for their communities, providing resources, including the use of facilities, for community activities and initiatives. When commissioning services, or contracting suppliers, they can support the local economy and other responsible employers. This is discussed below, in section 4B, but it is relevant here, as action by healthcare organisations on the social determinants represents an even more fundamental approach to ill health prevention.

DISEASE PREVENTION AND SOCIAL PRESCRIBING IN LUTON

Social prescribing is an important way for the NHS to support the social determinants and reduce demand on clinical services and is a key element of a preventative approach to health. Social prescribing allows GPs and other health professionals to make referrals to a range of local non-clinical services, from exercise classes to cookery courses to meditation, often provided by local voluntary and community sector partners. In 2017 the University of East London calculated that the social return on investment of the Waltham Forest social prescribing team could be as high as £1.92 for every £1 spent (157) (158).

Social prescribing was piloted in Luton at four GP practices over a three-year period beginning in 2015. This programme targeted particular groups of adult patients: those with a high risk for or diagnosis of type-2 diabetes and COPD; those with mild to moderate mental health issues; those experiencing loneliness or social isolation; and carers. Patients were referred by their GP to a link worker, who would then assess their non-medical needs and make further onward referrals,

dependent on need, to a range of services, usually provided by VCFSE partners. These included advice services (including financial, housing and employment advice) as well as physical, social and creative activities from walking groups and gardening to relaxation courses and art clubs. Workers could refer patients for up to 12 free sessions and would also provide motivational interviewing and personalised support. Studies assessing the effectiveness of this programme have found some evidence of benefit. Participants saw a small increase in mental wellbeing, although this was not considered a clinically significant change (241). There was a greater effect on increased energy expenditure through walking, moderate and vigorous exercise (242). However, both assessments were greatly limited by the large proportion of patients lost to follow-up.

Disease prevention and health promotion is not just for NHS bodies and Public Health practitioners. In Luton, for example, Active Luton, as well as running fitness centres, provides a range of services in support of community health and wellbeing through Total Wellbeing Luton, including smoking cessation services, health checks, and a range of courses for people with chronic illnesses. It also provides a social prescription programme (243).

RECOMMENDATIONS

STRENGTHENING THE ROLE AND IMPACT OF ILL HEALTH PREVENTION

1. Support primary care and other NHS institutions to address the social determinants of health.
2. Revise and extend social prescribing offer to focus on the social determinants of health including referrals to food and fuel security support and financial, legal, housing and debt advice.
3. Allocate health resources proportionately, with a focus on the social determinants.

3G TACKLING DISCRIMINATION AND EXCLUSION

KEY MESSAGES

- Pre-existing health inequalities, including those related to ethnicity, were exposed and exacerbated by COVID-19. Mortality was higher for some non-White ethnic groups throughout the pandemic, and people from certain ethnic groups were also more likely to experience financial loss and poorer mental health.
- Ethnic inequalities predate the pandemic, although the picture is not always clear-cut. While most ethnic groups have longer life expectancies than White Britons, some ethnic groups appear more likely to be in poor health.
- Child poverty, overcrowding, unemployment and other socioeconomic disadvantages are all more common among some minority ethnic groups. Structural and systemic racism contributes to perpetuating health inequalities, as one of the 'causes of the causes of the causes' of ill health, lie behind ethnic inequalities in the social determinants.
- Minority ethnic people in Luton are twice as likely to be unemployed as White people.
- There are inequalities in experience of health care and other services: in England, Black people are four times more likely than White people to be detained under the Mental Health Act, and Gypsy Roma children are three times more likely to be permanently excluded from school than White children.
- It is crucial that NHS bodies and other services routinely gather data on ethnicity and other protected characteristics, to determine where inequalities exist, including in access to services.
- Services need to be culturally appropriate and suited to the diversity of service users, for which co-design and co-production is crucial.

UNEQUAL COVID-19 AND OTHER HEALTH OUTCOMES

The COVID-19 pandemic exposed and exacerbated pre-existing health inequalities, including inequalities between ethnicities. As we have already noted, mortality in England from COVID-19 for Black and Asian people was double that of their White counterparts. While there was variation through the multiple waves of infection and the variants of the virus, higher mortality among some ethnic minorities was a consistent finding throughout the pandemic (75) (244). Several factors contributed to this picture, including geography, occupation, deprivation, pre-existing health and household composition, although there still remains some inequality that is not yet explained. People from Asian and Black ethnic groups, for example, are more likely to live in urban communities, where spread is more rapid than in more dispersed rural communities. Pakistani and Bangladeshi individuals, who experienced the highest mortality in the second and third waves and in the period characterised by the Omicron variant, are more likely to live in large multigenerational households, also facilitating the spread of infectious disease (245). Black, Bangladeshi and Pakistani individuals are also overrepresented in some occupations that have been particularly at risk, including cab and bus drivers and security guards (246). People from ethnic minority backgrounds are also more likely to have suffered other negative effects of the pandemic, including financial loss and poorer mental health (246) (247).

While the pandemic provides the most striking recent example of ethnic inequality in health, it is not the only inequality that exists. The relationship between ethnicity and health in the UK is complex. While most ethnic minorities have longer life expectancies than White Britons, people from some ethnic minority groups, especially Pakistani and Bangladeshi groups, are more likely to report being in poor health and to have shorter disability-free life expectancy. Maternal mortality in the first year after giving birth, while rare, is nearly double for Asian women than for White women, and over four times higher for Black women (248).

Crucially, both for COVID-19 outcomes and health more generally, people from many ethnic minorities are more likely to live in more deprived communities (249). In Build Back Fairer, IHE addressed structural racism in the context of the pandemic, and of movements for racial justice worldwide in the wake of the murder of George Floyd in the United States. In that report, we suggested that if the social determinants are the 'causes of the causes' of ill health, then structural racism could be considered as one of the 'causes of the causes of the causes'. It is due to structural racism that ethnic minorities may face disadvantage in each of the determinants discussed elsewhere in this report. To improve conditions for disadvantaged ethnic groups requires action on deprivation and disadvantage, but also necessitates the recognition and abolition of systemic racism (12).

POVERTY, ETHNICITY, INEQUALITY AND DISCRIMINATION

Child poverty disproportionately affects some ethnic minorities – children of Pakistani, Bangladeshi, mixed, Chinese and Black ethnic backgrounds are all more likely to live in low-income households than White British children. There are also inequalities in educational outcomes by ethnicity, which interact with poverty and deprivation (250). Unemployment rates among Black, Pakistani and Bangladeshi communities are double the national average. Rates of overcrowding are also higher for ethnic minority households – just 2% of White British households compared with 16% of Black African households, 18% of Pakistani households, and a very large 24% of Bangladeshi households (248). While 74% of Indian households and 68% of White British households owned their own home, this falls to only 20% of Black African households, and 17% of Arab households. When broken down into age groups, in every group White British people were more likely to own their own homes than all other ethnic minorities combined (251).

Luton is a very multicultural town, and inequalities are likely to remain. While data is not available for many health outcomes by ethnicity in Luton, there are clear ethnic inequalities in some of the social determinants where data is available. People from minority ethnic groups in Luton are twice as likely to be unemployed as white people (252). More research is needed to establish what inequalities in health and the social determinants of health might exist for ethnic minorities in Luton, as well as other groups who experience discrimination and exclusions.

ETHNICITY AND ACCESS TO SERVICES AND SERVICE OUTCOMES

Beyond the social determinants, racism and discrimination can restrict access to healthcare and other services, and affect the quality of experience and outcomes in those services. Black people are more than four times as likely to be detained under the Mental Health Act as White people (253). Rates of permanent exclusion from school for Black Caribbean and Irish Traveller children are double those of White British children, and the rate for Gypsy Roma children is more than three times higher (111). Throughout the criminal justice system, ethnic minority people are over-represented: as victims, as offenders and as individuals coming into contact with police through stops and arrests. Between 2017/18 and 2019/20, 49% of all homicide victims in England and Wales aged 15 to 17 were Black (254). It is crucial that NHS bodies and other services routinely gather data on ethnicity, as well as sexuality, gender identity and other protected characteristics, to determine where inequalities exist, including in access to services and to address them.

Services need to be culturally appropriate and suited to the diversity of service users. The 2017 British Social Attitudes survey found that Black respondents reported lower levels of satisfaction with NHS care than White respondents, 44% compared with 58% (255). When people are members of multiple communities at risk of discrimination, these issues can multiply. In the 2018 LGBT in Britain Health Report 19% of LGBT people of non-White background reported unequal treatment, as did 20% of LGBT people with disabilities (256).

It is crucial for health equity that all interventions, including those to improve social determinants, or those more directly designed to promote health, prevent disease or provide care and treatment, take into account structural racism and other forms of discrimination and work against racism and the exclusion of ethnic and other minority groups. Services need to be provided in the languages that people understand, addressing the problems they care about, and presented in a culturally appropriate manner. The best way to achieve this is with co-design and co-production at every stage, to ensure that initiatives are tackling the problems that really matter to people and provide the right service to the right people.

RECOMMENDATIONS

TACKLING DISCRIMINATION AND EXCLUSION

1. Reinforce the efforts of health and social care providers to demonstrate equitable access to their services, working closely with local communities.
2. The NHS, local authorities, public sector and businesses to gather data on their workforce by ethnicity and by pay and grade. Require all health and social care providers to collect data on service users by ethnicity and other protected characteristics.
3. Businesses, public services and VCFSE sector to actively communicate and publish how they are meeting equality duties in recruitment and employment including pay, progression and terms. Involve VCFSE sector organisations and networks tackling racism in businesses and the public sector, and help support excluded groups into good employment and housing.
4. All services, including education and criminal justice, make explicit commitments towards reducing unequal outcomes and tackling discrimination and racism and work with local minority communities in the design of services and with relevant faith and voluntary sector organisations.

3H PURSUING ENVIRONMENTAL SUSTAINABILITY AND HEALTH EQUITY TOGETHER

KEY MESSAGES

- Clean air, adequate water, a stable climate and access to green spaces are all prerequisites for good health. Climate change is likely to damage mental and physical health in a number of ways, and the burden is likely to fall on the most deprived.
- Efforts to mitigate climate change and reduce greenhouse gas emissions can have co-benefits for health and health equity. Equity needs to be taken into account when planning and implementing green policies, to ensure that it is not the worst off who also bear the costs of remedying the problem
- It has been estimated that retrofitting Luton's housing stock could reduce domestic carbon emissions by 38%. This could also reduce fuel poverty by lowering heating bills.
- Luton emits less carbon per person than the average urban area in the UK, and half of the average non-urban area. Emissions have fallen by one-third over the last 13 years.
- Plans to expand Luton Airport are difficult to reconcile with reducing carbon emissions, although the airport plans to achieve net-zero for ground operations by 2040, and move towards net-zero aviation if technology allows.

Clean air, adequate water, a stable climate and access to green spaces are all prerequisites for good health (257). Climate change will affect physical and mental health in a number of direct and indirect ways.

A warming planet is expected to do significant damage to health, and there is evidence that the burden will fall more heavily on the most deprived communities. Efforts to mitigate climate change and reduce greenhouse gas emissions can have co-benefits for health and health equity (258). Reduced pollution and improved air quality, for example, will reduce a health burden that currently affects more congested and deprived parts of the country. Improved thermal insulation will help the less affluent who are faced with poverty as a result of rising fuel costs. However, equity needs to be taken into account when planning and implementing green policies, to ensure that it is not the worst off who also bear the costs of remedying the problem – some 'green' taxes, for example, can hit poorer communities harder.

As climate change is expected to increase heat-related deaths, in the UK and worldwide, it is also important that cooling of homes is considered (259). Heat-related deaths also interact with other inequalities, as many at-risk groups are more likely to be of lower socioeconomic status: those with chronic disease, outdoor and manual workers, the displaced and homeless, and those living in overcrowded homes without adequate cooling (260). As mentioned above, a programme of retrofitting, with consideration for passive cooling and heating, as well as adequate ventilation, can improve sustainability while also having co-benefits in reducing energy bills and fuel poverty.

REDUCING CARBON EMISSIONS IN LUTON

In 2018, Luton emitted 673.8 kilotonnes of carbon dioxide into the atmosphere. This has been decreasing over the last 13 years, from 1,065kt in 2005, a decline of around one-third. Per person, this equates to 3.1 tonnes for every Luton resident. Compared to the UK, Luton performs reasonably well: the average urban resident is responsible for 4.3 tonnes of emissions, and the average non-urban resident 6.1 tonnes, nearly double that of a Luton resident (261). However, there are certainly more reductions which can be achieved in Luton and support the Council's stated aim to become a carbon-neutral town by 2040.

Luton, as we have seen, has serious issues with car dependency and with poor housing quality. Improving public transport, encouraging active travel, building sustainable new homes and retrofitting older stock Encouraging green businesses and social enterprises and improving digital connectivity, potentially reducing commuting and congestion, have also been identified as important components of achieving this goal.

RETROFITTING HOUSING STOCK

It has been estimated that retrofitting Luton’s housing stock could reduce domestic carbon emissions by 38%. This analysis found only one urban area with greater potential to benefit from retrofitting – Burnley, which could cut domestic emissions by 39% and support lower energy costs and reduce fuel poverty and ill health associated with cold homes (262). Homes produce 38% of Luton’s total carbon emissions, so in total this could reduce emissions by more than 14% (261).

The Home Improvement Agency is currently in discussion with the local college in Luton which is developing courses to train installers to fit renewable energy solutions. The HIA has offered the services of the Retrofit Officer to provide training to students as part of the course and is exploring the possibility of recruiting and training in-house renewables installers, who will be based within the HIA and be capable of installing air source heat pumps, solid wall insulation and solar installations in the future.

TRANSPORT EMISSIONS IN LUTON

Luton Rising, the company that runs Luton Airport, is wholly owned by Luton Borough Council. Plans to expand the airport are obviously a potential barrier to any attempt to reduce carbon emissions. Luton Rising has published a strategy outlining how it will achieve net-zero emissions by 2040, by reducing emissions for ground operations. While this leaves out aviation emissions, there are plans to move towards net-zero aviation through using sustainable fuels and electric aircraft, although this technology is not yet developed (263). The implementation plan is yet to be released. The Council must hold Luton Rising to its commitments and push for greener operations if Luton is to achieve its goal of becoming carbon-neutral.

Luton, as we have seen, has serious issues with car dependency and with poor housing quality. Improving public transport, encouraging active travel, building sustainable new homes and retrofitting older stock will all be critical to the council’s stated aim to become a carbon neutral town by 2040. Encouraging green businesses and social enterprises and improving digital connectivity, potentially reducing commuting and congestion, have also been identified as important components of achieving this goal.

RECOMMENDATIONS

PURSuing ENVIRONMENTAL SUSTAINABILITY AND HEALTH EQUITY TOGETHER

1. Align health and climate goals, working with partners and communities to transition away from carbon and build resilient communities that are well adapted to respond to climate change impacts.
2. Establish regular meetings between inequality and sustainability leads in the NHS, local communities, the VCFSE sector and local authorities to monitor net-zero policies for equity impacts.
3. Work with local economic partnerships and anchor organisations to support actions to encourage employers and staff to adopt carbon-neutral modes of transport (including walking and cycling) and work environments. Invest in new walking and cycling infrastructure, particularly in areas of deprivation.

CHAPTER 4

THE HEALTH EQUITY SYSTEM IN LUTON

The Marmot Town process has engaged, and will continue to engage with stakeholders across Luton, including the local authority, the VCFSE and private sectors, healthcare and other public services.

These are the key system partners. Many of the recommendations and proposals we make in this report are based on discussions with these key partners - who together with residents comprise the health equity system in Luton. In this section we overview how each of these sectors can further strengthen their impact to help reduce health inequalities. Mostly these activities will build on policies and programmes already in place and all require strong partnerships and shared ambition between the different sectors.

