

Deep Dive:

Review: **Health, Wealth & Wellbeing**

Part of the Lancashire Independent Economic Review



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Executive Summary



A strong, resilient and inclusive economy brings health benefits to its residents, just as good population health is essential to economic prosperity; health and wealth are effectively ‘two sides of the same coin’.¹ Social, economic and environmental determinants contribute to 60% of a population’s health status,² whilst poor health outcomes cost £20-32bn per year in lost taxes and higher welfare payments, up to £31-33bn per year in lost productivity, and £5.5bn in additional NHS health care costs, nationally.³

Improving health has a big economic prize. Analysis by the University of Manchester shows that **poor health accounts for 16.8% of Lancashire’s gap in productivity with the rest of England. Reducing the health gap with the rest of the country would generate £1.4bn additional GVA for the economy per year and reduce demand on public services.** The Heckman Equation demonstrates that there is a 7-10% per year return on investment from early intervention. In some parts of Lancashire, healthy life expectancy is as low as 46.5 years.⁴ By tackling some of the long-term health challenges which prevent the economy from being inclusive, this could ensure that everyone reaches their potential and leads a full working life.

Lancashire is a large, mostly rural county with beautiful open countryside and coastline, with a population of 1.5m which is concentrated predominantly in towns. Like many urban areas and industrial towns around the UK, poor health has long featured in parts of Lancashire’s history, from the crowded housing and dangerous working conditions in the mills and factories of the industrial revolution, through to the long-term health effects caused by mass unemployment during post-industrial decline, and into the present day.

Improving health would generate **£1.4bn** additional GVA per year

Health life expectancy varies by **24 years** across Lancashire

Over a quarter of neighbourhoods in the 10% **most deprived** in England for **health**

Blackburn with Darwen, Burnley & Pendle in **top 10** places with highest number of cumulative **Covid-19 cases**

¹ Productivity and GVA figures provided by University of Manchester using 2016 data.

² Healthy life expectancy is an estimate of the average number of years spent in good health.

³ Metro Dynamics (2017) Health and Wealth: The Inclusive Growth Opportunity for Mayoral Combined Authorities.

⁴ Canadian Institute of Advanced Research (2002) In: Department for Health and Social Care (2019) Advancing our health: prevention in the 2020s. London: Cabinet Office and Department for Health and Social Care.

⁵ Michael Marmot, Jessica Allen, Peter Goldblatt, Tammy Boyce, Di McNeish, Mike Grady, Ilaria Geddes (2010) Fair Society, Healthy Lives: The Marmot Review. London: Institute of Health Equity.

The Covid-19 pandemic has now raised the profile of the health and wealth argument, exposing and exacerbating existing inequalities. Lancashire was under some form of restriction for over a year, significantly impacting businesses and potentially slowing recovery. The most economically deprived areas of the county have had some of the highest Covid-19 infection rates in the country. Lancashire has traditionally seen health and economic policy as separate, and has focused more on addressing poor health than integrated policies or health innovation. **Covid-19 brings an opportunity to transform this approach.**

There are already promising signs of change and links between local stakeholders through NHS reorganisation, the creation of the Integrated Care System (ICS) and Integrated Care Partnerships (ICPs), the forthcoming Health Inequalities Commission, and the development of the Lancashire Local Enterprise Partnership Health and Life Science Sector Group. After a decade of austerity, health and care services have often been focused on acute care, so this is an opportunity to refocus and prioritise prevention and early intervention.

This report looks at four aspects of the relationship between health and economy – summarised below – to better understand the challenges and opportunities in Lancashire.

Health throughout the lifecycle

The Lifecycle Approach provides a high-level diagnostic of where Lancashire and its places are performing well and where there are challenges, which life stages these tend to be in, and across which metrics. This high-level analysis suggests that at the **Lancashire-wide level and across many parts of the county, the lowest performing life stages are Early Years and Working Years.** For the purposes for this report, we use the term early years to describe the early years of a child's life as opposed to a narrower definition of early years provision. In both life stages, health is a significant factor. This analysis also indicates that there are large geographical inequalities with the lowest performance in Blackpool and Pennine Lancashire.

Health inequality in Lancashire

Large health inequalities exist at the borough and local level. **Over a quarter of neighbourhoods are in the top 10% most deprived in England for health,** with concentrations in urban areas, such as Accrington, Blackburn, Blackpool, Burnley, Chorley, Morecambe and Preston, but there are also particular issues with rural areas that are masked by the data.

The analysis also suggests that **poor health is not linked to employment in certain sectors** – this considered manufacturing, construction, primary industries (mining, agriculture and forestry), and retail, as these are sectors which may expect to have an adverse impact on health, due to the physical demands of the work, working conditions and wages. This suggests that other factors such as the social determinants of health and whether you live in an area of high deprivation are what impact health outcomes, not the type of work undertaken.

Across Lancashire, healthy life expectancy can vary as much as 24 years between the best and worst performing areas, and common health problems include cardio and respiratory diseases, cancer, obesity and mental health.

Social determinants of health

Marmot's five social determinants of health – early years, education, work, income and community – have been analysed to better understand the relationship between health and socio-economic factors. Five local authorities perform poorly across four or more of the social determinants, and income is the determinant with the most low ranked performance.

There are strong interdependencies between the social determinants and each shows a mixed to poor performance. This suggests that a holistic approach to economic and social policy will be needed to respond; there is no single factor which determines an individual's life chances.

Some parts of Lancashire are amongst the **worst performing nationally for the performance of children in early years**, despite good levels of high-quality provision. This is a strong determinant of how a place performs in childhood metrics.

High levels of health deprivation are strongly correlated with lower GCSE attainment and lower median wages of residents later in life. Places with **high claimant rates also tend to have high levels of health deprivation and low life expectancy**.

For those in work, low pay is a challenge with over **one in four employee jobs paying below the Real Living Wage**, which is higher than both the regional and national average. Areas with the most jobs earning below the Real Living Wage are typically those with higher health deprivation, and **places with low earnings and higher levels of financial vulnerability also tend to have more pronounced challenges around mental health**.

Housing is a significant challenge across Lancashire with **many residents living in overcrowded and poorly heated homes**. Communities face growing risks to health and wellbeing caused by climate change, especially linked to extreme heat and extreme weather such as floods and windstorms.



Below average school readiness in **9 of 14** authority areas



Largest improvements in **Key Stage 2** attainment in **Blackpool and Blackburn with Darwen**



Claimant count varies from **3.2%** in Ribble Valley to **12.4%** in Blackpool



1 in 4 jobs earn below the **Real Living Wage**



2 in 3 homes in Pendle built **pre-1945** and **15%** households are **fuel poor**

Table 1) Performance across the lifecycle, health deprivation and social determinants

Local authority	Lifecycle		Health deprivation	Social determinants				
	Early Years	Working Years		Early years	Education	Work	Income	Communities (housing)
Blackpool	Red	Red	Red	Red	Red	Red	Red	Red
Blackburn with Darwen	Red	Red	Red	Red	Yellow	Red	Red	Red
Burnley	Red	Red	Red	Red	Red	Red	Red	Yellow
Pendle	Orange	Red	Red	Red	Red	Red	Red	Red
Hyndburn	Orange	Red	Red	Red	Red	Red	Red	Yellow
Preston	Orange	Orange	Red	Red	Yellow	Red	Yellow	Red
Lancaster	Orange	Orange	Red	Yellow	Yellow	Yellow	Red	Red
Rossendale	Orange	Orange	Yellow	Yellow	Yellow	Yellow	Red	Red
Wyre	Orange	Orange	Yellow	Yellow	Yellow	Yellow	Red	Yellow
West Lancashire	Orange	Orange	Green	Yellow	Yellow	Yellow	Red	Yellow
South Ribble	Yellow	Yellow	Green	Yellow	Yellow	Yellow	Yellow	Yellow
Chorley	Yellow	Yellow	Yellow	Yellow	Green	Yellow	Red	Yellow
Ribble Valley	Light Green	Yellow	Green	Green	Green	Green	Green	Red
Fylde	Green	Yellow	Green	Yellow	Yellow	Green	Green	Green

Source: Metro Dynamics analysis

This report provides a signpost as to the importance of early years. **Next, a more granular understanding is needed about the specific problems in any particular area**, including which cohorts and communities are at greatest risk.

For example, within the general measure of school readiness at aged 5, there should also be an understanding of what are the particular issues within Lancashire. There is no one single reason why Lancashire underperforms, but improving this will likely see long term benefits to the residents and economy. It is not simply a case of investing in more preschool places for ages 2+ but rather considering the many contributors to child poverty. Early years provision is important, but only one part of the picture of the broader context of the early years of a child’s life. Many parts of Lancashire have high quality early years provision and good levels of take up. There are other important factors, which shape the life of the child at home for example, including the work available to their parents or carers, the household income level and quality of housing.

Proxy based wider community analysis may also help to identify the issues. **The recent publication of the Leadsom Review, The Best Start for Life, provides an opportunity for Lancashire to offer to pilot some of its recommendations.** Spending and provision alone are important but not sufficient. Both the Early Intervention Foundation and the Leadsom Review advocate for a single place based senior sponsor to lead this area. This could be something for Lancashire to consider.

Early years outcomes do not sit in isolation, and **a focus on employment, quality of work and income, and housing will be required to improve outcomes for people in their working years**, as well as for children and older people. **Tackling these multidimensional challenges will require transformational programmes that bring together different agencies at the place level to implement change.** Supporting people in poor health and potentially with complex problems will only work by joining up health, employability and other services. Businesses and other employers have an important role to play here in providing quality jobs with fair wages, contracts and good in-work health practices. Improving the quality of housing through a retrofit programme has the ►

- ▶ potential to improve health and residual income, whilst reducing carbon emissions. If aligned with skills and employability programmes, it also has potential to create quality job opportunities, which could be targeted at young people or those out of work.

Health innovation

The fourth area of health considered in the report is the current role and potential of health innovation to bring investment and new jobs, boost productivity, and improve the health of residents. Covid-19 has accelerated activity and advancements in health innovation, but this is an area where Lancashire could go further, faster. From the interviews undertaken for this report, it appears that **Lancashire is still finding its USP**. A priority to be taken forward should be for Lancashire to be **proactive in taking a more strategic, systematic and joined up approach to determine its health innovation focus and progress work with neighbouring areas to tackle common health problems**.