4A LOCAL GOVERNMENT

KEY MESSAGES

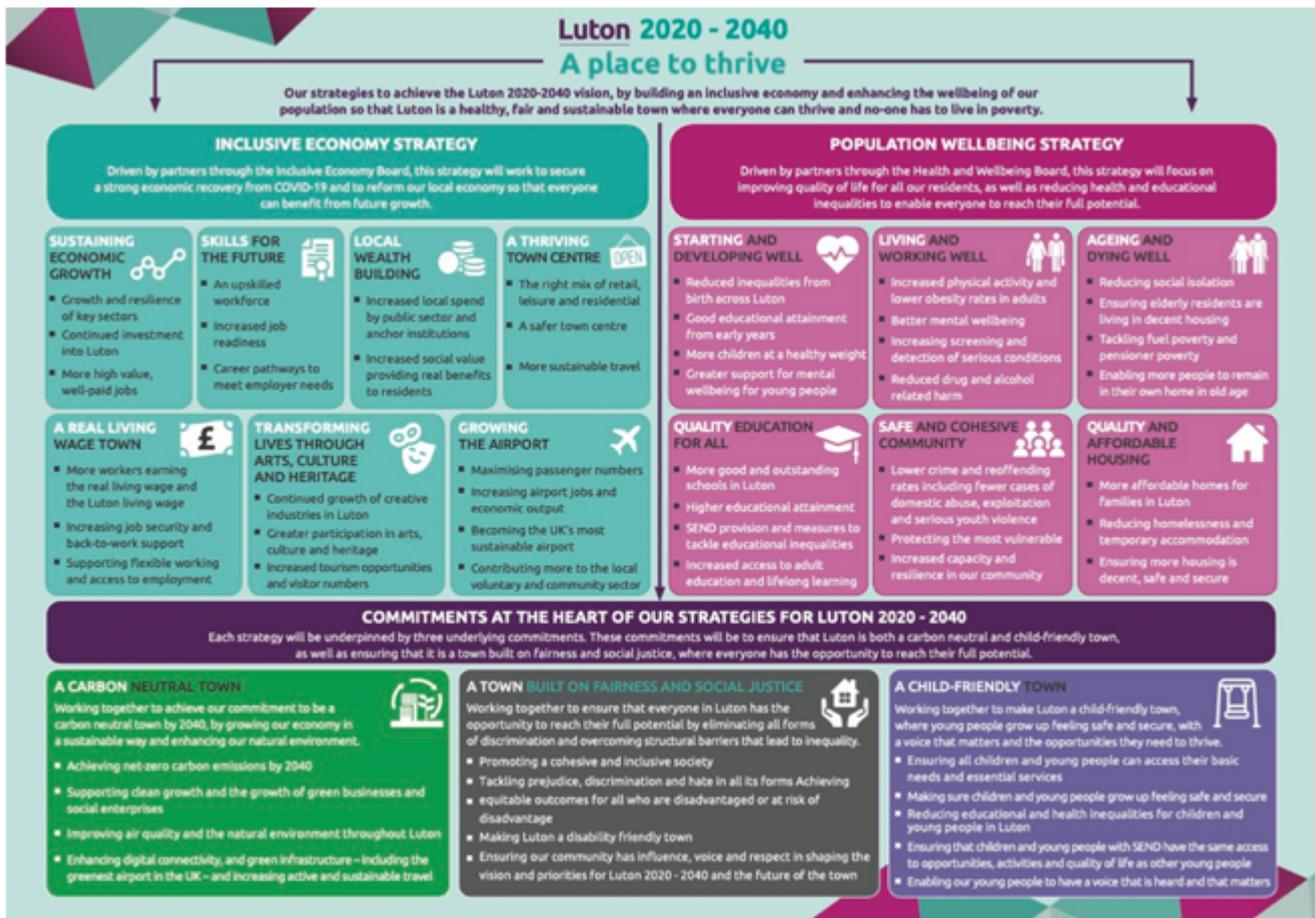
- The impact of local government on health goes far beyond the public health department. Health equity must be a consideration in all policies.
- Luton Borough Council's spending power fell in real terms by 28.9% between 2010/11 and 2020/21. Government funding for Luton fell around 70% between 2010/11 and 2019/20.
- Investment in the social determinants of health is cost-effective and these investments must be made even when there are immediate pressures. Only by action on the social determinants, and improving future health, can local government avoid a future where social care consumes the entire budget.



Luton Borough Council's overarching strategy is the Luton 2040 Vision, which is summarised in Figure 4.1. This vision for Luton is primarily to be achieved through twin mutually-supporting strategies, the Population Wellbeing Strategy, and the Inclusive Economy Strategy. These strategies aim to eliminate poverty in Luton by 2040, and to reduce health inequalities and are well aligned with the approach and recommendations in this report.

Commitments made as part of the 2040 Vision include the carbon-neutral target discussed above, a commitment to fairness, as embodied in the Fairness Taskforce discussed below, and becoming a 'child-friendly' town. The child-friendly town work is in its earliest stages at the time of writing but it corresponds with the first and second Marmot principles; that of giving every child the best possible start in life and enabling all children, young people and adults to maximise their capabilities and have control over their lives. The regeneration of the town centre is another major component of the vision, as is the commitment to making Luton a 'real living wage' town.

Figure 4.1. Luton 2040 Vision



Source: Luton (1)

The Public Health department of Luton Borough Council has been involved with the Marmot Town process throughout and is committed to health equity and to a public health approach that encompasses the social determinants of health. Luton's broader public health and wellbeing priorities and strategy are set by the Health and Wellbeing Board, which also takes a similarly broad view of health. Under the Health and Wellbeing Board are three boards, the Children's Trust Board, the Health Inequalities Delivery Board and the Transformation Board, each with particular responsibilities and priorities (264).

The Health and Wellbeing strategy is part of Luton's 2040 ambitions, alongside the Inclusive Economy strategy, with the aim that, by 2040, 'Luton is a more equitable place where people thrive, have the opportunity to live a healthy life mentally, socially and physically; and maximize their potential'. The strategic priorities are sorted into starting and developing well, living and working well, and ageing and dying well. There are also metrics associated with these priorities, with the overarching aim of improving Luton's healthy life expectancy. This strategy is in keeping with the Marmot approach of improving health equity by actions on the social determinants.

INCOME AND SPENDING POWER IN LUTON

The National Audit Office has analysed the income, spending power and economic sustainability of local authorities in England. Luton Borough Council's spending power fell in real terms by 28.9% between 2010/11 and 2020/21. This is despite an increase in council tax revenues, and due to a precipitous decline in funding from central government. Government funding for Luton in 2010/11 was £142.3 million in 2019/20 prices, falling to £43.4 million in 2019/20, a reduction of around 70% (35). Luton has partially compensated for this drop-off in funding with increased council tax revenues, alongside an increase in commercial and other income, leading to greater costs to households and businesses.

As noted, Luton receives a significant proportion of its income in the form of a dividend from Luton Rising, the company that owns London Luton Airport, which was over £20 million in 2019, around 15% of total council income (265). The reduction in this dividend resulting from the damage COVID-19 did to the aviation and travel industry has increased the financial difficulties of the Council.

SPENDING ON SOCIAL CARE

In common with many local authorities, the reductions in funding noted above, combined with a rising demand for social care, has forced Luton to focus its resources on its statutory duty to provide social care and cut other services. Between 2010/11 and 2020/21, spending on adult social care increased by 12% in real terms, or £7.2 million at 2019/20 prices, and the increase in spending on children's social care was an enormous 52.4% (£16.5 million). In total, spending on social care increased by 25.9%, necessitating a reduction of 22.8% in all other non-social care services. Spending on non-social care services has increased in the years since 2017/18, but social care spending dominates, making up 57.8% of Luton's total expenditure on services in 2019/20, up from 45.7% in 2010 (35).

If these trends continue, and Luton's proportionate reduction in working age adults over the last decade suggests they are likely to, there is a danger that social care services will eventually absorb all of the Council's funding. This danger was recognised at the beginning of the decade in Barnet (266).

OTHER GOVERNMENT FUNDING

Luton has received some funding as part of the Government's Levelling Up agenda. In the first round of the Levelling Up Fund, Luton put in a successful bid for £20 million to regenerate the town centre (267). Luton has not received any funding from the three other funds associated with the Levelling Up agenda - the Future

High Streets Fund, the Community Renewal Fund and the Towns Fund. The secured funding works out at around £93.66 per head for Luton. This is a larger grant than received by many places around the country, although Copeland and Barrow-in-Furness will both receive over £600 per head. It has been noted that funding amounts do not match levels of deprivation - some relatively affluent areas will also receive large grants, including Lewes in East Sussex, which will receive £443 per head, more than four times that in Luton, despite experiencing much lower levels of deprivation. Luton's neighbours in Central Bedfordshire, despite lower levels of deprivation, will receive £26.7 million, also a higher grant than Luton's, and working out at a very similar per-head value of £91 (268).

As noted above, Luton has also been identified as an Education Investment Area by the Department for Education. However, the associated funds will not compensate for the cuts in provision since 2010, let alone be sufficient to compensate for the effects of deprivation in Luton.

Achieving the aims of the Luton 2040 Vision in the context of limited funding and the losses associated with the pandemic will require an approach that recognises the cost-effectiveness and impact of long-term prevention even when there are immediate pressures; an asset-based approach that assesses and properly utilises the resources that are already available, including the work being done by VCSFE partners; and a coordinated approach to partnership across the entire system.

Box 10. Luton's Fairness Taskforce

The Fairness Taskforce is a programme designed to bring the community into the Luton 2040 process, centring co-design and co-production, so that the public are not merely being consulted but are leading the work. It was launched in November 2021, and quickly identified five key themes that were of concern to Luton residents: youth and young people; housing and homelessness; community; work and skills; and poverty. Across these themes, some recurrent issues emerged. One is communication and the importance of listening to excluded groups as well as the importance of communication and coordination across partnerships, to ensure that what is already being done is known to everyone, is available to those who need it and is not duplicated. Pride and aspiration were also discussed across the themes. Having pride in Luton, faith in what can be achieved there, and aspirations for what the town could become were felt to be crucially important in tackling the roots of deprivation and poverty.

The Fairness Taskforce has engaged with the community, holding co-production sessions to guide future work, which led to a citizens' forum event in March 2022, focussing particularly on jobs, skills and aspirations. Figure 4.2 is an image produced of that event, reflecting the discussions that took place.

Figure 4.2. Themes and outcomes from Fairness Taskforce event in March 2022 (269)



Growing out of the March 2022 event, the Fairness Taskforce has worked with the Inclusive Economy team to develop proposals to improve the employment and skills situation in Luton. These include a campaign by alumni of the University of Bedfordshire telling their stories of overcoming barriers, having success and making change happen; a programme of employment forecasting to predict the skills that will be needed in the jobs market of the future; work to make workplaces around Luton more supportive of good mental health; and a focus on the night time economy to make Luton an attractive place, particularly for young people, to live and work in.

The Fairness Taskforce is continuing its work in community co-design and is partnered with the Young Foundation to seek innovative community-led solutions to problems of inequality. It is critical that the Marmot Town work continues in close association with the work of the Fairness Taskforce, to ensure that the voices of local communities are heard and guide the process of improving health equity for all.

RECOMMENDATIONS

LOCAL GOVERNMENT

- 1.** Develop a health equity collaboration of health equity/social determinants of health partners in Luton to include business and economic sector, public services, VCFSE sector to focus on long term investments and focus on the social determinants of health.
- 2.** Develop an implementation/action plan for stakeholders based on this report.
- 3.** Support training for the local government workforce on how it can tackle the social determinants and health equity.
- 4.** Strengthen links with business to support business involvement in action on health equity.
- 5.** Continue to strengthen links with healthcare to ensure that healthcare organisations work closely with the local authority to improve health as well as treat ill-health.
- 6.** Launch a communications campaign to keep Luton residents informed about services and opportunities in Luton, including from the VCFSE sector, in a range of languages and in collaboration with the community.

4B HEALTHCARE

KEY MESSAGES

- Health equity and the social determinants of health should be a central concern for healthcare providers and the whole health care system.
- Action on the social determinants of health offers a cost-effective way to improve health and reduce the burden on services.
- The East London Foundation Trust are demonstrating how a provider can focus on the social determinants of health in Luton, with a focus on improving opportunities for good quality work in Luton.
- The Integrated Care System can support, and lead action on the social determinants of health, forging strong partnerships with other public services, the local authority, businesses and the CVFSE to do so.
- Primary care can support their population's health by working to improve local living and working conditions, being a strong advocate and working with individual patients to improve the social determinants of health.

HOSPITALS AND HEALTH SERVICES IN LUTON

Luton is part of the developing Bedfordshire, Luton & Milton Keynes (BLMK) Integrated Care System (ICS). The structure of the new ICS offers opportunities for coordinated working across the region and a strengthened focus on ill health prevention and reducing health inequalities. Luton is served by the Luton & Dunstable Hospital, part of the Bedfordshire Hospitals NHS Trust. Community mental health services are provided by the East London Foundation Trust (ELFT). There are also six primary care networks (PCNs) within Luton: eQuality; Hatters Health; Medics Network; Oasis; the Phoenix Sunrisers network and the Lea Vale group. BLMK, Bedfordshire Hospitals, ELFT and primary care are all represented at a senior level on the Marmot Town advisory board.

In addition to the services they provide to improve health directly, hospitals and other healthcare organisations can also act on the social determinants of health by being anchor institutions. Anchor institutions are institutions like hospitals, universities and councils that are physically rooted in communities and can directly and indirectly shape the health and wellbeing of the local population. They can leverage their position as an employer, a purchaser of goods and services, a provider of services, an owner of local buildings, land and other assets and as leaders in the community to effect change. For example, they can ensure that they are providing good, health-

supporting work to the local community, including underrepresented and disadvantaged groups, and pay a real living wage that enables a healthy lifestyle. For healthcare organisations in particular, this also represents a form of disease prevention, and an investment in the future of the community that they serve.

At the level of individual healthcare organisations, or even individual healthcare professionals, the NHS can use its influence to advocate for improvements in the social determinants of health. ELFT has focussed on employment and skills (see Box 11), but there is also much that could be done to influence other determinants of health, such as housing quality, whether through, funding, advice or advocacy. There is little point in treating a patient only to send them back to the environment that made them sick in the first place: a respiratory physician, for example, treating a chest infection only to see their patient return to a poorly-ventilated, damp and mouldy home.

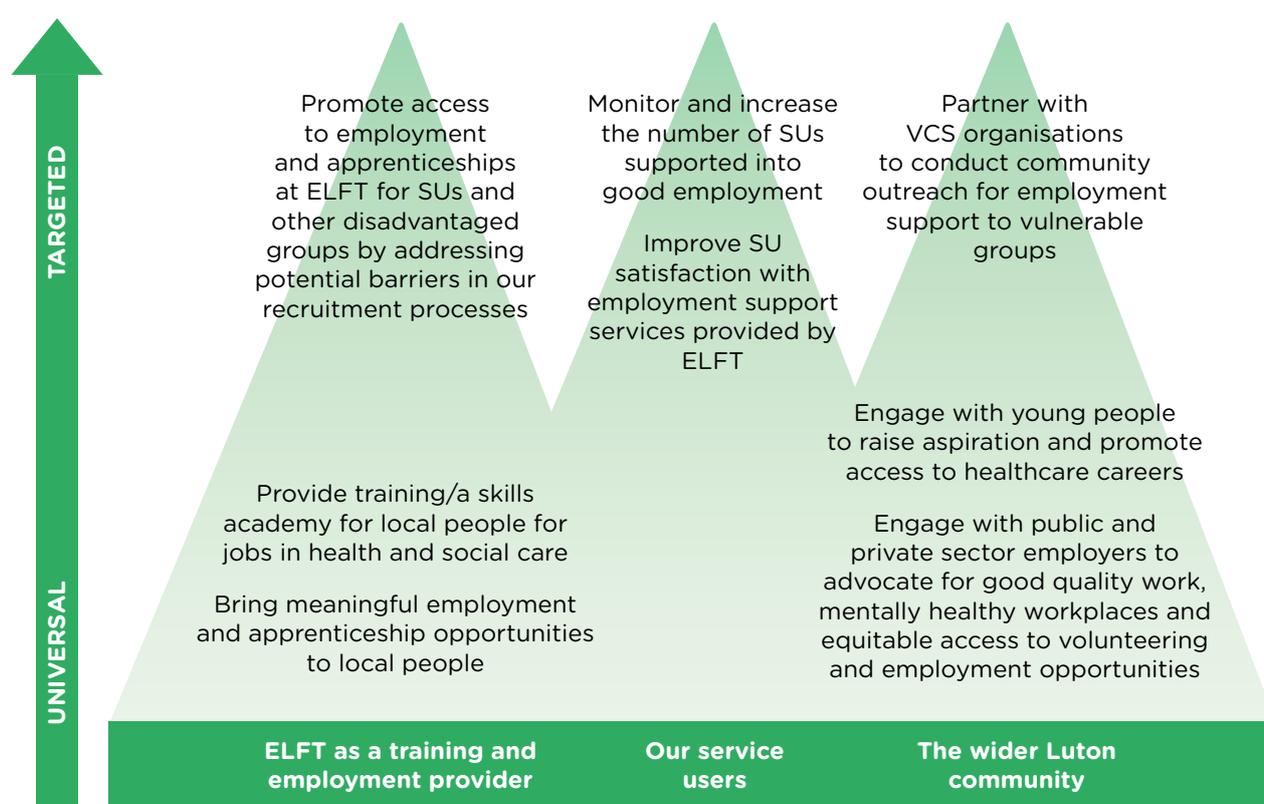
ELFT are exploring what an NHS trust can do to act directly on the social determinants of health, becoming the first Marmot Trust (see Box 11). It is extending the more usual anchor organisation approach, working directly with local communities, the CVFSE and Luton and Newham local authorities as well as improving outcomes for its own workforce and clients.

Box 11. The East London Foundation Trust (ELFT) as a Marmot Trust in Luton

ELFT which provides community mental health services and some other healthcare services in Luton, is taking a broad approach to health and wellbeing, going beyond improving access to services, to take action on the social determinants that cause inequalities and increase demand for services. In Luton, it has focussed on employment and skills as a particular area of need, with twin aims being to ensure good quality work and a living wage for everyone in Luton, and that everyone with a mental health condition in Luton is in employment if they wish to be.

ELFT has begun to generate and 'test out' potential strategies, some more universal in their approach and some more targeted, to achieve this vision - a proportionate universal strategy as advocated in the Marmot approach. These have been categorised by the groups they are primarily intended to benefit: ELFT's employees and trainees; service users; and the wider Luton community. The Trust is calling this approach the 'Marmot Mountain,' and the outline is reproduced in Figure 4.3.

Figure 4.3. ELFT's Marmot Mountain: Potential actions in line with our vision



A workshop in Luton identified three priority actions to take forward. Each addresses the needs of one of the following groups:

- Promoting access to employment and apprenticeships at ELFT for service users and other disadvantaged groups by addressing potential barriers in ELFT's recruitment processes;
- Increasing the number of service users supported into good employment and monitoring for that;
- Engaging with public and private sector employers to advocate for good quality work, mentally healthy workplaces and equitable access to volunteering and employment opportunities.

By helping to overcome barriers to employment for people with mental health problems, ELFT can help support financial security and the resources necessary to stay healthy, and by encouraging work that supports good mental health, ELFT can prevent the development of mental health problems in the future. Investment in the social determinants of health for the community it serves will improve quality of life, health and reduces demand on acute services.



The national NHS approach to health inequalities is centred on the Core20PLUS5 model. This identifies a target population for interventions, made up of the 'Core20', the most deprived 20% of the population, and the 'PLUS', consisting of groups identified at the Integrated Care System level as experiencing health inequalities but not covered by the Core20. The '5' covers five areas of clinical focus: maternity care; severe mental illness (SMI); chronic respiratory disease; early cancer diagnosis and hypertension (high blood pressure) case finding. There is a prevention focus throughout this model, with attention paid to health checks for people with SMI, vaccine uptake among those with respiratory disease, screening for cancer and managing high blood pressure to reduce the risk of heart attack and stroke (270).

There are limitations to the Core20PLUS5 model from a social determinants of health perspective. While it is important to ensure equity in access to services and more equitable outcomes, there is not a focus on improving the social determinants of health, which as we have shown are essential to reducing inequalities in health. Moreover, by focussing only on the worst-off, the most deprived quintile, actions will not address the social gradient in health, whereby health outcomes vary across all levels of affluence and deprivation. The proportionate universalist approach, of universal services with effort proportional to need, is designed to reduce that gradient and improve outcomes for everyone. There are many

people outside of the most excluded 20% who still have significant unmet needs and experience inequalities in health, which the CORE20PLUS5 model does not address. This approach perhaps misses the opportunity for the healthcare system to address the root causes of these inequalities by doing something for the social determinants of health as ELFT have set out to do.

PRIMARY CARE

There is potential for primary care to take action on the social determinants of health via social prescribing and supporting communities and businesses to improve living and working conditions. These are expanded on in section 3.F. In Luton there is also an opportunity arising from the Investment and Impact Fund. This is an incentive scheme to encourage primary care to improve population health, and one of its explicit aims is to tackle health inequalities. At present, this is interpreted quite narrowly in relation to a few key outcomes, but some of those are in line with Marmot principles, particularly taking a prevention approach to public health. Outcomes include social prescribing referrals, recording ethnicity data for GP patients, routinely performing annual health checks for patients with learning disabilities and improving flu vaccine coverage. (271) If this fund could be expanded in the future to incorporate more measures relating to health inequalities, it could prove to be a useful tool for incentivising action at the primary care level.

THE INTEGRATED CARE SYSTEM

At the level of the Integrated Care System, the argument for action on the social determinants of health is particularly strong. The size and scope of an ICS allows for more holistic and longer-term planning. Only by improving the social determinants can BLMK, or any other ICS, hope to reduce the burden on acute services in the long run and maintain a sustainable health system for its communities. An ICS can also hope to have a louder voice for national advocacy on health equity than any

individual NHS Trust, let alone a GP practice. By setting the reduction of health inequalities through action on the social determinants as a priority, going beyond the Core20PLUS5 approach, the ICS can incentivise action throughout the healthcare system. Critical to this is leadership and strong accountability at ICS board level and working in partnership with the local authority, the VCFSE and businesses to support, and sometimes lead, action on the determinants of health.

RECOMMENDATIONS

HEALTHCARE

1. Building on the approach developed by ELFT, the ICS and NHS Trusts to strengthen action on the social determinants, making collaborations and investments with local government, public services, the VCFSE sector and employers.
2. Create a senior role taking responsibility for housing and health, including homelessness, on the board of BLMK ICS. Appoint a senior partnership lead to support collaborations on the social determinants of health.
3. NHS organisations to strengthen local and national advocacy for action on the social determinants.
4. The ICS to establish effective engagement with all ethnic minority communities and involve communities, VCSFE sector and community leaders in the assessment of current and development of new services and interventions.
5. Primary care organisations to assess their role in supporting the social determinants of health and further strengthen their roles (included in section 3F).

4C PUBLIC SERVICES

KEY MESSAGES

- Health equity is not just a concern for public health and for healthcare: all public services can have a role to play and bring their expertise to bear. This requires coordination and partnership working.
- The anchor organisation approach, developed in health care organisations, provides a good model for other public services to support greater equity in the social determinants of health and reduce deprivation in local areas.
- Education and the criminal justice system and transport are significant public services for health.
- Social value contracting supports greater health equity.

The anchor institution approach is not limited to healthcare organisations. Other public services can adopt similar strategies and play a role in reducing health inequalities through action on the social determinants of health.

Concern for health equity needs to be embedded in the way all these services operate. As with healthcare, a move from crisis management to a prevention-focussed model, acting upstream on the social determinants, has the potential to relieve pressure on overburdened services. This means all organisations considering what they can do, in partnership, to improve social conditions, beyond their core operations, including as employers, as contractors of services, and as anchor institutions for their communities. Sharing of data, insights and best practice is of fundamental importance to identifying those in need.

Social value contracting is an important mechanism to support good health and build strong and resilient local communities. IHE has previously set out how public services can ensure that their procurement, and that of their suppliers includes social value as a requirement for contract awards (272).

IHE has previously worked with the West Midlands Fire Service on embedding a social determinants approach into their work (273) (274). The service recognised



that the social determinants of health are also often the social determinants of fire risk – overcrowded, poor quality housing, poverty, and deprivation. The individuals and families they were visiting often had complex needs and risks in a number of domains. The service realised they could use the contacts they were making to signpost them to appropriate help and support, for example accessing benefits, advice services and addressing housing needs.

Similarly, the social determinants of crime are often the same as for health, which is why Bedfordshire Police have been involved with the Luton Marmot Town process and are represented on the advisory board. A public health approach to policing involves investigating root

causes and working at the most fundamental level of prevention including collaborations with schools, employers, the community and local authorities to improve conditions locally.

The importance of education has been discussed in detail in 3B above. The education system has a role to play in improving health equity by mitigating the effects of deprivation and supporting families, linking with organisations and sectors which can improve living and working conditions. Educational institutions can further their partnerships with the VCFSE sector and employers in helping children and young people to achieve their potential, enhance mental wellbeing and gain good, health-supporting work.

RECOMMENDATIONS

PUBLIC SERVICES

1. Social value to be included in all public sector procurement and contracting.
2. Police, fire services and education to set up as anchor institutions in the community.
3. Schools and the VCFSE sector, health care and the local authority to work in partnership to support good mental health and building skills and recruitment into employment.

4D VOLUNTARY, COMMUNITY, FAITH AND SOCIAL ENTERPRISE (VCFSE) SECTOR

KEY MESSAGES

- The VCFSE sector is often underutilised as a resource to improve health equity. Investment in this sector offers a great return on investment, and VCFSE partners should be involved at the highest level, to harness their energy, knowledge and skills.
- Luton has a vibrant VCFSE sector, which should be further supported, including by business, to tender for contracts and evaluate their impacts.
- Investing in the VCFSE sector should be seen as investing long-term in the community, with potential returns far in excess of the initial cost.
- Funding for the VCFSE must become more sustainable and not small 'one-off' pots of money which degrade the capacity of the sector to have sustainable and lasting impact.

The VCFSE sector is often underutilised as a resource in improving people's lives and health, despite being deeply embedded in the community in many locations, and having greater insight into the needs of deprived communities than elements of the public sector. Especially in the context of ongoing austerity measures and funding restrictions, harnessing the energy, knowledge and other assets of the community is indispensable.



The VCFSE sector can be commissioned to deliver services and support across a range of areas, including educational and employment support, social prescribing for the NHS, advice and guidance in navigating the healthcare, criminal justice and welfare and benefit systems, improving community cohesion, providing guidance on service design and delivery. In addition, volunteering in the VCFSE sector can itself help build skills and knowledge and help disadvantaged

or excluded groups find a way into, or back into, full-time employment, as well as reducing social isolation and providing a fulfilling experience of working for the community. For example, NOAH, a voluntary sector organisation in Luton have worked as part of the Homeless Partnership to introduce a Housing First Scheme to provide housing and support to chronically homeless people in Luton (see Box 12).

Box 12. NOAH Housing First Scheme

Luton has a homeless partnership that includes VCSE and public sector bodies to target homelessness in the area. One partner in this is NOAH, who have run a trial Housing First scheme for 15 recurrently homeless people in Luton. The scheme has been funded by NHS Better Care Fund and MHCLG Rough Sleeper Initiative via Luton Borough Council. Housing First is an approach to support those who have experienced homelessness, health, and social care needs by providing them with a stable home, intensive personalised support and places no conditions on the individuals involved.

NOAH's headline report shows how successful this scheme has been in helping support the clients on the scheme. There has been success in terms of stability and access to drug & alcohol and mental health services. The clients are 7 men and 8 women whose length of homelessness ranges from 2-10 years. Of the 15 participants, 10 have mental health issues, 6 physical health issues, and all 15 have substance misuse issues. Through the scheme all the individuals were provided self-contained 1 bed social housing flats. The use of social housing ensures long term stability. They have a one-year probation period, after which the housing allocation is permanent. 12 out of the 15 people rehomed on the service are undertaking some form of drug or substance recovery. The aim of the scheme is to provide long term drug recovery (although it is importantly not a requirement that individuals abstain from drugs and alcohol), reduction of criminal behaviours and a way out of homelessness. All these outcomes also provide long-term savings to Luton Borough Council (294).

However, this is so far on quite a small scale and is only there to help chronically homeless individuals/rough sleepers. Different tactics are needed to support the majority who find themselves homeless due to rent prices.

Luton has a very active VCFSE sector, which has been in evidence at events concerned with the Luton 2040 Vision, the Fairness Taskforce and Marmot Town work. The Marmot Town advisory board includes representation from the Bedfordshire & Luton Community Foundation, a major disburser of funds to the VCFSE sector in Luton, including funds from the airport; from the Luton Council of Faiths; and from local and national voluntary and non-profit organisations including Active Luton, Healthwatch Luton, and the Young Foundation.

One difficulty in appreciating the role of the sector in supporting the social determinants of health in Luton is keeping track of all the activity happening. In part, the nature of voluntary organisations, many of which are quite small, means that it can be difficult to maintain contact, but also the pandemic resulted in the closure of a number of charitable and voluntary enterprises and the opening of many more across the country, including local mutual aid groups.

A recurrent theme in discussions had with this sector during the development of the Marmot Town approach is the difficulty in communication and connection, which is a barrier to voluntary groups knowing what funding is available and to funders knowing what work is already being undertaken. Funding streams are often intermittent and limited and successful initiatives can find themselves closing when one funder withdraws, where a well-connected system might find other funders who might be able to keep the work going, either individually or in partnership.

The VCFSE sector must be included as partners in the work to improve health equity in Luton. This requires some work to establish the full range of organisations and services currently operating in Luton, and to link these up with partners across the system, including funders. Investing in the VCFSE sector should be seen as investing long-term in the community, with potential returns far in excess of the initial cost.



RECOMMENDATIONS

THE VCFSE SECTOR

1. Take a 'census' of VCFSE organisations and initiatives to clarify what work is being done in Luton and work with Local Government and NHS to ensure they link to services and support offered by the VCFSE sector.
2. Assess and provide support required by VCFSE sector to enable organisations to bid for funding to improve health equity. Businesses to contribute pro bono support for tender processes.
3. Convene a forum to match ongoing and proposed VCSFE initiatives and providers with funders in an organised way across Luton, and support VCFSE organisations to apply for funding.
4. Invest in the VCFSE sector to fund evaluation of the support and services they provide which contribute to reducing health inequalities.

4E PRIVATE SECTOR: BUSINESS FOR HEALTH EQUITY

KEY MESSAGES

- Businesses affect the health of their workforce and are a major factor in health and health inequalities.
- Businesses also affect the health of clients, customers and the country through the products and services they provide and how their investments are held.
- Businesses can also affect the health of individuals in the communities in which they operate and in wider society, through local partnerships, procurement and supply networks, and in the way they use their influence through advocacy and lobbying.
- The private sector must be a key partner in working to improve health equity. In addition to the moral case, businesses will benefit from a healthier and more productive workforce, and increased attractiveness to potential employees, customers and investors.
- Businesses can act as anchor organisations, supporting better outcomes in the social determinants of health for their workforce and local communities.