During Covid-19, health service delivery has shifted online, manufacturing firms have switched production to PPE and ventilator parts, and SMEs are pursuing opportunities in digital health. Partners across the county are gearing up to do more, such as through the Lancashire Enterprise Partnership Health and Life Science Sector Group, North West Coast Clinical Research Network and work in population health within the ICS and ICPs. Major investments and projects include the Lancaster Health Innovation Campus, University of Central Lancashire (UCLan) Health Innovation Programme and Royal Blackburn Hospital Medi-Knowledge Park.

With 68% of Innovate UK health research funding channelled to the 'golden triangle' of London, the South East and East of England, **Lancashire receives a relatively low share (0.17%)**, and there is more opportunity in particular for process innovation. **The county has a large and growing health sector, major hospitals, medical schools and universities, strengths in the training of allied health professionals and proximity to pharmaceuticals and life sciences in neighbouring regions**. It also has a large, stable and diverse population, which has poor health outcomes and is spread over a large and diverse geography.



<1 % Innovate UK funding to Lancashire over last 10 years



5% patent applications in medical technology



Over 74,000 jobs in health with **11% growth**



3 universities and medical schools

Health innovation brings opportunities to improve health outcomes and reduce inequalities across Lancashire. With a large health sector and strengths in population health, there is the potential to **codevelop holistic solutions to poor health and related challenges at the community level, improve the management of ill-health within the community through service and pathway reform and clinical trials, and develop new approaches in digital, devices and diagnostics testing**. Working within a complex health landscape of ICPs, NHS Trusts and Clinical Commissioning Groups (CCGs), if Lancashire could develop a model to develop and scale health innovation, this could be applied and rolled out elsewhere.

Moving forward

Progressing thinking and action across these priority areas require systems thinking, long-term investment, strong partnerships and leadership that prioritises early years and early intervention coordinated across all agencies with an interest. Health should be at the heart of economic strategy, recovery and levelling up, with strong monitoring processes in place to measure impact. By leading an ambitious health and wealth approach, Lancashire can ensure it builds back better, closing the 16.8% gap in lost productivity due to ill health, and level up Lancashire residents' life chances.

There are five potential priority areas with a set of recommendations for the Independent Economic Review, Health Inequalities Commission and Health and Life Science Sector Group to consider – these are developed in more detail in Section 6 of the report.

Health at the heart of economic strategy, recovery and levelling up

Lancashire should develop a strong foundation to transform Lancashire's health and wealth agenda through evidence, strategy, measurement, governance and leadership.

1. Develop a more in-depth understanding of key areas
2. Embed health in the Greater Lancashire Plan
3. Make Lancashire a national leader in measuring impact
4. Strengthen governance and leadership, including a Start for Life leader

Systems change and planning

Lancashire should build on the good work to date on multi-agency collaboration and joint working to develop systems approaches to improving health.

5. Adopt a systems approach to health and wealth
6. Develop the Anchor Institution Charter

National exemplar health and wealth projects

This analysis has demonstrated that there are challenges linked to particular life stages and social determinants, which Lancashire should aim to address through the design, delivery and evaluation of targeted interventions.

7. Consider where Start for Life and Family Hubs could be beneficial
8. Increase health & work programmes to support working age adults to enter and remain in employment
9. Increase Lancashire Lifelong Learning offer
10. Develop a Good Work Charter
11. Deliver a housing retrofit scheme
12. Codevelop high quality, liveable and connected neighbourhoods

Prevention and early intervention

It is important to incentivise longer-term investments in preventative measures that reduce the risk of developing ill health and disease, and support behaviours that improve health.

13. Set up a Prevention Fund

Lancashire's USP in health innovation

Lancashire should consolidate and co-ordinate activity by different partners across the county to develop its health innovation USP, refine its focus and think through how it collaborates and works with neighbouring regions.

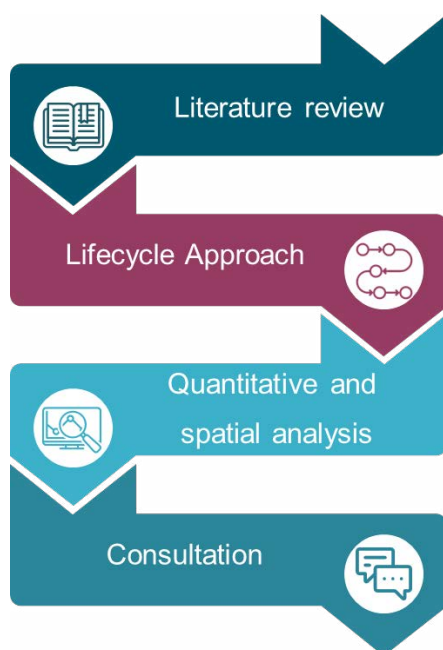
14. Develop Lancashire's health innovation opportunities and strengths
15. Establish a Health Innovation Network
16. Connect existing health innovation hubs

Introduction

The Health, Wealth and Wellbeing deep dive is one of a series of in-depth research reports as part of the Lancashire Independent Economic Review. This is an important area of focus for Lancashire, as health deprivation was identified as a key challenge in the 'Taking stock: an audit of Lancashire's economy in 2021' report, and the Covid-19 pandemic has highlighted significant health inequalities across the county. The deep dive also considers the opportunity health innovation brings to improve productivity, reduce poor health and build strong relationships between Lancashire and the wider North West region.

Approach

Developing this deep dive has involved a combination of desk-based research, quantitative and spatial analysis, and stakeholder engagement. The insights from the evidence and conversations have been drawn together to develop a local narrative and set of findings, with ideas of how Lancashire should take this forward.



A review of the national research on prevention, health and wealth has been carried out to contextualise this deep dive in the wider thinking in this area, and to develop the framing for the analysis. At the local level, strategies from the upper-tier public health departments, the ICS and ICPs have been reviewed to develop a sense of existing priorities, work and programmes. Economic and innovation reports and strategies have also been reviewed.

The Lifecycle Approach has been used as a high-level diagnostic to define the anatomy of the challenge across five life stages in Lancashire as a whole and all districts and unitary authorities. This has been used to build a picture of which parts of Lancashire are lowest performing, in which age groups and by thematic area.

Quantitative and spatial analysis has been carried out to understand other aspects of the relationship between health and the economy. This has included an overview of health inequalities across Lancashire. The five social

determinants of health from The Marmot Review have been applied as a framework to analyse the challenges in Lancashire, using data on education, skills, employment, wages and housing quality. Analysis has also been carried out into health innovation using patent data, Innovate UK, university research funding, and employment and business data. Both the social determinants and health innovation analysis has been supplemented by desk-based research into case study examples.

Interviews have been conducted with a range of organisations, including upper-tier public health departments, Lancashire and South Cumbria ICS, ICPs, CCGs and various universities. These conversations have been used to gather insights and test emerging findings about the lifecycle, poor health, the social determinants and innovation.

Health and productivity

In 2018, the Northern Health Science Alliance (NHSA) published a report on health and productivity.⁴ This report, commissioned by the NHSA, involved a collaboration of academics from the Universities of Manchester, Newcastle, Lancaster, Liverpool, Sheffield and York. It focuses on the impact of poor health on productivity in the North, as there is a £4 per person per hour productivity gap between the Northern Powerhouse and the rest of England, and life expectancy is two years lower in the North than the rest of England.

The key finding from the report is that 30% of the £4 per person per hour gap in productivity between the North and rest of England is due to ill-health. Long-term ill health can lead to economic inactivity by increasing the risk of job loss and leading to lower wages. Reducing this gap would generate an additional £13.2bn in Gross Value Added (GVA) to the UK economy.



The University of Manchester

This analysis has been replicated at the Lancashire level to support the Independent Economic Review by University of Manchester academics. By estimating the economic cost of poor health in the county, **this has shown that 16.8% of the gap in productivity between Lancashire and the rest of England is explained by poor health.** Health makes up a lower proportion

of the gap in Lancashire than the Northern average due to the inequality across the county in terms of economic output and health, with some places performing relatively well and others performing poorly.ⁱⁱⁱ **Improving health outcomes in Lancashire to English averages would generate an extra £1.4bn in GVA per year.**

Structure

This report is crucially not a study of poor health in Lancashire, instead it focuses on the links between health and the economy. This report looks at four aspects of this relationship:

- **Health throughout the lifecycle** – the socio-economic challenges facing people in Lancashire across five stages of life: Early Years, Childhood, Young Adults, Working Years, and Older Years.
- **Health inequality in Lancashire** – how health outcomes vary across Lancashire and the geographical patterns of Covid-19 cases.
- **Social determinants of health** – how health is impacted by performance in early years, education, work, income and housing, and in turn how poor health impacts life chances and prosperity.
- **Health innovation** – Lancashire's strengths and the opportunities to create new jobs, boost productivity growth, and address health challenges, through the lenses of ideas and investment, industry, infrastructure, implementation and impact.

The final section, **Main findings for the Independent Economic Review**, brings together the key findings from the above four sections and sets out potential areas of focus and priority for Lancashire.

ⁱⁱⁱ Please note, a breakdown at the local authority level cannot be provided, due to a lack of robustness in the data.

⁴ Bamba, Munford, Brown et al (2018) Health for Wealth: Building a Healthier Northern Powerhouse for UK Productivity. Newcastle: Northern Health Science Alliance.

Health throughout the lifecycle



The first aspect reviewed to better understand the relationship between health and the economy is how health varies across the lifecycle. The Lifecycle Approach has been used to carry out a high-level diagnostic of the economic and social challenges facing people in Lancashire. This looks at outcomes for people in five different stages of life: Early Years, Childhood, Young Adults, Working Years and Older Years. It considers socio-economic indicators across the themes of education, skills, work, housing, deprivation and health.