Involvement of the private sector in the health equity movement is a relatively recent development, but one that is gaining momentum. IHE recently published *The Business of Health Equity: The Marmot Review for Industry*, examining the ways in which businesses shape the conditions in which people live and work and, through these, their health (275).

In addition to the benefits increased health equity brings in terms of health and social justice, there is also a self-interest case for businesses. As employers they will reap the benefits of a healthier and more productive workforce. In increasing health equity and improving opportunities for disadvantaged groups, businesses can ensure they have access to the very best and brightest in recruitment and promotion. Businesses with a strong social purpose will also attract and retain the best employees, who increasingly seek more than just a paycheque.

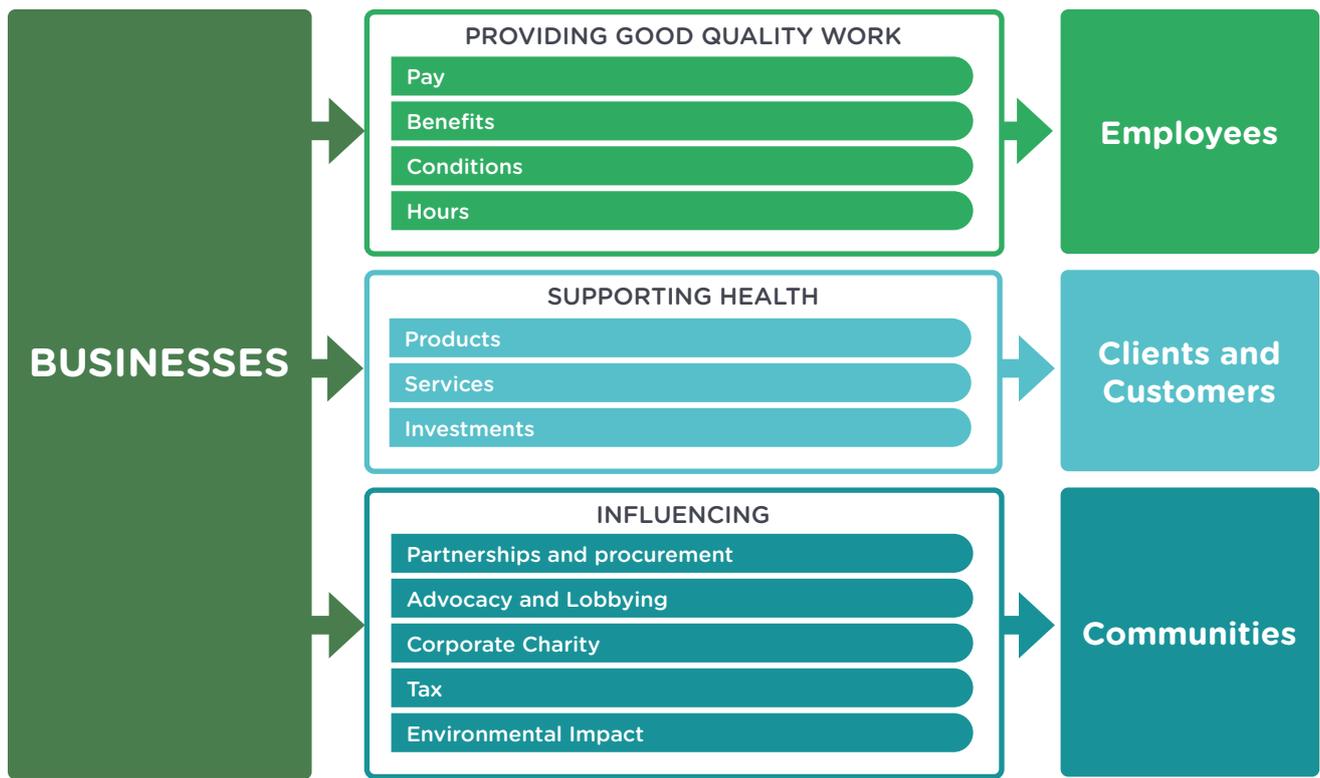
Increasingly, customers seek out ethical companies, and the growing market for social impact investment funds shows that many investors feel the same way. From the investor's perspective this is a business as well as an altruistic move as it recognises that businesses making a positive contribution are well-placed to grow: protected from changes in legislative, policy and tax regimes; attracting driven and committed workers; and popular with informed and loyal customers and clients.

At the national and international level, the COVID-19 pandemic made clear the close interdependency of health and wealth. Despite opinions sometimes

expressed during the pandemic that there is a need to balance the health of the population against the health of the economy, the real lesson was that neither could thrive without the other. The economy requires healthy workers and healthy customers, and a failing economy damages health.

IHE has developed a framework to enable businesses to take a systematic approach to health equity and the social determinants (275). Businesses affect the health of their employees and suppliers through the pay and benefits they offer, hours worked and job security, and the conditions of work. Businesses affect the health of their clients, customers and shareholders through the products and services they provide and how their investments are held. Businesses can also affect the health of individuals in the communities in which they operate and in wider society, through local partnerships, procurement and supply networks, and in the way they use their influence through advocacy and lobbying. The effects on wider society also encompass the environmental impacts of business operations, including carbon footprint and air pollution, as well as the taxes paid by businesses to local and national governments, which support policies for health. This framework is shown in Figure 4.4.

Figure 4.4. The IHE framework for better business



LUTON'S PRIVATE SECTOR

In Luton, the airport, a private business whose only shareholder is the Council, is the source of 15% of council revenue and a major funder of the VCFSE sector, to which it provided £9 million in 2019 (265). The airport's Community Trust Fund distributes a total of £150,000 every year to local charities, administered by the Bedfordshire and Luton Community Foundation, enabling the local VCFSE sector to address priority local issues in a coordinated way (276). The airport also provides significant employment for local residents and through them and the supply chain support the local economy.

The Marmot Town advisory board includes representation from the airport. It also has private sector representation from the South East Midlands Local Enterprise Partnership (SEMLEP). It is crucial that the private sector is involved in the work to make Luton a Marmot Town. At present, too many jobs in Luton are poor quality jobs, with low pay, low support and excessive hours, particularly jobs obtained through recruitment agencies. It will require partners from across the system working together to ensure that the next generation have the skills that are needed, and that employers provide good quality work that supports health.



RECOMMENDATIONS

BUSINESS

1. Commit to the local good employment charter (section 3C) and pay the real living wage, provide safe and fair hours and health-supporting conditions of work.
2. Provide support and advice to the workforce and community around finances, housing, and debt.
3. Support equity in pay, employment terms and promotion.
4. Act as anchor institutions for the community and implement social value contracting to support the local economy, especially disadvantaged groups and invest in more deprived areas.

4F THE HEALTH EQUITY SYSTEM

In addition to the recommendations by theme and by sector, there are several recommendations for the system as a whole, centred on working in partnership with a common goal and shared sense of purpose to improve health equity in Luton. This section also contains some proposed indicators for monitoring progress towards greater equity.

RECOMMENDATIONS

THE HEALTH EQUITY SYSTEM

1. Set targets for health inequalities in Luton.
2. Extend anchor approaches to include partnership working across the system with health equity as the priority.
3. Develop a set of health equity indicators to monitor progress on reducing inequalities in health and in the social determinants of health.
4. Continue the Fairness Taskforce and Talk, Listen, Change approaches to community engagement and co-design.
5. The Marmot Advisory Board should become an implementation board and oversees development of an implementation plan, based on this report. The implementation plan to identify lead organisations for each action, a timeframe (short and long) and associated indicators for monitoring.
6. The Marmot Advisory Board to provide oversight of the work strengthen accountability for health inequality at senior level in the NHS, local authorities and public services.
7. Carry out more cohort-based longitudinal research to monitor the effects of interventions on Luton residents, given the high population turnover. Use unique identifiers to track the health of Luton residents who move on from Luton.



PROPOSED INDICATORS

The following indicators have been developed for the Cheshire & Merseyside region (16). Work would be needed to adapt these to the local conditions in Luton, but the choice of indicators is likely to be similar. The indicators are arranged by theme as they relate to each of the Marmot principles. Adapting to the local Luton situation will require a process of local consultation to test feasibility and appropriateness. At the level of a single large town like Luton, there is a possibility that some numbers may be too small for meaningful monitoring.

Life expectancy		Frequency	Level	Disagg.	Source
1	Life expectancy, Female, Male	Yearly	LSOA	IMD	ONS
2	Healthy life expectancy, Female, Male	Yearly	LA	IMD	ONS
Give every child the best start in life					
3	Percentage children achieving a good level of development at 2-2.5 years (in all five areas of development)*	Yearly	LA	NA	DfE
4	Percentage children achieving a good level of development at the end of Early Years Foundation Stage (Reception)	Yearly	LA	FSM status	DfE
Enable all children, young people and adults to maximise their capabilities and have control over their lives					
5	Average Progress 8 score**	Yearly	LA	FSM status	DfE
6	Average Attainment 8 score**	Yearly	LA	FSM status	DfE
7	Hospital admissions as a result of self-harm (15-19 years)	Yearly	LA	NA	Fingertips, OHID
8	Staying in education or entering employment (NEETS) at ages 18 to 24	Yearly	LA	NA	ONS
9	Pupils who go on to achieve a level 2 qualification at 19	Yearly	LA	FSM status	DfE
Create fair employment and good work for all					
10	Percentage unemployed	Yearly	LSOA	NA	LFS
11	Proportion of employed in permanent and non-permanent employment	Yearly	LA	NA	LFS
12	Percentage employees who are local (FTE) employed on contract for one year or the whole duration of the contract, whichever is shorter***	-	-	-	NHS, local government
13	Percentage of employees earning below Real Living Wage	Yearly	LA	NA	ONS
Ensure a healthy standard of living for all					
14	Proportion of children in workless households	Yearly	LA	NA	ONS
15	Percentage of individuals in absolute AHC low income	Yearly	LA	NA	DWP
16	Percentage of households in fuel poverty	Yearly	LA	NA	Fingertips OHID
Create and develop healthy and sustainable places and communities					
17	Households in temporary accommodation****	Yearly	LA	NA	MHCLG / DLUHC

Strengthen the role and impact of ill-health prevention					
18	Activity levels (active, fairly active, inactive)	Yearly	LA	IMD	Active lives survey
19	Percentage of loneliness in population (often/always, some of the time, occasionally, hardly ever, never)	Yearly	LA	IMD	Active lives survey
Tackle racism and its outcomes					
20	Percentage employees who are from BAME background and band/level.***	-	-	-	NHS, local government
Tackle climate change and health equity in unison					
21	Percentage (£) spent in local supply chain through the contract***	-	-	-	NHS, local government
22	Cycling / walking for travel (3-5 times / week)	Yearly	LA	IMD	Active lives survey

* Children achieving a good level of development are those achieving at least the expected level within the following areas of learning: communication and language; physical development; personal, social and emotional development; literacy; and mathematics.

** Both the Progress 8 and Attainment 8 scores are proposed for inclusion. Progress 8 scores at local authority level demonstrate that schools with a negative average score require systematic intervention. Attainment 8 show the percentage achievement of school-leavers and is more sensitive measure of annual change within schools.

*** These indicators will require the NHS and local authorities to establish new data recording and collection methods. We have factored the social value indicators into the 2022/23 work programme to align with the rollout of the Anchor Institute Charter. It will also require definitions of 'local' in both the local supply chain and employment. All contracts, direct and subcontracted, should be analysed and included. This should be reviewed after the first year of implementation. Collecting ethnicity data related to employment should also be reviewed after the first year of implementation.

**** To be used to demonstrate annual changes, interpretation to factor in population changes.

ASPIRATIONAL INDICATORS

Health and wellbeing of children and young people – BeeWell is a survey of selected schools in England and includes several potential indicators.

Number of Living Wage Employers – this has been measured in Greater Manchester.

Debt and debt advice, food bank use – Citizens' Advice Liverpool has been working with Liverpool Clinical Commissioning Group for a number of years and sharing data to monitor the 'Advice on Prescription' programme. Similar partnerships between Luton organisations would require consistent data collection and sharing. Partners could include NHS organisations, local government and VCFSE partners.

Community resilience and cohesion – Greater Manchester has carried out a series of representative surveys of its population which have provided excellent information on such difficult-to-assess factors.

REFERENCES



1. Luton Borough Council (2020) A town-wide vision for Luton 2020 - 2040: A place to thrive. Available from: www.luton.gov.uk/Luton2020-2040.
2. Marmot M, Allen J, Goldblatt P, Boyce T, McNeish D, Grady M (2010) Fair Society, Healthy Lives: The Marmot Review. Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/fair-society-healthy-lives-the-marmot-review>
3. Marmot M, Allen J, Boyce T, Goldblatt P, Morrison J (2020) Health Equity in England: The Marmot Review ten years on. Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/marmot-review-10-years-on>
4. Office for National Statistics (2021) ONS Single Year Life Tables, England and Wales, 1980 to 2020. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies/datasets/singleyearlifetablesuk1980to2018>
5. HM Treasury (2019) Trends in public spending table. Available from: <https://www.gov.uk/government/statistics/public-spending-statistics-release-july-2019>
6. Cribb J, Joyce R, Wernham T (2022) Twenty-five years of income inequality in Britain: the role of wages, household earnings and redistribution. Institute for Fiscal Studies. Available from: <https://ifs.org.uk/publications/15991>
7. Phillips D, Simpson P. (2018) Changes in councils' adult social care and overall service spending in England, 2009-10 to 2017-18. Institute for Fiscal Studies. Available from: <https://ifs.org.uk/publications/13066>
8. Munro A, Doran T, Cookson R. J (2016) The costs of inequality: whole-population modelling study of lifetime inpatient hospital costs in the English National Health Service by level of neighbourhood deprivation. *J Epidemiol Community Health* 2016: 1-7.
9. Raleigh V (2021) What is happening to life expectancy in England? Kings Fund. Available from: <https://www.kingsfund.org.uk/publications/whats-happening-life-expectancy-england>.
10. Life expectancy at birth and age 65 years by sex for Middle Layer Super Output Areas (MSOAs), England: 2016 to 2020 (2021) Office for National Statistics. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies/adhocs/13926lifeexpectancyatbirthandage65yearsbysexformiddlelayerssuperoutputareasmssoasengland2016to2020>.
11. Institute of Health Equity. [Online] <https://www.instituteofhealthequity.org/home>.
12. Marmot M, Allen J, Goldblatt P, Herd E, Morrison J (2020) Build Back Fairer: The Covid-19 Marmot Review Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/about-our-work/latest-updates-from-the-institute/build-back-fairer>
13. OHID COVID-19 Health Inequalities Monitoring for England (CHIME) tool (2021) Available from: analytics.phe.gov.uk/apps/chime/. <https://analytics.phe.gov.uk/apps/chime/>.
14. A, Munro (2020) Coventry - A Marmot City An Evaluation Of A City-Wide Approach To Reducing Health Inequalities. Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/coventry-marmot-city-evaluation-2020>
15. Marmot M, Allen J, Boyce T, Goldblatt P, Morrison J (2021) Build Back Fairer in Greater Manchester: Health equity and dignified lives. Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/build-back-fairer-in-greater-manchester-health-equity-and-dignified-lives/build-back-fairer-in-greater-manchester-main-report.pdf>
16. Marmot M, Allen J, Boyce T, Goldblatt P, Callaghan O (2022) All Together Fairer: health equity and social determinants of health in Cheshire and Merseyside. Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/all-together-fairer-health-equity-and-the-social-determinants-of-health-in-cheshire-and-merseyside>
17. Greater Manchester Independent Inequalities Commission (2021) The Next Level: Good Lives for all in Greater Manchester. Available from: https://www.greatermanchester-ca.gov.uk/media/4337/gmca_independent-inequalities-commission_v15.pdf.
18. GeoPunk. Luton Borough Council. Available from: <https://www.geopunk.co.uk/council/luton>.