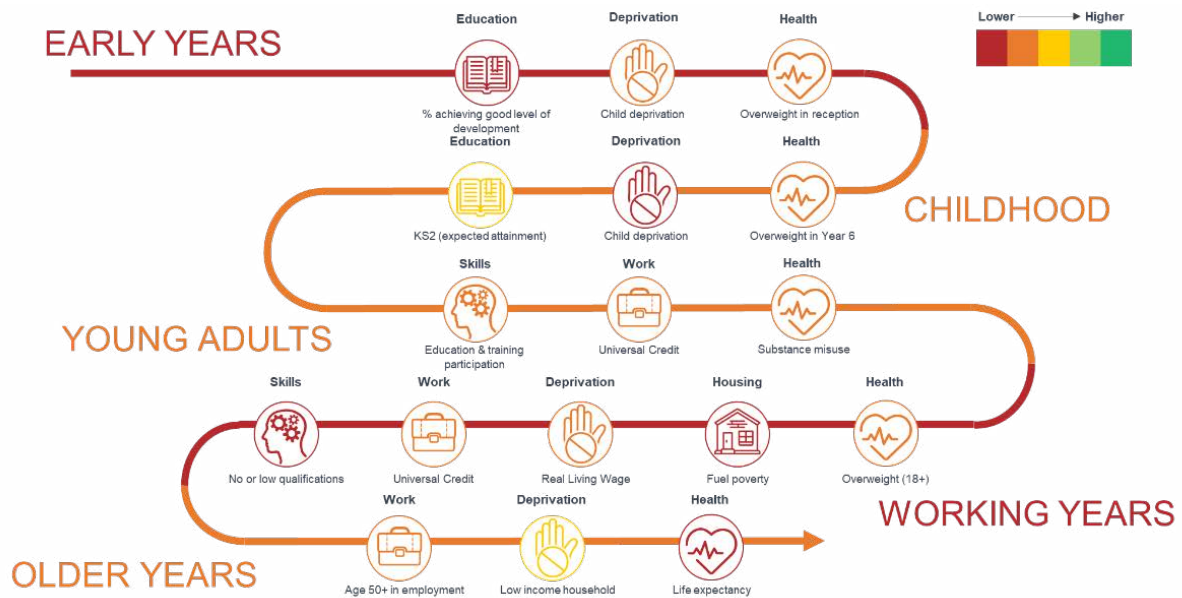
Data has been compared for local authorities across England to rate the values into five categories from 'red' (worse) to 'dark green' (best)^{iv}. This has involved ranking values for the indicators, and then the overall life stages, based upon a combined score of all the indicators in that life stage.

A Lancashire wide view

Figure 1 shows the lifecycle for Lancashire as a whole. Lancashire performs relatively poorly across all life stages with worse outcomes for its people than the national average. It has the lowest Red-Amber-Green (RAG) rating of 'red' for Early Years and Working Years, whilst the other life stages are the second lowest RAG rating of 'orange'. All indicators are rated in the lowest three RAGs, with the lowest performance for school readiness, child deprivation, skills levels in working years, housing, and health for older people.

^{iv} For the methodology used throughout the lifecycle analysis see Appendix 1. We have compared all English local authorities. For each metric, the range has been divided into five categories, equally split between the 10th and 90th percentiles. These are then grouped into either the highest ('dark green') or lowest ('red') categories. The difference between RAG ratings may be relatively small.

Figure 1. Lancashire through the lifecycle ^v



Source: Metro Dynamics analysis

There are three lenses to view the lifecycle, each of which has been examined in turn:

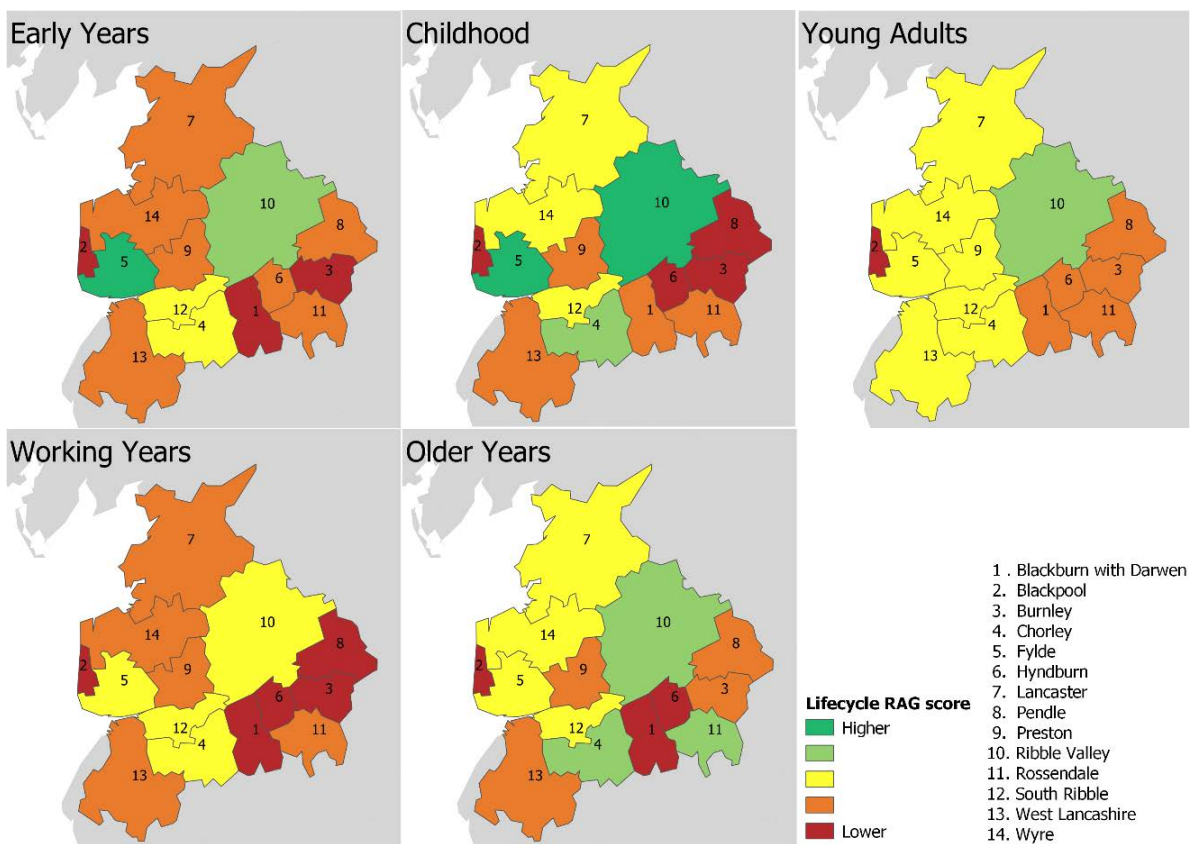
1. **Geography** – spatial patterns and differences between places
2. **Life stage** – performance of places across the five stages of the lifecycle
3. **Theme** – challenges by theme either within one place or across different places and/or in one life stage or across the lifecycle

^v Where an average of Lancashire is given, this refers to the 12 districts and two unitary authorities, unless footnoted.

Lens 1: Geography

The maps in Figure 2 below show the outcome of the lifecycle analysis at the place level in Lancashire for each life stage. This shows that there are clear spatial patterns in Lancashire. East Lancashire and western parts of the county, including West Lancashire and Blackpool, have the most significant challenges, typically ranking in the two lowest RAG ratings. Blackpool has the lowest RAG rating across every life stage.

Figure 2. Lifecycle performance across Lancashire local authorities ^{vi}



Source: Metro Dynamics analysis

Ribble Valley performs the best with the highest RAG rating ('dark green') for Childhood and the second highest RAG rating ('light green') for Early Years, Young Adults and Older Years. There are particular challenges associated with living in rural areas, such as poor transport connectivity, not picked up in this analysis, and deprivation tends to be hidden by the data. Some parts of Central Lancashire, such as Chorley and Fylde, perform well across most life stages.

^{vi} Please note district level data for school readiness has been provided since 'Taking stock: an audit of Lancashire's economy in 2021' was published, so performance in Early Years at the district level has changed for some places and is more varied.

Lens 2: Life stage

Lifecycle analysis across places in Lancashire (as shown in Figure 2) reiterates the point at the Lancashire wide level that performance is lowest for Early and Working Years, as the majority of places score within the lowest three RAG ratings. Most places perform similar or slightly better in Childhood to Early Years, except for Hyndburn and Pendle. Most of Lancashire has an average performance for Young Adults with lower scores in East Lancashire and Blackpool, and higher in Ribble Valley.

Some places are more changeable in their performance across the lifecycle. Rossendale bucks the trend for Pennine Lancashire by performing well for Older Years, despite performing in the lowest two RAG ratings for the other life stages. Fylde has the highest RAG rating for Early Years and Childhood, but has an average performance for all other life stages.

Lens 3: Theme

Looking at performance in the thematic areas by life stage across Lancashire shows that health is a significant challenge. Table 2 shows that for those places which are the lowest performing in a life stage (i.e. have a 'red' RAG rating), poor health outcomes (i.e. either 'red' or 'orange' RAG rated) are consistently a factor. This is the case in Blackburn with Darwen and Blackpool across all life stages, as well as Burnley, Hyndburn, Pendle, Rossendale and West Lancashire.

Even for places that are not the lowest performing for a life stage, health is a challenge. Health may be 'red' RAG rated even if the life stage is not. Examples include Rossendale for Early Years and Childhood, Wyre for Working Years and Burnley, Lancaster, Pendle, Preston and Rossendale for Older Years. Education and skills are another area where there are challenges, suggesting that school readiness in Early Years and skills among the labour force could be an area of focus.

Table 1) Towns in Lancashire by size (ONS definition)

Local authority	Early Years		Childhood Years		Young Adults		Working Years		Older Years	
	Overall	Health	Overall	Health	Overall	Health	Overall	Health	Overall	Health
Blackburn with Darwen	Red	Orange	Orange	Orange	Red	Orange	Red	Orange	Red	Red
Blackpool	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Burnley	Red	Red	Red	Red	Orange	Red	Red	Red	Orange	Red
Chorley	Yellow	Yellow	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Yellow
Fylde	Green	Green	Green	Green	Orange	Orange	Orange	Orange	Red	Yellow
Hyndburn	Orange	Green	Red	Orange	Orange	Yellow	Red	Red	Red	Red
Lancaster	Orange	Orange	Yellow	Yellow	Green	Yellow	Orange	Yellow	Yellow	Red
Pendle	Orange	Orange	Red	Orange	Orange	Orange	Red	Yellow	Orange	Red
Preston	Orange	Yellow	Orange	Yellow	Yellow	Yellow	Orange	Orange	Red	Red
Ribble Valley	Green	Yellow	Green	Green	Green	Yellow	Yellow	Green	Green	Green
Rossendale	Orange	Red	Yellow	Red	Orange	Yellow	Orange	Orange	Green	Red
South Ribble	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
West Lancashire	Orange	Red	Orange	Orange	Green	Yellow	Orange	Orange	Orange	Yellow
Wyre	Orange	Orange	Orange	Yellow	Orange	Yellow	Orange	Orange	Yellow	Orange

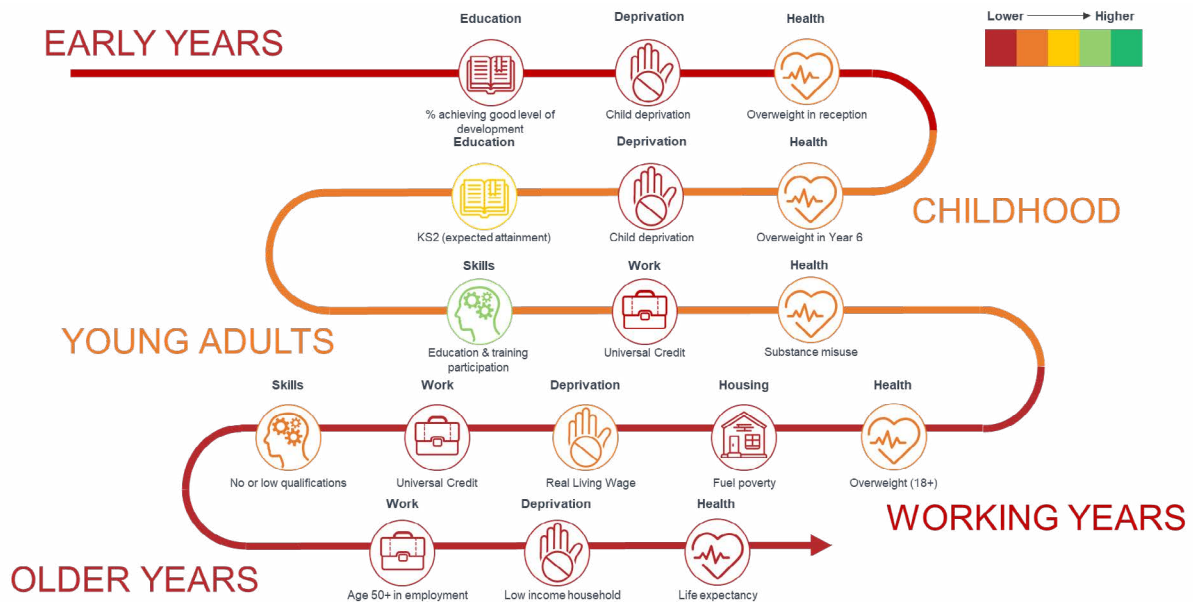
A place view

To examine these three lenses (geography, life stage and theme) an in-depth view has been taken for five places. These represent different types of places, including former mill towns, coastal towns and more rural geographies with a smaller city. There is a geographical spread across Western, Central and East Lancashire. These places tend to perform poorly across most metrics or are otherwise more variable in how they perform. For lifecycle analysis of all places, see Appendix 2.



Spotlight on Blackburn with Darwen

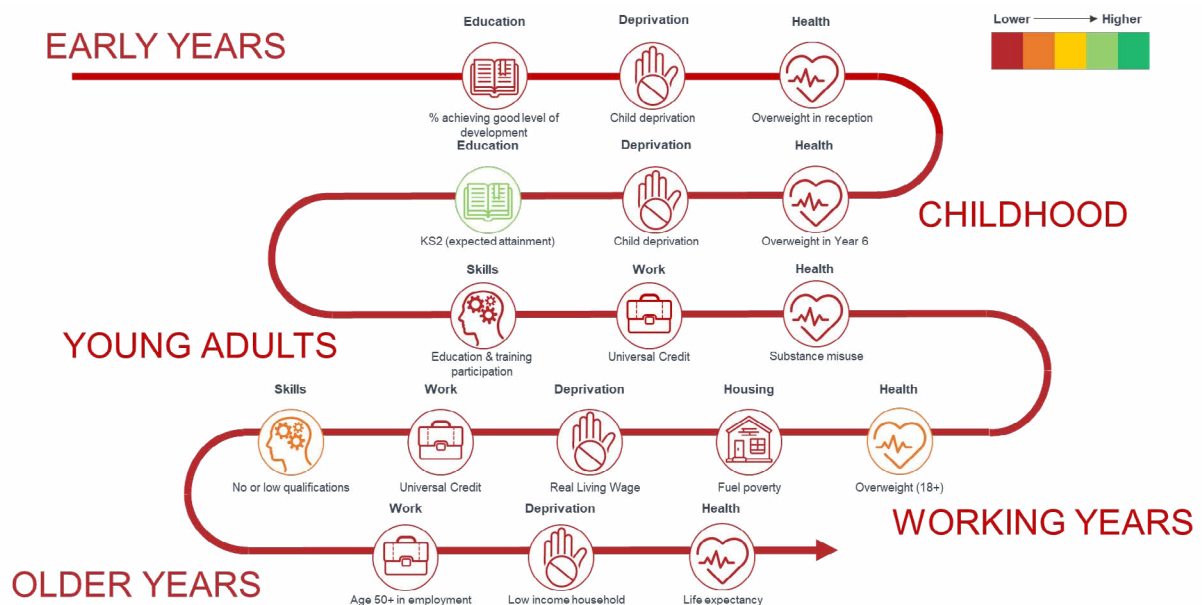
Like other places in East Lancashire, Blackburn with Darwen performs comparably poorly compared to other local authorities across the lifecycle, particularly in Early Years, Working Years and Older Years. A below average share of five year olds have a good level of development (66.3%), 22% of neighbourhoods are among the most child impoverished in the country (twice the national average) and 11.1% of reception aged children are overweight. There are signs of improvement in education and skills. Educational attainment at Key Stage 2 is around average (66.2%) and Blackburn with Darwen performs well for participation in education and training, but health remains poor across Childhood and Young Adults. The district is part of the “Moving On” scheme which supports young people who are at risk of becoming Not in Education, Employment or Training (NEET) and those who are already NEET, supporting them and improving their education, employability and personal skills. Priority is given to certain settlements in each district in Lancashire, for which Blackburn with Darwen has three. Around 28% of employee jobs earn below the Real Living Wage. It is possible that this may shift in time if the current cohort of children and young people are supported later on in their lives into sustainable and quality employment, for instance through work placements or apprenticeships. Life expectancy is low at 76.7 for men and 81.1 for women.





Spotlight on Blackpool

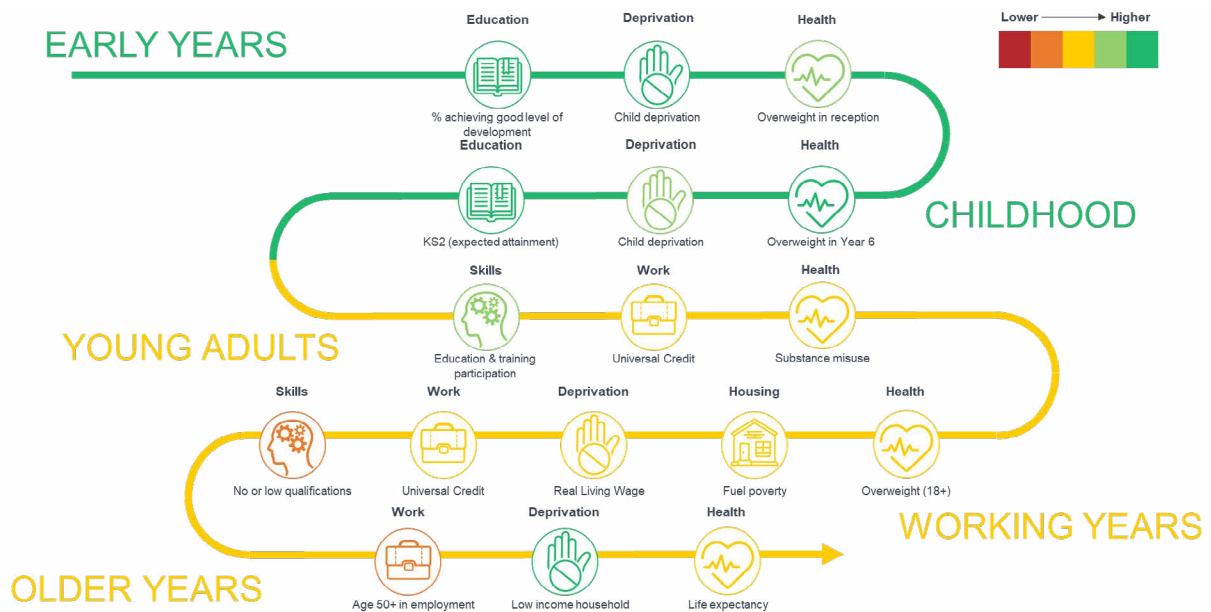
Blackpool is one of three places in England, along with Knowsley and Middlesbrough, that has the lowest RAG rating ('red') across all life stages. These places follow a similar trajectory, performing poorly in Early Years and Older Years, but with more variation in performance between these life stages. Over 30% of neighbourhoods are among the worst performing in the country for child poverty (three times the national average). Health amongst children is poor with 12.6% of children overweight in reception (9.9% nationally), rising to 28.6% by Year 6, the fourth highest in the country. Selected as one of 12 Opportunity Areas by Government to raise education standards, Blackpool has made improvements in school attainment since 2016 and performs well at Key Stage 2 with 70% of pupils achieving the expected standard in reading, writing and maths (65% nationally). A priority in recent years has been maintaining this performance at secondary school, through to post-16 education and work. Blackpool has twice the proportion of 16-24 year olds claiming Universal Credit than the national average, a lower proportion of 16 and 17 year olds in education or training (79%) compared to 92% nationally, and the highest levels of hospital admissions due to substance misuse for 15-24 year olds in the country. This suggests that early intervention with children and young people could be a priority. Many residents have no or low skills and one third of employee jobs are below the Real Living Wage (nationally, this is 20.3%). Blackpool has the lowest life expectancy for men in the country (74.7) for men and second lowest for women (79.8).