19. Holmes E (2019) 2019 Indices of Multiple Deprivation Summary. Luton Business Intelligence. Available from: <https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Planning/Observatory/2019-indices-of-multiple-deprivation-in-luton.pdf>
20. Rae A (2019) Ministry of Housing, Communities and Local Government and The University of Sheffield Department of Urban Studies and Planning. Available from: <https://www.sheffield.ac.uk/usp/research/projects/english-indices-deprivation-2019>.
21. Office for National Statistics (2021) Exploring local income deprivation: A detailed picture of disparities within English local authorities to a neighbourhood level. Available from: <https://www.ons.gov.uk/visualisations/dvc1371/#/E07000223>.
22. Rae A, Nyanzu E (2020) An English Atlas of inequality. Nuffield Foundation. Available from: <https://alasdairrae.github.io/atlasofinequality/>.
23. Office for National Statistics (2021) Population Estimates for UK, England and Wales, Scotland and Northern Ireland. Available from: [https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2020#:~:text=The%20population%20of%20the%20UK,%25\)%20since%20mid%2Dyear%202019](https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2020#:~:text=The%20population%20of%20the%20UK,%25)%20since%20mid%2Dyear%202019).
24. Nomis (2021) Dataset: Mortality statistics - underlying cause, sex and age. Available from: <https://www.nomisweb.co.uk/datasets/mortsa>
25. Nomis (2021) Dataset: Live births in England and Wales: birth rates down to local authority areas. Available from: <https://www.nomisweb.co.uk/datasets/lebithrates>
26. Office for National Statistics (2021) ONS Local Area Migration Indicators, UK. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/migrationwithintheuk/datasets/localareamigrationindicatorsunitedkingdom>
27. Mayhew L, Waples S (2011) The growth and changing complexion of Luton's population: A structural analysis and decomposition. Migration Impact Fund. Available from: <https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Planning/Observatory/growth-of-luton-population.pdf>
28. Office for National Statistics (2021) Local area migration indicators, UK. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/migrationwithintheuk/datasets/localareamigrationindicatorsunitedkingdom>.
29. Bailey N, Livingston M (2007) Population turnover and area deprivation. Joseph Rowntree Foundation, The Policy Press, 2007. ISBN 978 1 86134 975 0.
30. Office for National Statistics (2016) Understanding projected population change at the local authority level. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/compendium/subnationalpopulationprojectionssupplementaryanalysis/2014basedprojections/understandingprojectedpopulationchangeatthelocalauthoritylevel#comparing>.
31. Office for National Statistics (2021) Population of the UK by country of birth and nationality: July 2020 to June 2021. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/datasets/populationoftheunitedkingdombycountryofbirthandnationality>.
32. Office for National Statistics (2021) Births by parents' country of birth, England and Wales: 2020. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/bulletins/parentscountryofbirthenglandandwales/2020#live-births-to-non-uk-born-mothers-by-geography>.
33. Fernandez-Reino, M (2020) The health of migrants in the UK. The Migration Observatory at the University of Oxford. Available from: <https://migrationobservatory.ox.ac.uk/resources/briefings/the-health-of-migrants-in-the-uk/>.
34. Office for National Statistics (2021) Population Profiles for Local Authorities and Regions in England. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/populationprofilesforlocalauthoritiesinengland/2020-12-14>
35. National Audit Office (2021) Financial sustainability of local authorities visualisation: update. Available from: <https://www.nao.org.uk/other/financial-sustainability-of-local-authorities-visualisation-update/#viz>.

36. Office for National Statistics (2021) UK population pyramid interactive. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/ukpopulationpyramidinteractive/2020-01-08>.
37. Office for National Statistics (2012) 2011 Census: Household language, local authorities in England and Wales. Available from: [https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/2011censuskeystatisticsforlocalauthoritiesinenglandandwales#:~:text=Excel%20sheet%20268Kb\)-,This%20table%20provides%202011%20Census%20estimates%20that%20classify%20households%20by,day%20\(27%20March%202011\)](https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/2011censuskeystatisticsforlocalauthoritiesinenglandandwales#:~:text=Excel%20sheet%20268Kb)-,This%20table%20provides%202011%20Census%20estimates%20that%20classify%20households%20by,day%20(27%20March%202011)).
38. Office for National Statistics (2019) Population characteristics research tables. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationcharacteristicsresearchtables>.
39. Office for National Statistics (2020) Life Expectancy by Local Authority. Available from: ons.gov.uk/datasets/life-expectancy-by-local-authority/editions/time-series/versions/1.
40. Office for National Statistics (2021) Life expectancy at birth and age 65 years by sex for Middle Layer Super Output Areas (MSOAs), England: 2016 to 2020. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies/adhocs/13926lifeexpectancyatbirthandage65yearsbysexformiddlelayerssuperoutputareasmsoasengland2016to2020>.
41. Luton Borough Council (2022) Community Insight Dashboard. Available from: lutoncouncil.communityinsight.org/dashboard/.
42. Office for National Statistics (2022) Health state life expectancies, UK: 2018 to 2020. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/healthstatelifeexpectanciesuk/2018to2020>
43. Office for National Statistics (2022) Health state life expectancies, UK: 2018 to 2020. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/healthstatelifeexpectanciesuk/2018to2020>
44. Office for National Statistics (2022) Health Index methods and development: 2015 to 2019 . Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/methodologies/healthindexmethodsanddevelopment2015to2019>.
45. Office for National Statistics (2022) How health has changed in your local area. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/articles/howhealthhaschangedinyourlocalarea/2022-03-18>.
46. Office for National Statistics (2021) Avoidable mortality in the UK: 2019. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/causesofdeath/bulletins/avoidablemortalityinenglandandwales/2019>.
47. Office for Health Improvement and Disparities (2021) Under 75 Mortality. OHID Fingertips. Available from: fingertips.phe.org.uk/search/under%2075%20mortality#page/3/gid/1/pat/6/par/E12000006/ati/401/are/E07000200/iid/108/age/163/sex/4/cat/-1/ctp/-1/yrr/3/cid/4/tbm/1 .
48. Office for Health Improvement & Disparities (2021) Cancer Screenings. OHID Fingertips. Available from: <https://fingertips.phe.org.uk/search/cancer%20screening#page/1/gid/1/pat/6/ati/401/are/E06000032/iid/22001/age/225/sex/2/cat/-1/ctp/-1/yrr/1/cid/4/tbm/1>.
49. Office for Health Improvement & Disparities (2021) Under 75 Mortality Cancer. OHID Fingertips. Available from: fingertips.phe.org.uk/search/under%2075%20mortality#page/3/gid/1000044/pat/6/par/E12000006/ati/401/are/E07000200/iid/40501/age/163/sex/4/cat/-1/ctp/-1/yrr/3/cid/4/tbm/1/page-options/car-do-0 .
50. Lomas J, Williams J (2019) Health Matters: Ambitions to tackle persisting inequalities in cardiovascular disease. UK Health Security Agency. Available from: <https://ukhsa.blog.gov.uk/2019/03/04/health-matters-ambitions-to-tackle-persisting-inequalities-in-cardiovascular-disease/>.
51. Bell R (2017) Psychosocial pathways and health outcomes: Informing action on health inequalities. UCL Institute of Health Equity and Public Health England.

52. Office for Health Improvement & Disparities (2021) Under 75 Mortality Cardiovascular . OHID Fingertips. Available from: fingertips.phe.org.uk/search/under%2075%20mortality#page/3/gid/1000044/pat/6/par/E12000006/ati/401/are/E07000200/iid/40401/age/163/sex/4/cat/-1/ctp/-1/yr/3/cid/4/tbm/1/page-options/car-do-0 .
53. Public Health England (2019) Respiratory disease: applying All Our Health .Available from: <https://www.gov.uk/government/publications/respiratory-disease-applying-all-our-health/respiratory-disease-applying-all-our-health>.
54. The Nuffield Trust (2022) Smoking. Available from: <https://www.nuffieldtrust.org.uk/resource/smoking>.
55. Wimalasena N, Chang-Richards A, Wang KIK, Dirks KN (2021) Housing Risk Factors Associated with Respiratory Disease: A Systematic Review. *Int. J. Environ. Res. Public Health* 2021, 18, 2815. doi.org/10.3390/ijerph18062815.
56. Pacheco CM, Ciaccio CE, Nazir N, et al. (2014) Homes of low-income minority families with asthmatic children have increased condition issues. *Allergy Asthma Proc.* 2014 Nov-Dec; 35(6): 467-474. . doi.org/10.2500/aap.2014.35.3792.
57. Office for Health Improvement & Disparities (2021) Under 75 Mortality Respiratory. OHID Fingertips. Available from: fingertips.phe.org.uk/search/under%2075%20mortality#page/3/gid/1000044/pat/6/par/E12000006/ati/401/are/E07000200/iid/40701/age/163/sex/4/cat/-1/ctp/-1/yr/3/cid/4/tbm/1/page-options/car-do-0 .
58. Public Health England (2020) Liver disease: applying All Our Health. Available from: <https://www.gov.uk/government/publications/liver-disease-applying-all-our-health/liver-disease-applying-all-our-health#fn:4>.
59. British Liver Trust (2019) The alarming impact of liver disease in the UK: Facts and statistics. Available from: <https://www.britishlivertrust.org.uk/wp-content/uploads/The-alarming-impact-of-liver-disease-FINAL-June-2019.pdf>
60. Office for Health Improvement & Disparities (2021) Under 75 Mortality Liver. OHID Fingertips. Available from: fingertips.phe.org.uk/search/under%2075%20mortality#page/3/gid/1000044/pat/6/par/E12000006/ati/401/are/E07000200/iid/40601/age/163/sex/4/cat/-1/ctp/-1/yr/3/cid/4/tbm/1/page-options/car-do-0 .
61. Public Health England (2018) Severe mental illness (SMI) and physical health inequalities: briefing. Available from: <https://www.gov.uk/government/publications/severe-mental-illness-smi-physical-health-inequalities/severe-mental-illness-and-physical-health-inequalities-briefing>
62. Office for Health Improvement & Disparities (2022) Research and analysis: Premature mortality in adults with severe mental illness (SMI). Available from: <https://www.gov.uk/government/publications/premature-mortality-in-adults-with-severe-mental-illness/premature-mortality-in-adults-with-severe-mental-illness-smi>.
63. Elliott I (2016) Poverty and Mental Health: A review to inform the Joseph Rowntree Foundation's Anti-Poverty Strategy. Mental Health Foundation.
64. Office for National Statistic (2021). Personal well-being estimates by local authority. Available from: <https://www.ons.gov.uk/datasets/wellbeing-local-authority/editions/time-series/versions/2>
65. Malcolm M, Frost H, Cowie J (2019) Loneliness and social isolation causal association with health-related lifestyle risk in older adults: a systematic review and meta-analysis protocol.. *Syst Rev* 8, 48.doi.org/10.1186/s13643-019-0968-x.
66. Office for National Statistics (2021) Mapping loneliness during the coronavirus pandemic . Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/mappinglonelinessduringthecoronaviruspandemic/2021-04-07>.
67. Paul E, Fancourt D (2022) Factors influencing self-harm thoughts and behaviours over the first year of the COVID-19 pandemic in the UK: Longitudinal analysis of 49 324 adults. *The British Journal of Psychiatry.* 220(1), 31-37.
68. Bamba C, Cairns J. (2017) The impact of place on suicidal behaviour. In Socioeconomic disadvantage and suicidal behaviour report. Samaritans. Available from: https://media.samaritans.org/documents/Socioeconomic_disadvantage_and_suicidal_behaviour_-_Full.pdf

69. Office for Health Improvement & Disparities (2021) Emergency Hospital Admissions for Intentional Self Harm. OHID Fingertips. Available from: <https://fingertips.phe.org.uk/search/self%20harm#page/3/gid/1/pat/6/par/E12000006/ati/401/are/E06000032/iid/21001/age/1/sex/4/cat/-1/ctp/-1/yr/1/cid/4/tbm/1> .
70. Shand F, Yip D, Tye M, Darwin L (2020) The impact of social determinants on suicide and how policy settings can help. What can be done to decrease suicidal behaviour in Australia? A call to action. Black Dog Institute. Available from: https://www.blackdoginstitute.org.au/wp-content/uploads/2020/09/What-Can-Be-Done-To-Decrease-Suicide-a-call-to-action_Black-Dog-Institute.pdf
71. Machado DB, Rasella D, dos Santos DN (2015) Impact of Income Inequality and Other Social Determinants on Suicide Rate in Brazil. Plos One, 2015. doi.org/10.1371/journal.pone.0124934.
72. Mulholland H, McIntyre JC, Haines-Delmont A, Whittington R, Comerford T, Corcoran R (2019) Investigation to identify individual socioeconomic and health determinants of suicidal ideation using responses to a cross-sectional, community-based public health survey. BMJ Open; Vol 11, Issue 2. dx.doi.org/10.1136/bmjopen-2019-035252.
73. Ritchie H, Roser M, Ortiz-Ospina E. Suicide (2015) Our World In Data. Available from: ourworldindata.org/suicide.
74. Office of National Statistics (2021) Coronavirus (COVID-19) related deaths by occupation, England and Wales: deaths registered between 9 March and 28 December 2020. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/causesofdeath/bulletins/coronaviruscovid19relateddeathsbyoccupationenglandandwales/deathsregisteredbetween9marchand28december2020>.
75. Office for National Statistics (2022) Updating ethnic contrasts in deaths involving the coronavirus (COVID-19), England: 10 January 2022 to 16 February 2022 . Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/updatingethniccontrastsindeathsinvolvingthecoronaviruscovid19englandandwales/10january2022to16february2022>.
76. Office for Health Improvement & Disparities (2022) COVID-19 Health Inequalities Monitoring for England (CHIME) tool. Available from: <https://analytics.phe.gov.uk/apps/chime/>.
77. Duncan E (2022) Covid cases falling in Luton but booster jab uptake is sixth lowest in country. Luton Today. Available from: <https://www.lutontoday.co.uk/health/covid-cases-falling-in-luton-but-booster-jab-uptake-is-sixth-lowest-in-country-3594885>
78. Cook EJ, Elliott E, Gaitan A, Nduka I, Cartwright S, Egbutah C, Randhawa G, Waqar M, Ali N (2022) Vaccination against COVID-19: Factors That Influence Vaccine Hesitancy among an Ethnically Diverse Community in the UK. Vaccines 2022, vol 10;106. doi.org/10.3390/vaccines10010106.
79. Bedfordshire, Luton and Milton Keynes Clinical Commissioning Group (2021) Luton teams take the vaccination message home. Available from: blmkccg.nhs.uk/luton-teams-take-the-vaccination-message-home/.
80. Bedfordshire, Luton and Milton Keynes Clinical Commissioning Group (2022) 1000 Free Journeys to drive vaccination rates up in Luton. Available from: blmkccg.nhs.uk/1000-free-journeys-to-drive-vaccination-rates-up-in-luton/.
81. Hughes L (2022) Grants boost in bid to drive Luton's covid jabs take-up. Luton Today, 9th March 2022. Available from: lutontoday.co.uk/health/coronavirus/grants-boost-in-bid-to-drive-lutons-covid-jabs-take-up-3603972.
82. Luton Borough Council (2021) Luton Covid-19 vaccine Q&A panel - 5 May 2021. YouTube. Available from: youtube.com/watch?v=Xm30mrnPZo.
83. Powell A, Francis-Devine B, Clark H (2021) Coronavirus: Impact on the labour market. House of Commons Library. Available from: <https://researchbriefings.files.parliament.uk/documents/CBP-8898/CBP-8898.pdf>.
84. Joyce R, Xu Xiaowei (2020) Sector shutdowns during the coronavirus crisis: which workers are most exposed? Institute for Fiscal Studies. Available from: <https://ifs.org.uk/publications/14791#:~:text=The%20lockdown%20is%20likely%20to,shut%20down%20as%20other%20employees>.
85. Haque Z, Becares L, Treloar N (2020) Over-Exposed and Under-Protected, The Devastating Impact of COVID-19 on Black and Minority Ethnic Communities in Great Britain. Runnymede Trust. Available from: <https://www.runnymedetrust.org/publications/over-exposed-and-under-protected>