Spotlight on Fylde

Children in Fylde have a good start in life. There are lower levels of child deprivation than other parts of Lancashire, and good educational attainment with 76.5% reaching a good level of development at age five and 72% of Key Stage 2 pupils meeting expected standards in reading, writing and maths. A lower than average proportion of both reception age children (8.3%) and Year 6 children (15.8%) are overweight. This lays a good foundation for young people with high levels of young adults in education, employment or training (92.2%) and relatively low levels of substance misuse. Fylde perform comparably strongly across most metrics in Working Years relative to other parts of Lancashire, but lower skills levels may be caused by an out migration of young people. Fylde has an ageing population and as Fylde Coast ICP recognise in their Call for Evidence response, “those with high skills and education are likely to migrate to large cities such as Liverpool or Manchester” for skills and employment opportunities. Along with Wyre, Fylde has the lowest proportion of under 15s in Lancashire (15%) and the highest proportion of over 65s (28%).⁵ There are relatively few low income households amongst older residents, but Fylde does not perform as well for Older Years as other rural and coastal areas that may be destinations for wealthy retirees, such as Ribble Valley, Craven and South Lakeland.

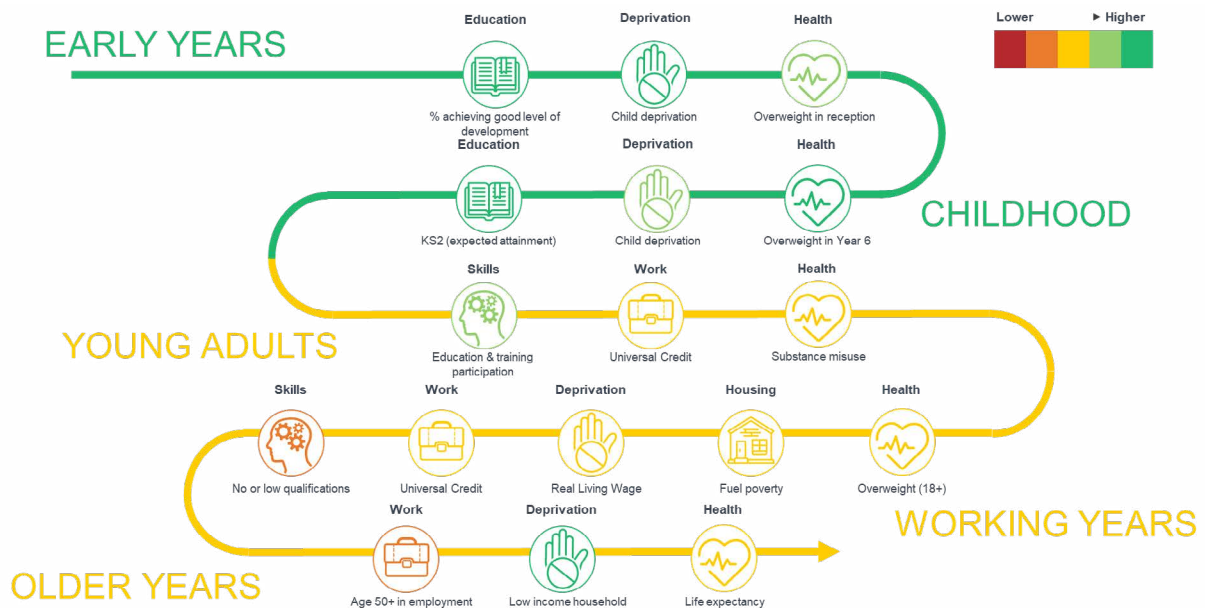


⁵ Lancashire Enterprise Partnership (2021) Local Industrial Strategy: Evidence Base – 2020 Refresh.



Spotlight on Lancaster

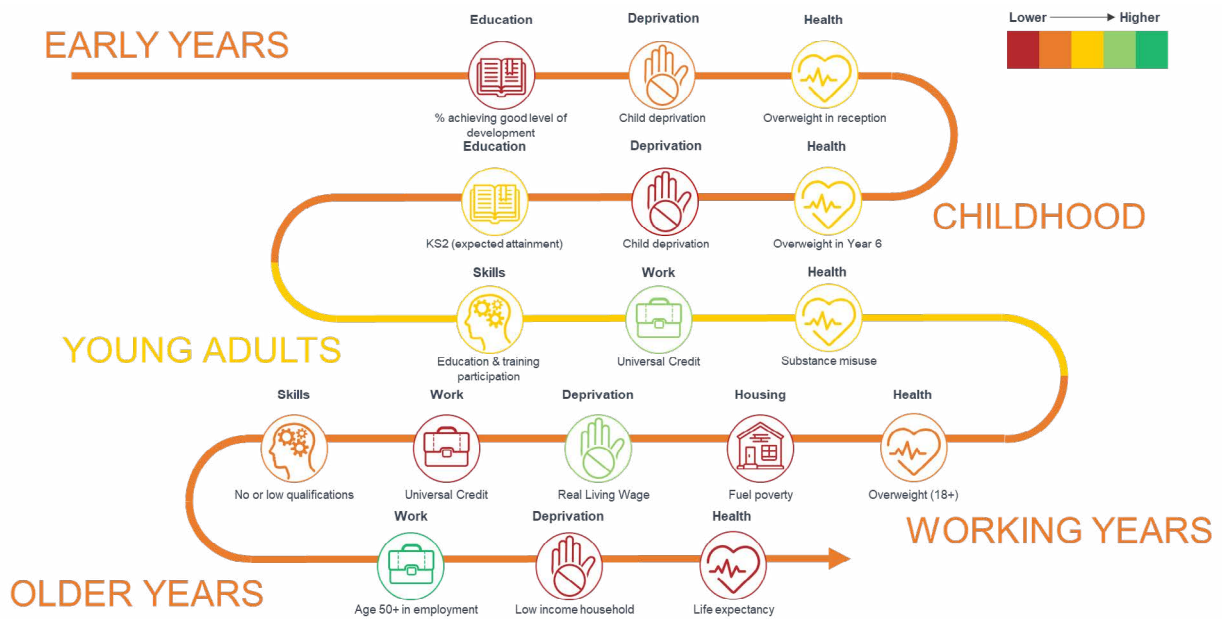
In Lancaster, there is a similar trend to other places with a university city in that it performs relatively well for Young Adults with lower levels of Universal Credit claimants (10,196 claims per 100,000) compared to the national average (14,513 claims per 100,000) and good health. Performance across Early Years and Childhood is relatively low with lower levels of school readiness (70.1%) and higher levels of children overweight in reception (10.4%) than the national average (9.9%). The proportion of young people in education, employment or training (92.2%) is lower than other parts of Lancashire, which suggests that young people who grow up in the area do not directly benefit from the high quality higher education offer available in the city of Lancaster. The low performance in various of the Working Years metrics suggests that Lancaster struggles to retain its highly skilled student base, perhaps due to a lack of economic opportunity in the area. Performance for Older Years is middling, but with slightly lower life expectancy of 78.1 for men, compared to the national average of 79.5, and 81.9 for women, compared to 83.2 nationally.





Spotlight on Preston

Over the past ten years Preston has championed quality work, with the City Council and almost 50 employers committing to paying the Real Living Wage. This is reflected in the lifecycle with 19.2% earning below the Real Living Wage compared to 27.2% across Lancashire and 20.3% nationally. However, this has not yet translated into lower levels of deprivation for children with 20% of neighbourhoods among the most child impoverished in the country. This may be caused by barriers to work for parents. Health in Preston deteriorates across the lifecycle with middling performance in Early Years and Childhood, but higher rates of overweight adults (64.3%) than the national average (62.3%), and life expectancy of 77.4 years for males and 81.3 for females, both of which are two years lower than the national average.



Where next?

The Lifecycle Approach gives a snapshot and high-level indication of where Lancashire and its places are performing well – for example in Fylde – and where there are potential areas which require further investigation. This analysis suggests three areas for further work:

- **Geographical inequalities** – with the lowest performance for outcomes across the lifecycle in Blackpool and Pennine Lancashire.
- **Early Years** – Lancashire as a whole has a ‘red’ RAG rating and the majority of places score within the lowest three RAG ratings. Blackburn with Darwen, Blackpool and Burnley have the lowest RAG ratings, whilst Ribble Valley and Fylde perform well.
- **Working Years** – this life stage has the lowest RAG rating at the Lancashire level, as well as in Blackburn, Blackpool, Burnley, Hyndburn and Pendle. All other places are either RAG rated ‘orange’ or ‘yellow’.

This next section looks in more detail at the first of the three areas – geographical inequalities in health outcomes across Lancashire. The following section will look at early years and working years as part of the wider determinants of health.

Health inequality in Lancashire



The second aspect reviewed to understand the relationship between health and the economy is looking at the health inequalities within Lancashire at local geographical levels. Poor health and more people out of work have a significant cost to the UK economy, including £20-32bn per year in lost taxes and higher welfare payments, up to £31-33bn per year in lost productivity, and £5.5bn in additional NHS health care costs, nationally.⁶

Health inequality between the North and South is well documented in the Northern Health and Science Alliance (2018) report and Due North Inquiry on Health Equity in the North (2014).⁷ This section analyses the geography of health deprivation and variation in health outcomes at the local level. It also shows how deprivation and poor health have been significant factors in where Covid-19 cases have been highest.

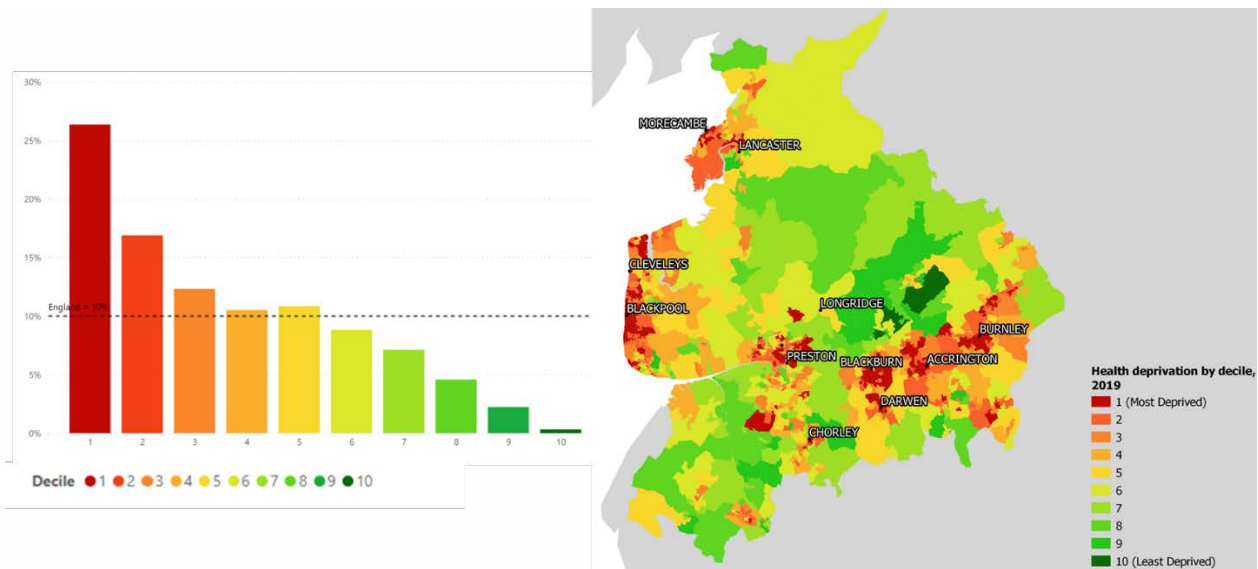
⁶ Michael Marmot, Jessica Allen, Peter Goldblatt, Tammy Boyce, Di McNeish, Mike Grady, Ilaria Geddes (2010) Fair Society, Healthy Lives: The Marmot Review. London: Institute of Health Equity.

⁷ Bamba, Munford, Brown et al (2018) Health for Wealth: Building a Healthier Northern Powerhouse for UK Productivity. Newcastle: Northern Health Science Alliance. University of Liverpool and Centre for Local Economic Strategies (2014) Due North: Executive summary report of the Inquiry on Health Equity for the North.

Overview of health deprivation

Lancashire has some of the highest levels of health deprivation in the country. The Index of Multiple Deprivation shows that over a quarter of neighbourhoods are in the top 10% most deprived in England for health, with concentrations in urban areas, such as Accrington, Blackburn, Blackpool, Burnley, Chorley, Morecambe and Preston (see Figure 3). This is particularly acute in Blackpool and Blackburn with Darwen where nearly half of the resident population is within the top 10% most health deprived in England. Of the 20 most deprived neighbourhoods in the country, 11 are in Blackpool and two are in Burnley.

Figure 3. Neighbourhoods in each English decile of deprivation and health deprivation across Lancashire



Source: MHCLG Index of Multiple Deprivation (2019)



Case Study: Lancashire and South Cumbria Health Inequalities Commission

The Health Inequalities Commission responds to the presence of health inequalities in Lancashire and South Cumbria with areas of significant deprivation, poor housing, high levels of long-term conditions and poor mental health. Covid-19 has highlighted and worsened these inequalities, and the economic impacts of the pandemic are likely to increase deprivation and demands for health and care services.

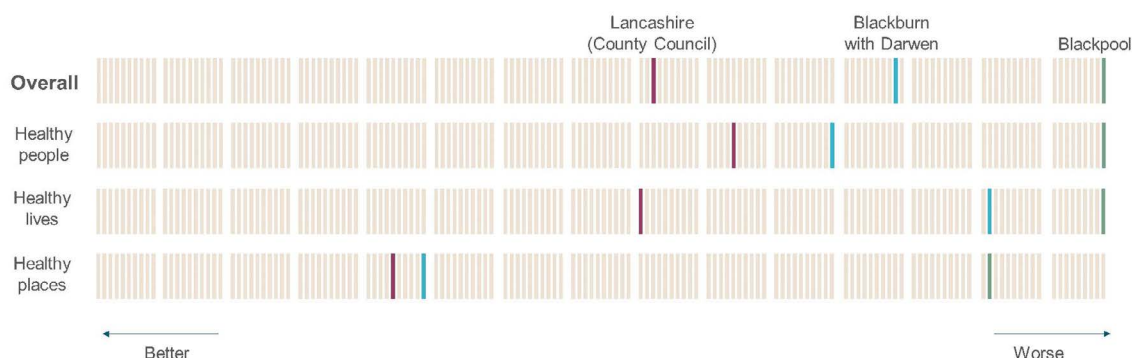
This brings opportunities to design and deliver responses to mitigate the impact of the pandemic and protect the most vulnerable people, and to build an infrastructure that is focused on population health and improving outcomes. The NHS can build on the common purpose developed through the Covid-19 response to take action with local authorities, the Voluntary, Community, Faith and Social Enterprise sector, residents and businesses. There is also potential for the health and care system to use its collective power and resources as a major employer and purchaser to support recovery, sustainable employment opportunities and raised aspirations.

The ICS is supporting a Health Inequalities Commission to drive forward work on population health management and tackling health inequalities. The Commission will use evidence and experience of local people to generate a mandate to tackle health inequalities, complementing the analysis in this report. The process will involve a call for evidence including feedback from communities, a review of the data, engagement with citizens and services through public meetings, focus groups and digital platforms, four meetings to review the evidence and make recommendations, and a Health Inequalities Summit to agree the mandate and way forward. This will develop a total system and place approach to shared goals, insights and initiatives. Professor Michael Marmot and the Health Equity Institute will support the Commission.

In the ONS Health Index, which ranks all upper tier English authorities, Lancashire performs in the bottom half of the index, with Blackpool the poorest performing place nationally (**see Figure 4**). The County Council area, Blackburn with Darwen and Blackpool perform poorly for the healthy people measure, which considers mortality, physical and mental health. Some of the common health conditions and diseases are considered in more detail below.

The three local authority areas also perform poorly for healthy lives, which includes working conditions, behavioural risk factors and unemployment. Lancashire and Blackburn with Darwen perform better for healthy places, reflecting good access to green space, lower air and noise pollution, and access to healthcare. This suggests that whilst much of the area may have good physical assets, this is not enough to support resident health and that to improve health outcomes, investment must also be targeted at social infrastructure.

Figure 4. Rankings of upper tier/unitary authorities in England by Health Index outcomes



Source: ONS Health Index for England in 2018

Rural health deprivation

Around 80% of Lancashire is rural with a dispersed population. Ribble Valley, the district which covers much of the Forest of Bowland Area of Outstanding Natural Beauty is the largest in terms of size (5.8m km²) and smallest in terms of population (60,888 people). Rural areas tend to have older populations, with 24.0% aged over 65 years in Ribble Valley, compared to 20.1% in Lancashire and the UK average of 18.5%.⁸

Often deprivation datasets hide the invisible problem of high deprivation and poor health in rural areas, as the data is not granular enough to identify pockets of deprivation amongst rural affluence.⁹ Common issues include social isolation, old age frailty and poor access to healthcare, due to a lack of transport and centralised health services. In their Call for Evidence response, CPRE state that a cause of poverty and social isolation can be “physical rural isolation if people have no means of connecting with towns nearby”. People in rural communities are often asset rich and cash poor, with older residents living in larger homes that are costly to run and maintain, leading to fuel poverty and poor health.

Lancashire is already aware of rural issues, with various interviewees referencing the issues and highlighting some of the ways which are already being deployed to address this. For example, Bay Health and Care Partners have taken an innovative approach to community health by testing people’s blood pressure at livestock auctions. Going forward approaches such as these, alongside digital health solutions, will continue to be used to address rural deprivation and health.

Common health conditions

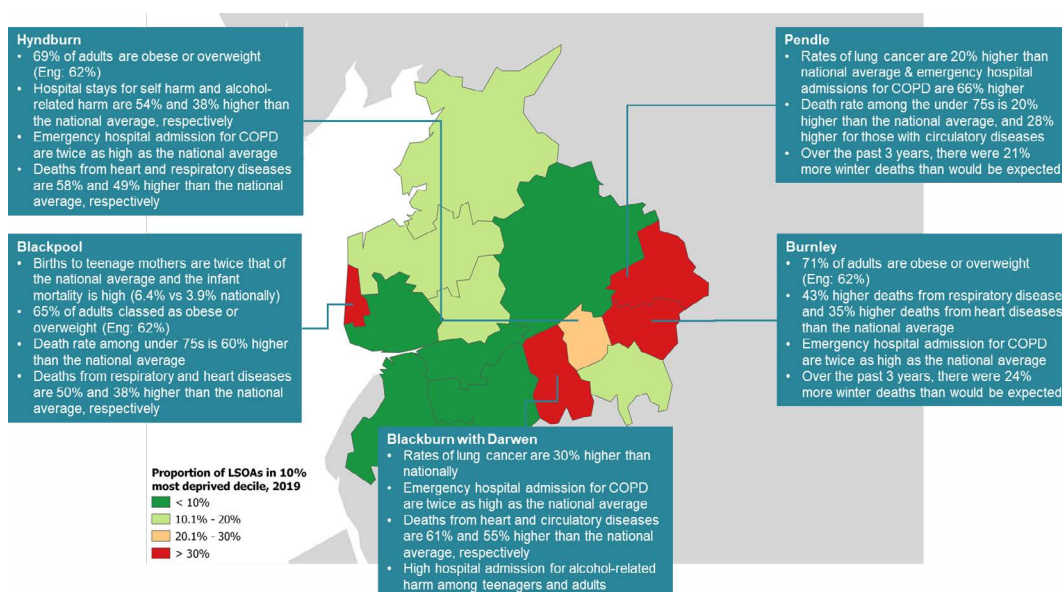
Figure 5 summarises some of the major health challenges experienced by residents in five of the most health deprived places. These local authority areas have upwards of one fifth of their neighbourhoods in the 10% most deprived nationally. This is not to say that the other local authority areas do not have deprivation. As Figure 3 has shown, health deprivation is common throughout Lancashire, but rather the areas shown in Figure 5 have the highest concentrations. ►

⁸ Lancashire Enterprise Partnership (2021) Local Industrial Strategy: Evidence Base – 2020 Refresh.

⁹ LGA and PHE (2017) Health and wellbeing in rural areas.