86. Marmot M, Allen J, Boyce T, Goldblatt P, Morrison J (2020) Health Equity in England: The Marmot Review 10 Years On . Institute of Health Equity, 2020. Available from: <http://www.instituteofhealthequity.org/resources-reports/marmot-review-10-years-on>.
87. Gluckman PD and Hanson MA (2006) Adult disease: Echoes of the past. *European Journal of Endocrinology* 155, suppl_1: S47-S50.
88. Barker D J P (1998) In Utero programming of chronic disease. *Clinical Science* 95: 11 5 - 1 2.
89. Office for National Statistics (2022) Birth characteristics statistics. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/datasets/birthcharacteristicsinenglandandwales>
90. Office for National Statistics (2022) Child and infant mortality in England and Wales: 2020. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/childhoodinfantandperinatalmortalityinenglandandwales/2020>.
91. Odd D, Stoianova S, Sleaf V, Williams T, Cook N, McGeehan L, Garnham A, Davern S, Rimmer R, Gault J, Kurinczuk JJ, Wolfe I, Luyt K (2021) Child Mortality and Social Deprivation National Child Mortality Database Programme Thematic Report. The National Child Mortality Database. Available from: https://ncmd.info/wp-content/uploads/2021/05/NCMD-Child-Mortality-and-Social-Deprivation-report_20210513.pdf
92. Nuffield Trust (2021) Low birth weight. Available from: <https://www.nuffieldtrust.org.uk/resource/low-birth-weight#background>.
93. Kelly Y, Panico L, Bartley M, Marmot M, Nazroo J, Sacker A (2009) Why does birthweight vary among ethnic groups in the UK? Findings from the Millennium Cohort Study. *Journal of Public Health*, Vol 31;1, 2009. doi. [org/10.1093/pubmed/fdn057](https://doi.org/10.1093/pubmed/fdn057).
94. Department for Education (2022) Schools, pupils and their characteristics. Available from: <https://explore-education-statistics.service.gov.uk/find-statistics/school-pupils-and-their-characteristics>.
95. Department for Education (2018) Outcomes for pupils eligible for free school meals and identified with special educational needs. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/730977/FSM_and_SEND_outcomes-statistics.pdf.
96. Thomson D (2021). How free school meal eligibility has been changing and why we might need new measures of disadvantage. FFT Education Data Lab. Available from: <https://ffteducationdatalab.org.uk/2021/10/how-free-school-meal-eligibility-has-been-changing-and-why-we-might-need-new-measures-of-disadvantage/>
97. Department for Work and Pensions (2021) Children in low income families: local area statistics 2014 to 2020. Available from: <https://www.gov.uk/government/statistics/children-in-low-income-families-local-area-statistics-2014-to-2020>
98. Ministry of Housing, Communities and Local Government (2019) English Indices of Deprivation. Available from: www.gov.uk/government/statistics/english-indices-of-deprivation-2019.
99. Feinstein L (1999) Preschool educational inequality? British children in the 1970 cohort. Centre for Economic Performance and University. Available from: <http://eprints.lse.ac.uk/20250/>
100. Feinstein L and Duckworth K (2006) Development in the Early Years: Its importance for school performance and adult outcomes. Centre for Research on the Wider Benefits of Learning, Institute of Education. Available from: <https://discovery.ucl.ac.uk/id/eprint/10005970/> .
101. Flying Start Luton (2022) Available from: flyingstartluton.com.
102. Ducan E (2021) Closure of multiple children's centres in Luton confirmed as petition to save them 'virtually ignored'. Luton Today. Available from: lutontoday.co.uk/education/closure-multiple-childrens-centres-luton-confirmed-petition-save-them-virtually-ignored-3130945.
103. Ralevic B (2021). Luton Council Childcare Sufficiency Assessment. Luton Borough Council. Available from: https://www.luton.gov.uk/Health_and_social_care/Lists/LutonDocuments/PDF/Children%20and%20Families/childcare-sufficiency-assessment-2021.pdf

104. Scott T (2020) Luton Borough Council: Inspection of children’s social care services. Ofsted. Available from: <https://files.ofsted.gov.uk/v1/file/50146434>
105. Anthony T, Burke M (2021) Monitoring visit to Luton Borough Council children’s services. Ofsted. Available from: <https://files.ofsted.gov.uk/v1/file/50168544>
106. Children, Families and Education Performance Team, Business Intelligence (2022) Luton Borough Council.
107. Department for Education (2018) Key stage 2 and multi-academy trust performance. GOV.UK. Available from: <https://www.gov.uk/government/statistics/key-stage-2-and-multi-academy-trust-performance-2018-revised>
108. Badenoch K, Zahawi N, Department for Education, Department for Digital, Culture, Media & Sport, Department for Levelling Up, Housing and Communities (2022) Package to transform education and opportunities for most disadvantaged. Available from: <https://www.gov.uk/government/news/package-to-transform-education-and-opportunities-for-most-disadvantaged>.
109. Department for Education (2020) KS4 Performance 2019 (revised). Available from: <https://www.gov.uk/government/statistics/key-stage-4-performance-2019-revised>
110. Ofsted (2022) Find and compare schools in England. Available from: compare-school-performance.service.gov.uk.
111. Department for Education (2021) Permanent exclusions and suspensions in England 2019/20. Available from: explore-education-statistics.service.gov.uk/find-statistics/permanent-and-fixed-period-exclusions-in-england/2019-20.
112. Department for Education (2021) NEET and participation: local authority figures. Available from: <https://www.gov.uk/government/publications/neet-and-participation-local-authority-figures>
113. Sahoo K, Sahoo B, Choudhury AK, Sofi NY, Kumar R, Bhadoria AS (2015) Childhood obesity: causes and consequences. *J Family Med Prim Care.*; 4(2):187-92. doi.org/10.4103/2249-4863.154628.
114. NHS Digital (2021) National Child Measurement Programme. Available from: <https://digital.nhs.uk/services/national-child-measurement-programme/>
115. Lewis T (2021) Growing Up In Luton Summary of trends in the SHEU Health and Wellbeing Survey results in Luton schools (2015-2021). Luton Borough Council. Available from: <https://democracy.luton.gov.uk/cm5public/Document>.
116. Kessler RC, Berglund P, Demler O, et al. (2005) Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry.* 2005 Jun; 62(6):593-602.
117. World Health Organization (2021) Fact Sheet: Adolescent Mental Health.. Available from: <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health>.
118. Office for Health Improvement & Disparities (2020) Hospital admissions as a result of self-harm in children and young people aged 10-24 years. OHID Fingertips. Available from: <https://fingertips.phe.org.uk/search/admissions%2010%2024#page/4/gid/1/pat/159/par/K02000001/ati/15/are/E92000001/iid/90813/age/305/sex/4/cat/-1/ctp/-1/yrr/1/cid/4/tbm/1>.
119. NHS Digital (2019) Statistics on Drug Misuse, England, 2019. Available from: digital.nhs.uk/data-and-information/publications/statistical/statistics-on-drug-misuse/2019.
120. Duncan E (2022) Estimated 200 to 500kg of class A drugs comes through Luton every month as Bedfordshire PCC warns of thriving market locally. *Luton Today*, 26 January 2022. Available from: <https://www.lutontoday.co.uk/news/crime/estimated-200-to-500kg-of-class-a-drugs-comes-through-luton-every-month-as-bedfordshire-pcc-warns-of-thriving-market-locally-3542771>.
121. Office for National Statistics (2021) Recorded crime data by Community Safety Partnership area. ONS. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/datasets/recordedcrimedatabycommunitysafetypartnershiparea>
122. National Crime Agency (2022). County Lines. <https://www.nationalcrimeagency.gov.uk/what-we-do/crime-threats/drug-trafficking/county-lines>.

123. Luton Borough Council (2017) Luton Community Safety Partnership Plan 2017-2020. Available from: https://www.luton.gov.uk/Community_and_living/Lists/LutonDocuments/PDF/Community-Safety-Partnership-plan.pdf
124. Duncan E (2022) Luton's youth offending service is one of the best in the country. Luton Today, 14th March 2022. Available from: <https://www.lutontoday.co.uk/news/crime/lutons-youth-offending-service-is-one-of-the-best-in-the-country-3609765>.
125. Hutchinson T (2022) Information provided for report. Luton Youth Offending Service
126. Fear of Crime Task and Finish Group (2010) Final Report of the Fear of Crime Task and Finish Group. Luton Borough Council. Available from: https://www.luton.gov.uk/Council_government_and_democracy/Lists/LutonDocuments/Word/Scrutiny/Reviews/Fear%20of%20Crime%20Final%20Report.doc.
127. Durcan D (2015) Local action on health inequalities: Promoting good quality jobs to reduce health inequalities. Public Health England/ Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/local-action-on-health-inequalities-promoting-good-quality-jobs-to-reduce-health-inequalities->
128. Marmot M, Allen J, Boyce T, Goldblatt P, Morrison J. (2020) Health Equity in England: The Marmot Review 10 Years On. Institute of Health Equity. Available from: <http://www.instituteofhealthequity.org/resources-reports/marmot-review-10-years-on..>
129. The Organization for Economic Cooperation and Development (2009) Policy Brief In-Work Poverty: What Can Governments Do? Available from: <https://www.oecd.org/els/43650040.pdf>.
130. International Labour Organization (2012) Understanding deficits of productive employment and setting targets. A methodological guide. International Labour Organization . Available from: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_177149.pdf.
131. Marmot M (2015) The health Gap: The challenge of an unequal world. Bloomsbury, 2015, this edn 2016. 978-1-4088-5797-7.
132. Citizens Advice (2015) Neither one thing nor the other: how reducing bogus self-employment could benefit workers, business and the Exchequer. Available from: <https://www.citizensadvice.org.uk/cymraeg/amdanomni/our-work/policy/policy-research-topics/work-policy-research-surveys-and-consultation-responses/work-policy-research/neither-one-thing-nor-the-other/>
133. Tinson A (2020) The quality of work and what it means for health. The Health Foundation. Available from: <https://www.health.org.uk/publications/long-reads/the-quality-of-work-and-what-it-means-for-health>.
134. Marmot M (2004) Status Syndrome: How your place on the social gradient directly affects your health. Bloomsbury, 2004, this edn 2015. 978-1-4088-7268-0.
135. Marmot M et. Al (1991) Health inequalities among British civil servants: the Whitehall II study. Lancet, 1991, Vol. vol. 337. no. 8754, pp. 1387-93 doi: 10.1016/0140- 6736(91)93068-K..
136. Kivimäki M, Vahtera J, Elovainio M, Virtanen M, Siegrist J (2007) Effort-reward imbalance, procedural injustice and relational injustice as psychosocial predictors of health: complementary or redundant models?. Occup Environ Med. 2007 Oct;64(10):659-65. doi.org/10.1136/oem.2006.031310.
137. Marmot M. (2004) Status Syndrome: How your place on the social gradient directly affects your health. Bloomsbury, 2004, this edn. 2015. 978-1-4088-7268-0.
138. Bell R (2017) Psychosocial pathways and health outcomes: Informing action on health inequalities. The Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/psychosocial-pathways-and-health-outcomes-informing-action-on-health-inequalities>
139. World Health Organization and the International Labour Organization (2021) Joint Estimates of the Work-related Burden of Disease and Injury, 2000-2016. . Available from: <https://www.who.int/publications/i/item/9789240034945>
140. Durcan D (2015) Local action on health inequalities: Promoting good quality jobs to reduce health inequalities. UCL Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/local-action-on-health-inequalities-promoting-good-quality-jobs-to-reduce-health-inequalities->

141. Health and Safety Executive (2018) Work related stress, depression or anxiety in Great Britain, 2018. Available from: <http://www.hse.gov.uk/statistics/causdis/stress/index.htm>.
142. Katikireddi, Srinivasa Vittal, et al. (2017) Patterns of mortality by occupation in the UK, 1991-2011: a comparative analysis of linked census and mortality records. *The Lancet Public Health*, 2017, Vol. 2(11). doi.org/10.1016/S2468-2667(17)30193-7.
143. Luton Borough Council (2020) Luton Covid-19 Economic Recovery Plan Crisis, Rescue, Recover, Reform 2020 to 2022. Available from: https://www.luton.gov.uk/Council_government_and_democracy/Lists/LutonDocuments/PDF/Luton2020-2040/Luton2040-economic-recovery-plan.pdf
144. NOMIS (2021) Labour Market Profile - Luton. Available from: <https://www.nomisweb.co.uk/reports/lmp/la/1946157201/report.aspx?town=luton>
145. Holmes E (2022) This is Luton. Luton Borough Council.
146. Business Intelligence, Luton Borough Council (2018) Major Employers in Luton. Luton Borough Council. Available from: https://www.luton.gov.uk/Community_and_living/Lists/LutonDocuments/PDF/Major-Employers-in-Luton-2017.pdf
147. HM Revenue and Customs (2021) Coronavirus Job Retention Scheme statistics: 16 December 2021. GOV.UK. Available from: [gov.uk/government/statistics/coronavirus-job-retention-scheme-statistics-16-december-2021/coronavirus-job-retention-scheme-statistics-16-december-2021](https://www.gov.uk/government/statistics/coronavirus-job-retention-scheme-statistics-16-december-2021/coronavirus-job-retention-scheme-statistics-16-december-2021).
148. Centre for Cities (2021) Cities Outlook 2021. Available from: <https://www.centreforcities.org/wp-content/uploads/2021/01/Cities-Outlook-2021.pdf>
149. Office for National Statistics (2022) Regional gross domestic product: all ITL regions. Available from: <https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/regionalgrossdomesticproductallnutslevelregions>
150. NOMIS (2022) Labour Market Profile - Luton. Available from: <https://www.nomisweb.co.uk/reports/lmp/la/1946157201/report.aspx?town=luton>
151. Department for Education (2022) Explore Education Statistics: Calendar Year 2021 NEET age 16 to 24. GOV.UK. Available from: <https://explore-education-statistics.service.gov.uk/find-statistics/neet-statistics-annual-brief>.
152. Luton Borough Council (2022) Luton Employment & Skills Strategy 2022-2027.
153. Office for National Statistics (2022) Annual Survey of Hours and Earnings. Available from: <https://www.ons.gov.uk/surveys/informationforbusinesses/businesssurveys/annualsurveyofhoursandearningsashe>
154. LG Inform (2021) Care leavers in education, employment or training aged 19, 20 or 21 in Luton. Available from: lginform.local.gov.uk/reports/lgastandard?mod-metric=9922&mod-area=E06000032&mod-group=E92000001&mod-type=area.
155. Giles C (2022) UK inflation jumps to highest level in 30 years. *Financial Times*. Available from: [ft.com/content/9188e191-4c1c-4968-a3af-9a43f086de6b](https://www.ft.com/content/9188e191-4c1c-4968-a3af-9a43f086de6b), 2022.
156. ONS (2022) Energy prices and their effect on households. Available from: <https://www.ons.gov.uk/economy/inflationandpriceindices/articles/energypricesandtheireffectonhouseholds/2022-02-01>.
157. Lawson S (2018) Poverty and health. The Health Foundation. Available from: <https://www.health.org.uk/infographic/poverty-and-health>.
158. End Fuel Poverty Coalition (2022) About Fuel Poverty. Available from: <https://www.endfuelpoverty.org.uk/about-fuel-poverty/>.
159. Wild M (2022) Energy bills are skyrocketing — how do you help the millions who need help most quickly? *Citizens Advice*. Available from: <https://wearecitizensadvice.org.uk/energy-bills-are-skyrocketing-how-do-you-help-the-millions-who-need-help-most-quickly-a75fa3a47402>
160. Brooke Bullard T(2022) Forced to choose between heating or eating. *Citizens Advice*. Available from: wearecitizensadvice.org.uk/forced-to-choose-between-heating-or-eating-8c6bdcd0565f.
161. Swinford S (2022) Rishi Sunak cuts energy bills by £400 to tackle cost of living crisis. *The Times*. Available from: <https://www.thetimes.co.uk/article/rishi-sunak-to-cut-energy-bills-by-hundreds-of-pounds-with-windfall-tax-on-oil-and-gas-firms-p9ntgs6bp>.