- ▶ Health challenges differ across these five local authority areas, but common problems include cardio and respiratory disease, cancer and obesity. Many of these health conditions are caused by behavioural and lifestyle choices, emphasising the importance of encouraging health behaviours, an ICS priority. Underlying health has been an important factor in the pandemic with 90% of those who died having significant prior poor health.¹⁰

Figure 5. Major health challenges



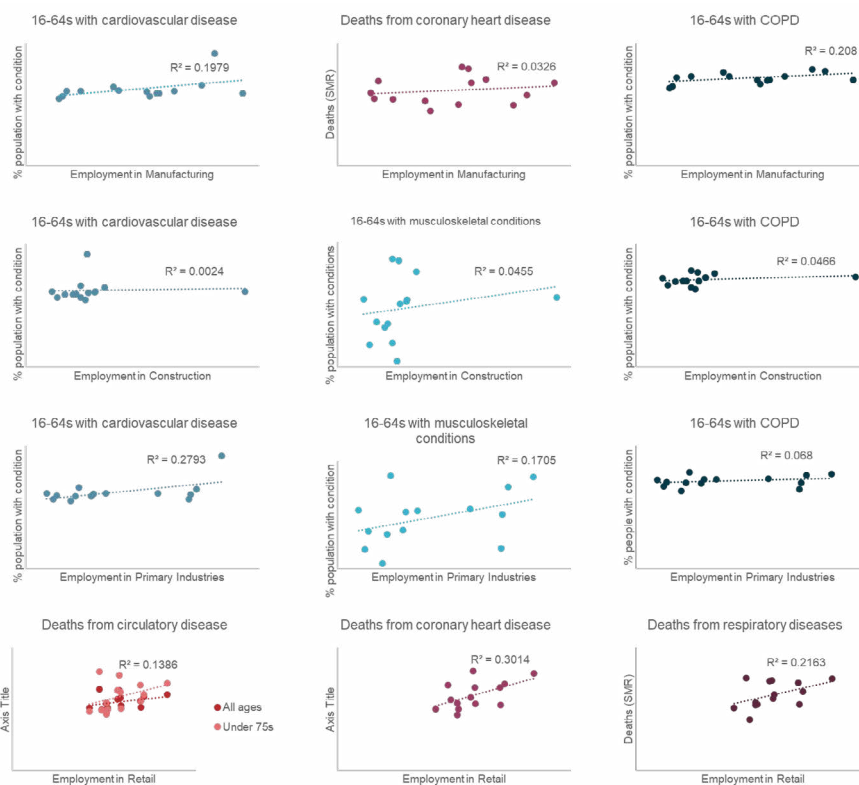
Source: PHE (various) and MHCLG (2019)

Analysis was carried out to determine the relationship between the prevalence of certain health conditions, such as cardiovascular disease, musculoskeletal conditions and COPD, and the level of employment in certain sectors, to understand if this impacts health challenges in different parts of Lancashire. This analysis was run for manufacturing, construction, primary industries (mining, agriculture and forestry) and retail, as these are sectors which may expect to have an adverse impact on health, due to the physical demands of the work, working conditions and wages.

As Figure 6 shows, there is little relationship between the selected health conditions and the level of employment in these sectors. The values are relatively close together with a small range and the trend line is relatively flat. A small R^2 value of below about 0.2 indicates that there is very little evidence to suggest that the proportion of people with these conditions across different areas is determined by which sectors are predominant in the area. This suggests that other factors such as the social determinants of health and whether you live in an area of high deprivation impact health outcomes, not the type of work undertaken.

¹⁰ All Party Parliamentary Group for Longevity (2021) Levelling Up Health.

Figure 6. Relationship between prevalence health conditions and employment



Source: ONS Business Register and Employment Survey, Lancashire County Council

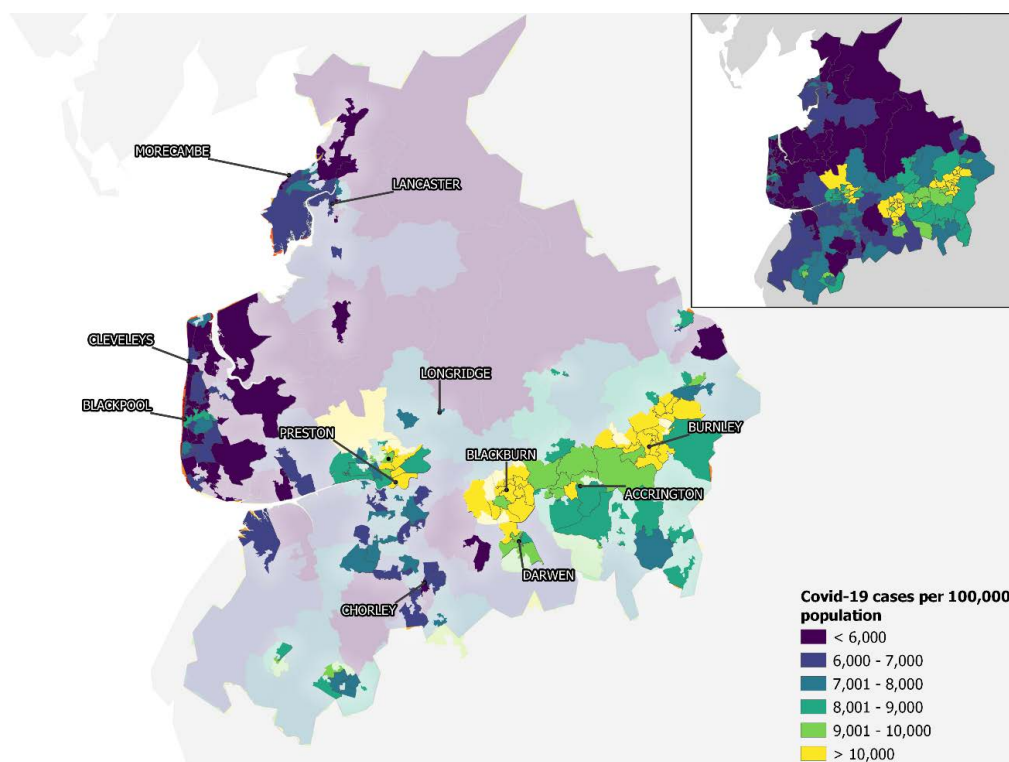
Health impacts of Covid-19 in Lancashire

Economic and social inequalities have been an important factor in both the people and places most impacted by Covid-19. Over the past year, many of the most economically deprived areas have had some of the highest Covid-19 infection and death rates in the country. If the national Covid-19 mortality rate had been as low as in the least deprived places, there would have been 40,000 fewer deaths.¹¹ Causes of higher infection rates include overcrowded housing, working conditions and long hours, and low pay resulting in barriers to self-isolating, which are more common amongst certain minority ethnic groups.

Blackburn with Darwen (12,080 per 100,000 people), Burnley (11,141 per 100,000 people) and Pendle (10,461 per 100,000 people) are in the top ten of places with the highest number of cumulative cases in England and are also amongst the most deprived places nationally. This also translates into high death rates. Between March 2020 and Feb 2021, Blackburn with Darwen had the 4th highest Covid-19 death rate nationally (366 per 100,000 people), with Burnley the 11th highest nationally (333 per 100,000 people). Pendle is lower at 293 per 100,000, but this still puts the area in the top 20% highest nationally. Figure 7 highlights these trends at the more local level, picking out the areas that are in the top 40% most deprived in the country. Blackpool and Morecambe have rates of 7,000-9,000 per 100,000, which is lower than other parts of the county.

¹¹ All Party Parliamentary Group for Longevity (2021) Levelling Up Health.

Figure 7. Covid-19 cases per 100,000 population with the areas highlighted among the 40% most deprived for health in England



Source: Gov.uk UK Coronavirus Dashboard (March 2020 to April 2021) and MHCLG Index of Multiple Deprivation (2019)

Where next?

Where a resident is born and lives impacts health outcomes. As shown above, areas of high deprivation account for a significant amount of poor health outcomes. The underlying poor health of residents in areas of deprivation is linked to higher Covid-19 cases. This all contributes to the high levels of health inequality within Lancashire. In order to better understand the links between deprivation and health outcomes, the next section analyses Marmot's wider social determinants of health.

Social determinants of health



The third aspect of understanding the relationship between health and the economy involves analysing the role of the wider social determinants of health. Social, economic and environmental determinants contribute to 60% of a population's health status.¹² Prevention and interventions targeted at the wider health determinants have the longest-term impacts on mortality¹³, but can be discouraged by short-term funding cycles and budgetary requirements. Disease burdens could reduce by 40% over the next 20 years with preventative care, including immunisations, health checks and screenings.¹⁴

The lifecycle diagnostic in Section 2 above suggested that early and working years are areas where Lancashire has specific challenges, and Section 3 showed that these challenges are likely linked to areas of deprivation and that there is inequality within Lancashire. This Section builds on these to develop a deeper understanding of where and why health outcomes are as they are in Lancashire.

Fair Society Healthy Lives (The Marmot Review), an independent review into health inequalities, was commissioned in November 2008 by the Secretary of State for Health.¹⁵ The final report, published in February 2010, set out six areas of policy to reduce health inequality, including the best start in life, maximising the capabilities of all people, fair employment, healthy standards of living, healthy and sustainable places, and prevention.

To mark ten years since the Marmot Review, Professor Michael Marmot led a report produced by the Institute for Health Equity and commissioned by the Health Foundation called Healthy Equity in England: The Marmot Review 10 Years On.¹⁶ This found that improvements to life expectancy have stalled and declined for the poorest 10% of women, and the health gap has grown between wealthy and deprived areas.

¹² Canadian Institute of Advanced Research (2002) In: Department for Health and Social Care (2019) Advancing our health: prevention in the 2020s. London: Cabinet Office and Department for Health and Social Care.

¹³ Metro Dynamics and Public Health England (2017) Health and Wealth: The Inclusive Growth Opportunity for Mayoral Combined Authorities. London: Metro Dynamics.

¹⁴ Lancashire LEP Health and Life Science Sector Group.

¹⁵ Michael Marmot, Jessica Allen, Peter Goldblatt, Tammy Boyce, Di McNeish, Mike Grady, Ilaria Geddes (2010) Fair Society, Healthy Lives: The Marmot Review. London: Institute of Health Equity.

¹⁶ Michael Marmot, Jessica Allen, Tammy Boyce, Peter Goldblatt, Joana Morrison (2020) Health equity in England: The Marmot Review 10 years on. London: Institute of Health Equity.