162. Thomson H, Thomas S, Sellstrom E, Petticrew M (2013) Housing improvements for health and associated socio-economic outcomes. *Cochrane Database of Systematic Reviews* 2013, Issue 2. doi.org/10.1002/14651858.CD008657.pub2.
163. Milner J et. Al (2020) Health benefits of policies to reduce carbon emissions.: *BMJ*, 2020, Vol. vol. 368. doi: 10.1136/bmj.l6758.
164. Holgate S, Grigg J, Arshad H, Carslaw N, Cullinan P, Dimitropoulou S, Greenough A, Holland M, Jones B, Linden P, Sharpe T, Short A, Turner B, Ucci M, Vardoulakis S, Stacey H, Rossiter A, Arkell E, Hunter L, Sparrow E, Orchard E (2020) The inside story: Health effects of indoor air quality on children and young people.. Royal College of Physicians/Royal College of Paediatrics and Child Health. Available from: <https://www.rcpch.ac.uk/resources/inside-story-health-effects-indoor-air-quality-children-young-people>
165. Trussell Trust (2022) End of Year Stats. Available from: <https://www.trusselltrust.org/news-and-blog/latest-stats/end-year-stats/>.
166. Alexiou A, Singleton A (2018) The 2018 Internet User Classification. ESRC Consumer Data Research Centre (CDRC). Available from: <https://data.cdrc.ac.uk/dataset/internet-user-classification>
167. Allen J, Balfour R (2014) Natural solutions for tackling health inequalities. Institute of Health Equity. Available from: <https://www.instituteoftheequity.org/resources-reports/natural-solutions-to-tackling-health-inequalities>
168. The 15-Minute City (2022) Available from: [15minutecity.com](https://www.15minutecity.com).
169. de Zylva P, Gordon-Smith C, Childs M (2020) England's green space gap: How to end green space deprivation in England. Friends of the Earth. Available from: <https://policy.friendsoftheearth.uk/download/englands-green-space-gap-full-report>
170. RAC Foundation (2012) Car ownership rates per local authority in England and Wales. Available from: https://www.racfoundation.org/assets/rac_foundation/content/downloadables/car%20ownership%20rates%20by%20local%20authority%20-%20december%202012.pdf
171. Department for Transport (2021) Vehicle Licensing Statistics. Available from: <https://www.gov.uk/government/collections/vehicles-statistics>.
172. Price D (2020) Thousands more cars on Luton's roads than a decade ago as RAC warns public transport not up to scratch. *Luton Today*. Available from: [lutontoday.co.uk/news/transport/thousands-more-cars-on-lutons-roads-than-a-decade-ago-as-rac-warns-public-transport-not-up-to-scratch-3053885](https://www.lutontoday.co.uk/news/transport/thousands-more-cars-on-lutons-roads-than-a-decade-ago-as-rac-warns-public-transport-not-up-to-scratch-3053885).
173. Campaign for Better Transport (2014) Car Dependency Scorecard 2014. Available from: https://bettertransport.org.uk/sites/default/files/pdfs/Car_Dep_Scorecard_2014_LOW_RES.pdf
174. Luton Borough Council (2021) Bus Service Improvement Plan. Available from: https://www.luton.gov.uk/Transport_and_streets/Lists/LutonDocuments/PDF/BSIP-Luton.pdf
175. Small Fish (2011) Luton Local Transport Plan 2011-2026. Luton borough Council. Available from: https://www.luton.gov.uk/Transport_and_streets/Lists/LutonDocuments/PDF/Engineering%20and%20Transportation/LTP%203/Luton%20Local%20Transport%20Plan%202011-2026.pdf
176. Air Pollution (2022) World Health Organisation. Available from: https://www.who.int/health-topics/air-pollution#tab=tab_3.
177. Royal College of Physicians (2018) Reducing air pollution in the UK: Progress report 2018. Available from: [rcplondon.ac.uk/EBWT2018](https://www.rcplondon.ac.uk/EBWT2018).
178. Walker G, Fairburn J, Smith G, Mitchell G (2003) Environmental Quality and Social Deprivation R&D Technical Report E2-067/1/TR. Environment Agency, 2003. ISBN 1 844 3221 9.
179. Brunt H, Barnes J, Jones SJ, Longhurst JWS, Scally G, Hayes E (2017) Air pollution, deprivation and health: understanding relationships to add value to local air quality management policy and practice in Wales, UK. *Journal of Public Health*, Volume 39, Issue 3, September 2017, Pages 485-497. doi.org/10.1093/pubmed/fdw084.
180. Barnes JH, Chatterton TJ, Longhurst JWS (2019) Emissions vs exposure: Increasing injustice from road traffic- related air pollution in the United Kingdom. *Transportation Research Part D: Transport and Environment*, Vol 73;56-66. doi.org/10.1016/j.trd.2019.05.012.

181. Fecht D, Fischer P, Fortunato L, Hoek G, de Hoogh K, Marra M, Kruize H, Vienneau D, Beelen R, Hansell A (2015) Associations between air pollution and socioeconomic characteristics, ethnicity and age profile of neighbourhoods in England and the Netherlands. *Environmental Pollution* Vol 198; 201-210. doi.org/10.1016/j.envpol.2014.12.014.
182. WHO Regional Office for Europe (2013) Health Effects of Particulate Matter: Policy implications for countries in Eastern Europe, Caucasus and central Asia. Available from: https://www.euro.who.int/__data/assets/pdf_file/0006/189051/Health-effects-of-particulate-matter-final-Eng.pdf
183. Centre for Cities (2020) Cities Outlook 2020. Available from: centreforcities.org/reader/cities-outlook-2020/air-quality-cities.
184. Department for Environment, Food & Rural Affairs (2022) Emissions of air pollutants in the UK – Nitrogen oxides (NOx) . Available from: gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-nitrogen-oxides-nox.
185. Quinio V, Enenkel K (2020) How have the Covid pandemic and lockdown affected air quality in cities? Centre for Cities. Available from: centreforcities.org/publication/covid-pandemic-lockdown-air-quality-cities/.
186. Luton Borough Council (2021) 2021 Air Quality Annual Status Report (ASR). Available from: <https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Environmental%20and%20Consumer%20Services/Pollution/2021-air-quality-annual-status-report.pdf>
187. MacKenzie AR, Whyatt JD, Barnes MJ, Davies G, Hewitt CN (2019) Urban form strongly mediates the allometric scaling of airshed pollution concentrations. *Environ. Res. Lett.* 14 124078.
188. University of Birmingham (2019) Pollution league tables for UK urban areas reveal the expected and unexpected. Available from: birmingham.ac.uk/news/2019/pollution-league-tables-for-uk-urban-areas-reveal-the-expected-and-unexpected.
189. Luton Borough Council (forthcoming) Housing Strategy 2022-2027
190. Place Standard (2022) Place Standard: How good is our place? Available from: placestandard.scot/.
191. Building Research Establishment and the Chartered Institute of Environmental Health (2010). Good housing leads to good health. Available from: <https://www.cieh.org/media/1245/good-housing-leads-to-good-health-a-toolkit-for-environmental-health-practitioners.pdf>
192. Harker L (2006) Chance of a lifetime: The impact of housing on children’s lives. Shelter. Available from: http://england.shelter.org.uk/professional_resources/policy_library/policy_library_folder/chance_of_a_lifetime_-_the_impact_of_bad_housing_on_childrens_lives.
193. Reacroft J (2005) Do my kids have to live like this forever? Barnardos. Available from: <https://www.yumpu.com/en/document/view/4733544/do-my-kids-have-to-live-like-this-barnardos>
194. Garrett H, Mackay M, Nicol S, Piddington J, Roys M (2021) The cost of poor housing in England: 2021 Briefing Paper. Building Research Establishment. Available from: <https://www.bre.co.uk/filelibrary/pdf/87741-Cost-of-Poor-Housing-Briefing-Paper-v3.pdf>
195. Huebner G, Chalabi Z, Hamilton I, et al (2019) Determinants of winter indoor temperatures below the threshold for healthy living in England. *Energy & Buildings*, 2019, Vol. no. 109399 vol. 202.
196. Marmot Review Team (2011) The Health Impacts of Cold Homes and Fuel Poverty. Friends of the Earth & the Marmot Review Team. ISBN 978-1-85750-343-2.
197. UK Ministry of Housing, Communities and Local Government (2021) English Housing Survey Private rented sector, 2019-20. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1000052/EHS_19-20_PRS_report.pdf
198. HM Government (2022) Levelling Up the United Kingdom. ISBN 978-1-5286-3017-7.
199. Ministry of Housing, Communities & Local Government (2020) Local authority housing statistics data returns for 2019 to 2020. Available from: <https://www.gov.uk/government/statistical-data-sets/local-authority-housing-statistics-data-returns-for-2019-to-2020>

200. Ministry of Housing, Communities & Local Government (2019) The Charter for Social Housing Residents Social Housing White Paper. Available from: <https://www.gov.uk/government/publications/the-charter-for-social-housing-residents-social-housing-white-paper/the-charter-for-social-housing-residents-social-housing-white-paper>
201. Mari-Dell'Olmo M, Novoa AM, Camprub L (2017) Housing Policies and Health Inequalities. *Int J Health Serv.*, 2017, Vols. 47(2): 207-232.
202. Francis-Devine B (2022) Poverty in the UK: statistics. House of Commons Library. Available from: <https://commonslibrary.parliament.uk/research-briefings/sn07096/>
203. Luton Borough Council (2019) Housing strategy 2019-22. Available from: <https://m.luton.gov.uk/Page/Show/Housing/Housing%20development%20and%20strategy/Housing-strategy-2019-22/Pages/default.aspx#:~:text=The%20Luton%20Housing%20Strategy%202019,place%20to%20live%20and%20thrive.>
204. Valuation Office Agency (2022) Local Housing Allowance Rates for the Luton Local Authority. Available from: lha-direct.voa.gov.uk.
205. Office for National Statistics (2022) House price to workplace-based earnings ratio . Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/datasets/ratioofhousepricetoworkplacebasedearningslowerquartileandmedian>.
206. Judge L, Rahman F (2020) Lockdown living: Housing quality across the generations. Resolution Foundation. Available from: <https://www.resolutionfoundation.org/app/uploads/2020/07/Lockdown-living.pdf>
207. McTarnaghan S, Martín C, Srini T, Collazo J (2016) Literature Review of Housing in Latin America and the Caribbean. Urban Institute and Habitat for Humanity. Available from: <https://www.urban.org/sites/default/files/publication/84806/2000957-Literature-Review-of-Housing-in-Latin-America-and-the-Caribbean.pdf>
208. Shelter and National Housing Federation (2017) Stop DSS Discrimination. Ending prejudice against renters on housing benefit. Shelter. Available from: https://england.shelter.org.uk/__data/assets/pdf_file/0009/1581687/Stop_DSS_Discrimination_-_Ending_prejudice_against_renters_on_housing_benefit.pdf.
209. Shelter (2018) Building for our future: a vision for social housing. Available from: https://england.shelter.org.uk/support_us/campaigns/a_vision_for_social_housing
210. Internal Discussions (2022) Institute of Health Equity.
211. Barton C, Dempsey N (2019) Local Authority Homelessness Statistics (England). House of Commons Library. Available from: <https://commonslibrary.parliament.uk/research-briefings/cbp-7586/>.
212. Department for Levelling Up, Housing & Communities (2021) Initial assessments of statutory homelessness duties owed, England, October to December 2021. Available from: <https://www.gov.uk/government/statistical-data-sets/live-tables-on-homelessness>.
213. Luton Homelessness Partnership (2022). Available from: lutonhomelesspartnership.co.uk.
214. Ministry of Housing, Communities and Local Government (2020) Live tables on homelessness. Available from: <https://www.gov.uk/government/statistical-data-sets/live-tables-on-homelessness>
215. Uphoff EP, Pickett KE, Cabieses B et al. (2013) A systematic review of the relationships between social capital and socioeconomic inequalities in health: a contribution to understanding the psychosocial pathway of health inequalities. *Int J Equity Health* 12, 54. doi.org/10.1186/1475-9276-12-54.
216. Giordano GN, Lindstrom M (2010) The impact of changes in different aspects of social capital and material conditions on self-rated health over time: A longitudinal cohort study. *Social Science & Medicine* Volume 70, Issue 5, March 2010, Pages 700-710. doi.org/10.1016/j.socscimed.2009.10.044.
217. Bell R (2017) Psychosocial pathways and health outcomes: Informing action on health inequalities. Public Health England/UCL Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/psychosocial-pathways-and-health-outcomes-informing-action-on-health-inequalities>
218. Stafford M, Marmot M (2003) Neighbourhood deprivation and health: does it affect us all equally? *International Journal of Epidemiology*, Volume 32, Issue 3, June 2003, Pages 357-366. doi.org/10.1093/ije/dyg084.

219. Department for Digital, Culture, Media & Sport (2021) Neighbourhood and Community - Community Life Survey 2020/21. Available from: [gov.uk/government/statistics/community-life-survey-202021-neighbourhood-and-community/neighbourhood-and-community-community-life-survey-202021](https://www.gov.uk/government/statistics/community-life-survey-202021-neighbourhood-and-community/neighbourhood-and-community-community-life-survey-202021).
220. Luton Commission on community cohesion (2011) Building cohesion in Luton: Report of the Luton Commission on community cohesion. Available from: https://www.luton.gov.uk/Council_government_and_democracy/Lists/LutonDocuments/PDF/Community%20cohesion/building-cohesion-in-luton.pdf
221. Local Government Association (2019) Cohesion and Integration in Luton. LG inform. lginform.local.gov.uk/reports/view/lga-research/lga-research-cohesion-and-integration?mod-area=E06000032.
222. Office of Disease Prevention and Health Promotion (2020) Crime and Violence. Available from: [healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/crime-and-violence](https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/crime-and-violence).
223. Cuthbertson, P (2018) Poverty and Crime: Why a new war on criminals would help the poor most. Civitas. Available from: <https://www.civitas.org.uk/content/files/povertyandcrime.pdf>
224. CrimeRate (2022) Crime and Safety in Luton. Available from: [crimerate.co.uk/bedfordshire/luton](https://www.crimerate.co.uk/bedfordshire/luton).
225. Christmas H, Srivastava J (2019) Public health approaches in policing A discussion paper. Public Health England/College of Policing. Available from: https://www.intensiveengagement.com/uploads/3/2/8/3/3283498/public_health_approaches.pdf
226. GeoData Institute (2022) Estimated prevalence of low health literacy. University of Southampton/Health Education England. Available from: <http://healthliteracy.geodata.uk>.
227. Scott C, Sutherland J, Taylor A (2018) Affordability of the UK's Eatwell Guide. The Food Foundation. Available from: <https://www.foodfoundation.org.uk/publication/affordability-uks-eatwell-guide>
228. Alcohol Change UK (2022) Alcohol and inequalities. Available from: <https://www.alcoholchange.org.uk/policy/policy-insights/alcohol-and-inequalities>.
229. Smith K, Foster J (2014) Alcohol, Health Inequalities and the Harm Paradox: Why some groups face greater problems despite consuming less alcohol. Institute of Alcohol Studies. Available from: <https://www.ias.org.uk/uploads/pdf/IAS%20reports/IAS%20report%20Alcohol%20and%20health%20inequalities%20FULL.pdf>
230. Office of National Statistics (2019) Adults smoking habits in the UK: 2018. Available from: <https://www.ons.gov.uk/releases/adultsmokinghabitsintheuk2018>.
231. Public Health England (2021) Overweight adults. Available from: <https://www.ethnicity-facts-figures.service.gov.uk/health/diet-and-exercise/overweight-adults/latest>.
232. Office for Health Improvement & Disparities (2022) Local Alcohol Profiles for England. Available from: <https://fingertips.phe.org.uk/profile/local-alcohol-profiles/data#page/1/gid/1938132984/pat/6/par/E12000006/ati/401/are/E06000032/cid/4/tbm/1>.
233. Anderson P, O'Donnell A, Llopis EJ et al. (2022) The COVID-19 alcohol paradox: British household purchases during 2020 compared with 2015-2019. PLOS. <https://doi.org/10.1371/journal.pone.0261609>.
234. Office for National Statistics (2021) Alcohol-specific deaths in the UK: registered in 2020. Available from: [ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/causesofdeath/bulletins/alcoholrelateddeathsintheunitedkingdom/registeredin2020](https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/causesofdeath/bulletins/alcoholrelateddeathsintheunitedkingdom/registeredin2020).
235. McManus S, Bebbington P, Jenkins R, Brugha T. (eds.) (2016) Mental health and wellbeing in England: Adult Psychiatric Morbidity Survey 2014. NHS Digital. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/556596/apms-2014-full-rpt.pdf
236. Conolly A, Craig S, Gebert S (2019) Health Survey for England 2018 Overweight and obesity in adults and children. Health and Social Care Information Centre. Available from: <http://healthsurvey.hscic.gov.uk/media/81625/HSE18-Adult-Child-Obesity-rep.pdf>.
237. Mason KE, Alexiou A, Bennett DL, et al (2021) Impact of cuts to local government spending on Sure Start children's centres on childhood obesity in England: a longitudinal ecological study. *J Epidemiol Community Health*. 75:860-866. .

238. Public Health England (2019) PHE Strategy 2020-25. Available from: <https://www.gov.uk/government/publications/phe-strategy-2020-to-2025>.
239. BMA (2018) Prevention before cure: securing the long term sustainability of the NHS. Available from: <https://www.bma.org.uk/media/2107/bma-securing-the-long-term-sustainability-of-the-nhs.pdf>.
240. Fisher R, Allen L, Malhotra A M, Alderwick H. (2022) Tackling the inverse care law: Analysis of policies to improve general practice in deprived areas since 1990. The Health Foundation. doi.org/10.37829/HF-2022-PO9.
241. Pescheny JV, Gunn LH, Pappas Y, Randhawa G (2019) The impact of the Luton social prescribing programme on mental well-being: a quantitative before-and-after study. *Journal of Public Health*, Vol. 43, No. 1, pp. e69-e76, 2019. doi.org/10.1093/pubmed/fdz155.
242. Pescheny JV, Gunn LH, Randhawa G, Pappas Y (2019) The impact of the Luton social prescribing programme on energy expenditure: a quantitative before-and- after study. *BMJ Open* 2019;9:e026862. doi.org/10.1136/bmjopen-2018-026862.
243. Active Luton. activeluton.co.uk.
244. Office for National Statistics (2021) Updating ethnic contrasts in deaths involving the coronavirus (COVID-19), England: 24 January 2020 to 31 March 2021. Available from:<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/updatingethniccontrastsindeathsinvolvingthecoronaviruscovid19englandandwales/24january2020to31march2021>.
245. VS, Raleigh (2022) Ethnic differences in covid-19 death rates. *BMJ* 2022;376:o427. doi.org/10.1136/bmj.o427.
246. Office for National Statistics (2020) Why have Black and South Asian people been hit hardest by COVID-19? .Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/whyhaveblackandsouthasianpeoplebeenhithardestbycovid19/2020-12-14>.
247. Office for National Statistics (2020) Coronavirus and the social impacts on different ethnic groups in the UK: 2020. Available from: [ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/articles/coronavirusandthesocialimpactsondifferentethnicgroupsintheuk/2020](https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/articles/coronavirusandthesocialimpactsondifferentethnicgroupsintheuk/2020).
248. Raleigh V, Holmes J (2021) The health of people from ethnic minority groups in England. The Kings Fund. Available from: [kingsfund.org.uk/publications/health-people-ethnic-minority-groups-england](https://www.kingsfund.org.uk/publications/health-people-ethnic-minority-groups-england).
249. Ministry of Housing, Community and Local Government (2020) People living in deprived neighbourhoods. Available from: <https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/demographics/people-living-in-deprived-neighbourhoods/latest>
250. Office for National Statistics (2020) Child poverty and education outcomes by ethnicity. Available from: [ons.gov.uk/economy/nationalaccounts/uksectoraccounts/compendium/economicreview/february2020/childpovertyandeducationoutcomesbyethnicity](https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/compendium/economicreview/february2020/childpovertyandeducationoutcomesbyethnicity).
251. Ministry of Housing, Community and Local Government (2020) Home ownership. Available from: <https://www.ethnicity-facts-figures.service.gov.uk/housing/owning-and-renting/home-ownership/latest>
252. Hutchinson L (2019) BAME people in Luton twice as likely to be unemployed as white counterparts, figures show. *Luton Today*. Available from: <https://www.lutontoday.co.uk/news/bame-people-luton-twice-likely-be-unemployed-white-counterparts-figures-show-133684>.
253. NHS Digital (2021) Detentions under the Mental Health Act. Available from: <https://www.ethnicity-facts-figures.service.gov.uk/health/mental-health/detentions-under-the-mental-health-act/latest>
254. Ministry of Justice (2021) Ethnicity and the Criminal Justice System, 2020 Available from: [gov.uk/government/statistics/ethnicity-and-the-criminal-justice-system-statistics-2020/ethnicity-and-the-criminal-justice-system-2020](https://www.gov.uk/government/statistics/ethnicity-and-the-criminal-justice-system-statistics-2020/ethnicity-and-the-criminal-justice-system-2020).
255. Williams E, Buck D, Babalola G (2020) What are health inequalities? The Kings Fund. Available from: <https://www.kingsfund.org.uk/publications/what-are-health-inequalities>.
256. Bachmann CL, Gooch B (2018) LGBT in Britain: Health report. Stonewall.
257. Prüss-Ustün A, Wolf J, Corvalán C, Bos R and Neira M (2016) Preventing disease through healthy environments: A global assessment of the burden of disease from environmental risks. World Health Organization. ISBN 978 92 4 156519 6.

258. Munro A, Boyce T, Marmot M (2020) Sustainable health equity: achieving a net-zero uk. Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/sustainable-health-equity-achieving-a-net-zero-uk>.
259. Watts N et al. (2020) 2020 Report of the Lancet Countdown on Health and Climate Change. The Lancet. Available from: [https://www.thelancet.com/article/S0140-6736\(20\)32290-X/fulltext](https://www.thelancet.com/article/S0140-6736(20)32290-X/fulltext)
260. World Health Organisation (2021) Fact Sheet: Climate Change, Heat and Health. Available from: <https://www.who.int/news-room/fact-sheets/detail/climate-change-heat-and-health>.
261. Centre for Cities (2021) Net zero: what is the carbon footprint of my city? Available from: [centreforcities.org/data/net-zero-what-is-the-carbon-footprint-of-my-city/](https://www.centreforcities.org/data/net-zero-what-is-the-carbon-footprint-of-my-city/).
262. Quinio V, Rodrigues G (2021) Net zero: decarbonising the city. Centre for Cities. Available from: <https://www.centreforcities.org/publication/net-zero-decarbonising-the-city/>
263. Luton Rising (2022) A Net Zero Strategy for Luton Rising. Available from: [lutonrising.org.uk](https://www.lutonrising.org.uk).
264. Luton Borough Council (2020) Luton's Population Wellbeing Strategy 2019 to 2024. Available from: https://www.luton.gov.uk/Council_government_and_democracy/Lists/LutonDocuments/PDF/CPC/CPC%202020/Population-wellbeing-strategy-2019-2024.pdf
265. Luton Borough Council (2022) Airport. Available from: m.luton.gov.uk/Page/Show/Council_government_and_democracy/Councils/Council%20Departments/Pages/Airport.aspx.
266. Brindle D (2012) Graph of Doom: a bleak future for social care services. The Guardian. Available from: [theguardian.com/society/2012/may/15/graph-doom-social-care-services-barnet](https://www.theguardian.com/society/2012/may/15/graph-doom-social-care-services-barnet).
267. Department for Levelling Up, Housing and Communities (2021) Levelling Up Fund: first round successful bidders. Available from: <https://www.gov.uk/government/publications/levelling-up-fund-first-round-successful-bidders>.
268. McIntyre N, Duncan P, Halliday J. (2022) Levelling-up: some wealthy areas of England to see 10 times more funding than poorest. The Guardian. 2 February. Available from: <https://www.theguardian.com/inequality/2022/feb/02/levelling-up-funding-inequality-exposed-by-guardian-research>.
269. Luton Borough Council (2022) Fairness Taskforce Citizen's Forum.
270. NHS England (2022) Core20PLUS5 - An approach to reducing health inequalities. Available from: <https://www.england.nhs.uk/about/equality/equality-hub/core20plus5/>.
271. NHS England (2022) IIF 2022/23 One page summary for primary care teams: What do I need to do? Available from: [england.nhs.uk/publication/network-contract-directed-enhanced-service-investment-and-impact-fund-2022-23-summary/](https://www.england.nhs.uk/publication/network-contract-directed-enhanced-service-investment-and-impact-fund-2022-23-summary/).
272. Allen J, Allen M (2015) Local Action on Health Inequalities: Using the Social Value Act to reduce health inequalities in England through action on the social determinants of health. Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/local-action-on-health-inequalities-using-the-social-value-act-to-reduce-health-inequalities-in-england-through-action-on-the-social-determinants-of-health>
273. Local Government Association (2015) West Midlands Fire and Rescue Service reaching out to the most vulnerable. Available from: [local.gov.uk/case-studies/west-midlands-fire-and-rescue-service-reaching-out-to-most-vulnerable](https://www.local.gov.uk/case-studies/west-midlands-fire-and-rescue-service-reaching-out-to-most-vulnerable).
274. Reynolds S (2015) West Midland Fire Service given prestigious award. Solihull Observer. Available from: [solihullobserver.co.uk/news/west-midland-fire-service-given-prestigious-award-7017/](https://www.solihullobserver.co.uk/news/west-midland-fire-service-given-prestigious-award-7017/).
275. Marmot M, Alexander M, Allen J, Munro A (2022) The Business of Health Equity: The Marmot Review for Industry. Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/the-business-of-health-equity-the-marmot-review-for-industry>.
276. London Luton Airport. Available from: <https://www.london-luton.co.uk/corporate/community/community-trust-fund>.
277. Office for National Statistics (2019) Health state life expectancies, UK: 2016 to 2018. Available from: [ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/healthstatelifeexpectanciesuk/2016to2018](https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/healthstatelifeexpectanciesuk/2016to2018).

278. Verne J (2014) Liver disease: a preventable killer of young adults. UK Health Security Agency. Available from: <https://ukhsa.blog.gov.uk/2014/09/29/liver-disease-a-preventable-killer-of-young-adults/>.
279. Marmot M, Allen J, Goldblatt P, Herd E, Morrison J (2020). Build Back Fairer: The COVID-19 Marmot Review. The Pandemic, Socioeconomic and Health Inequalities in England. Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/build-back-fairer-the-covid-19-marmot-review>
280. Office for Health Improvement & Disparities (2022) Inhale - Interactive Health Atlas of Lung conditions in England. Available from: <https://fingertips.phe.org.uk/profile/inhale/data#page/1/gid/8000003/pat/15/par/E92000001/ati/401/are/E06000032/yr/1/cid/4/tbm/1>.
281. Public Health England (2021) Local Tobacco Control Profiles - at a glance summary Luton. Available from: <https://fingertips.phe.org.uk/static-reports/tobacco-control/at-a-glance/E06000032.html?area-name=Luton>.
282. NHS (2019) The NHS Long Term Plan. Available from: <https://www.longtermplan.nhs.uk/publication/nhs-long-term-plan/>.
283. Public Health England (2021) Health Equity Assessment Tool (HEAT). Available from: <https://www.gov.uk/government/publications/health-equity-assessment-tool-heat/health-equity-assessment-tool-heat-executive-summary>.
284. Munro A, Boyce T, Marmot M et al. (2020) Sustainable Health Equity: Achieving a Net-Zero UK. Institute of Health Equity. Available from: <https://www.instituteofhealthequity.org/resources-reports/sustainable-health-equity-achieving-a-net-zero-uk/main-report.pdf>.
285. Wilson N (2021) It's time for ESG to incorporate health. Fortune. Available from: https://fortune.com/2021/08/25/esg-companies-health-reporting-legal-general/?utm_medium=social&utm_campaign=fortunemagazine&utm_source=twitter.com&id=soc_socialflow_twitter_FORTUNE.
286. Bambra, Munford, Brown et al (2018) Health for Wealth: Building a Healthier Northern Powerhouse for UK Productivity. Newcastle : Northern Health Science Alliance. Available from: <https://www.thenhsa.co.uk/app/uploads/2018/11/NHSA-REPORT-FINAL.pdf>
287. Buettner D (2016) Reverse Engineering Longevity. Blue Zones. Available from: <https://www.bluezones.com/2016/11/power-9/>.
288. Percival E (2020) Purpose and Why It Needs To Guide All Decision-Making. Beyond Governance. Available from: <https://beyondgovernance.com/news-and-insights/purpose-and-why-it-needs-to-guide-all-decision-making/>.
289. Marmot M et al. (2014) Review of social determinants and the health divide in the WHO European Region. World Health Organisation/Institute of Health Equity. 978 92 890 0030 7.
290. OHID (2021) U75 Mortality. Available from: <https://fingertips.phe.org.uk/search/under%2075%20mortality#page/3/gid/1/pat/6/par/E12000006/ati/401/are/E07000200/iid/108/age/163/sex/4/cat/-1/ctp/-1/yr/3/cid/4/tbm/1>.
291. Office for National Statistics (2019) Population characteristics research tables. Available from: ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationcharacteristicsresearchtables.
292. Department for Environment, Food & Rural Affairs (2022) Emissions of air pollutants in the UK - Particulate matter (PM10 and PM2.5). Available from: <https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-particulate-matter-pm10-and-pm25>.
293. Committee on the Medical Effects of Air Pollutants (2015) Statement on the evidence for the effects of nitrogen dioxide on health. Available from: <https://www.gov.uk/government/publications/nitrogen-dioxide-health-effects-of-exposure>
294. Poursaedi D (2021) Housing First in Luton Headline Report. NOAH. Available from: <https://noahenterprise.org/content/uploads/2021/09/Housing-First-Research-Piece-headline-report-final.pdf>
295. Department for Business, Energy, Industrial Strategy (2021) Sub-regional fuel poverty 2021. Available from: <https://www.gov.uk/government/statistics/sub-regional-fuel-poverty-2021>



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