The Marmot Review identifies five social determinants of health, which provide a helpful framework for interrogating the relationship between health and the economy. These include:



Early years

Performance of children between birth and five years old lays the foundation for the whole of a person's life. Socioeconomic factors influence developmental outcomes which impact school readiness and educational attainment.



Education

Educational attainment is impacted by socio-economic factors, parental support and relationships, nature of the school and peers, and individual prior attainment. This analysis considers pre and post 16 education.



Work

Employment reflects and reinforces socioeconomic inequalities, whether people are out of work or in low paid work. Unemployment, poor quality work and dangerous work can reduce mental and physical health.



Income

Low incomes can limit the ability of people to purchase good and services to maintain or improve health. Poor health can lower earning capacity.



Communities

More deprived neighbourhoods are likely to have characteristics which present risks to health from poor housing, higher crime, poorer air quality, a lack of green space and dangers from traffic.

Social determinant 1 – Early Years

Early years typically describes the performance of children between birth and five years old, with some consideration of antenatal wellbeing. For children in their early years, socio-economic factors influence developmental outcomes, which in turn impact school readiness and educational attainment.¹⁷ The Marmot Review also looks at the services that children may interact with and the quality of early years provision. This analysis considers early years in its widest sense, including both outcomes and provision. Later in the report, it looks at the broader factors which shape the standard of living of children and their parents, including work, income and housing. Improving outcomes in early years, including attainment for summer born children, boys and those living in deprived areas, as well as maternal health and wellbeing, is a priority across the three upper-tier Public Health and Children's Services departments, the ICS and ICPs. There is good work in this area, as demonstrated in the examples below.

¹⁷ Michael Marmot, Jessica Allen, Peter Goldblatt, Tammy Boyce, Di McNeish, Mike Grady, Ilaria Geddes (2010) Fair Society, Healthy Lives: The Marmot Review. London: Institute of Health Equity.



Case Study: Blackpool Better Start

This is one of five partnerships funded by a ten-year £21.5m National Lottery Community Fund, aiming to support parents to give their children the best start in life. The partnership in Blackpool (between Blackpool Council, Blackpool, Wyre, and Fylde hospitals, Clinical Commissioning Group, Lancashire police, and the Community and led by the NSPCC) has a focus on evidence-based interventions. Blackpool Better Start aims to bring about meaningful change for residents, particularly for those with additional needs. It has run a range of projects from pre-birth to early years development, including parenting courses, diet and nutrition plans, and reading programmes. Through partnership with the Centre for Early Child Development CECD, NHS and the community, new research and learning is being developed and shared.



Case Study: THRIVE Research Centre, UCLan

The Research Centre focuses on the factors that are most important for the first 1,000 days of life, that produce the most positive outcomes and are associated with human flourishing in later life, including maternal health and child development. They aim to publish state-of-the-art research papers and to collect data that will underpin future research and study in the area. Current work includes the Babies Born Better project, which aims to become a major resource for the improvement of maternal and childbirth care around the world, and ASPIRE-COVID19, which looks at achieving safe and personalised maternity care in response to epidemics.



Case Study: Children's Centres, Blackburn with Darwen

The Pennine Plan and Blackburn with Darwen Joint Health and Wellbeing Strategy both identify early years as a key priority. In Blackburn with Darwen there are eight Children's Centres, which offer activities for under 5s. They offer support to parents, carers, and prospective parents including ante natal classes, midwifery appointments, breastfeeding support and child development clinics.

Early years provision

The Childcare Sufficiency Assessment carried out in 2021 showed that Lancashire has a good level of high-quality childcare provision at all age ranges.¹⁸ The most common form of provision was childminders, making up 40% of providers, followed by day nurseries, and breakfast and after school clubs.^{vii}

¹⁸ Lancashire County Council (2021) Childcare Sufficiency Assessments.

^{vii} In the Lancashire County Council area.

As shown in Table 3, in the Lancashire Council area, 97.4% of early years providers have the highest Ofsted ratings of 'Good' or 'Outstanding'. This is above the national average of 95%. In Fylde, 100% of providers have these ratings. Other districts above the Lancashire average include Chorley, Hyndburn, Pendle, Ribble Valley, South Ribble and West Lancashire. Good provision for early years has a disproportionate benefit on the development of disadvantaged children.¹⁹

Table 3) 'Good' or 'Outstanding' Ofsted ratings for early years providers across Lancashire

Local authority	Domestic premises	Non-domestic premises	Total
Blackburn with Darwen	-	-	93.4%
Blackpool	96%	94%	95%
Burnley	100.0%	93.2%	96.2%
Chorley	97.3%	100.0%	99.0%
Fylde	100.0%	100.0%	100.0%
Hyndburn	98.5%	97.6%	98.1%
Lancaster	96.6%	97.4%	97.0%
Pendle	100.0%	97.1%	98.2%
Preston	96.5%	90.2%	92.8%
Ribble Valley	94.1%	100.0%	98.3%
Rossendale	100.0%	94.3%	97.1%
South Ribble	100.0%	98.5%	99.2%
West Lancashire	97.0%	98.5%	98.0%
Wyre	100.0%	96.6%	97.7%
Lancashire	98.3%	96.8%	97.4%
UK	95%	97%	95%

Source: *Childcare Sufficiency Assessments – Lancashire (2020-21), Blackburn (2020) and Blackpool (2021-22); Ofsted (2020) Childcare providers and inspections as of 31 March 2019: main findings – UK*

Government funding helps parents pay for childcare in the form of disadvantage entitlement for 2-year-olds, which is determined by a series of eligibility criteria, and the universal and extended entitlement for 3-4 year-olds. It is important to note that any provision prior to statutory school age is a parental/carer choice, but early years care has significant benefits for both the child in terms of their development and parents, as it enables them to reenter the workforce or access training.

Take up of 2-year-old funding is lower than 3-4 year-old funding, both locally and nationally, but take up amongst this age group in the spring term 2021 is five percentage points higher in the Lancashire County area (67%) than the UK (62%)²⁰. There is variation across the county with higher levels in Lancaster (79%) and Wyre (73%), and lower levels in Pendle (59%) and Hyndburn (61%). ▶

¹⁹ Michael Marmot, Jessica Allen, Peter Goldblatt, Tammy Boyce, Di McNeish, Mike Grady, Ilaria Geddes (2010) Fair Society, Healthy Lives: The Marmot Review. London: Institute of Health Equity.

²⁰ UK Government (2021) Education provision: children under 5 years of age

- ▶ In Blackpool in 2020, take up was 71%²¹. Take up in Blackburn with Darwen in the summer term of 2020 is much closer to its neighbouring districts (59%).²²

The Lancashire County area had a similar level of take up for 3-4-year-olds (94%) as the national average (93%) in January 2020, but this has fallen during the Covid-19 pandemic to 84% in the spring term 2021. The Lancashire Sufficiency Assessment states that children have experienced many changes to childcare, some remaining at home and others adapting to Covid-19 secure premises and bubbles. It will be important to continue monitoring provision to ensure that those eligible for support continue to access it.

Children's outcomes in early years

Like many places with high levels of health deprivation, outcomes for children in their early years is a challenge in parts of Lancashire. But the above shows that Lancashire sees good levels of high-quality early years provision and good take up rates. In order to look beyond early years provision and understand some of reasons for the lower outcomes in the data, the scorecard below (Table 4) shows how Lancashire performs across a set of key indicators of children's outcomes in their early years.^{ix}

Table 4) Early Years Scorecard

	Low birth weight	Infant mortality rate (per 1,000)	School readiness
Blackburn with Darwen	4.7%	5.0	66.3%
Blackpool	4.0%	6.4	66.9%
Burnley	4.0%	7.0	62.0%
Chorley	2.2%	4.1	70.5%
Fylde	3.4%	3.3	76.5%
Hyndburn	4.2%	3.9	67.0%
Lancaster	3.2%	3.2	70.0%
Pendle	3.3%	5.9	62.0%
Preston	3.6%	4.2	68.5%
Ribble Valley	1.0%	3.5	76.0%
Rossendale	3.0%	4.4	71.0%
South Ribble	2.6%	3.1	71.5%
West Lancashire	2.5%	3.3	71.5%
Wyre	2.5%	3.6	71.5%
Lancashire	3.1%	4.5	67.1%
North West	3.0%	4.5	67.4%
England	2.9%	3.9	71.3%

Source: Low Birth Weight 3 year average (2017-19) - Birth characteristics: ONS (2019); Infant mortality rate 3 year average (2017-19) - PHE Fingertips (2017-2019); School readiness (percentage of children achieving a good level of development at the end of reception) - NHS England Data Catalogue (2019) for two unitary authorities and Lancashire wide and Lancashire County Council (2018/19) for districts

^{viii} Note, this is the average of the Lancashire County Council area.

^{ix} Please note, in this scorecard and others in this report, a three category RAG rating has been used to rate the performance of places across a series of indicators. We compare only to the English average. A rating of 'red' demonstrates a place is underperforming the English average, 'green' shows that they are performing better than the English average, and 'yellow' is similar to the English average. Please note, the differences between the values may appear relatively small. It is important to note that this uses different criteria to the lifecycle index, which may be why there are slight differences in colour coding. For a more detailed explanation, please see Appendix 3.

^x Note, this is the average of the Lancashire County Council area.

²¹ Blackpool Council (2021-2022) Childcare Sufficiency Assessment.

²² Blackburn with Darwen Council (2020) Childcare Sufficiency Assessment.

The majority of areas are performing below the England average across all indicators. Blackburn with Darwen, Blackpool and Burnley have high rates of low birth weight births and infant mortality compared with England and the rest of Lancashire. This suggests that pre-natal care and whole family support are important factors.

School readiness measures the percentage of children achieving a good level of speech and language, dietary, emotional and cognitive development at age five. The Lancashire average of 67.1% is similar to the North West average of 67.4%, but is below the national average of 71.3%. At a Lancashire level, school readiness is lower amongst males than females, children who are eligible for Free School Meals (FSM) (also seen at the national level) and amongst Bangladeshi/Pakistani and Gypsy, Roman and Traveler groups. The county are monitoring this closely, in particular looking at any increases in eligibility for FSM, which may suggest that child poverty may be rising.

Across Lancashire, school readiness varies significantly with lower scores in areas of higher health deprivation. This ranges from 62% in Burnley and Pendle, amongst the lowest nationally, to 76% in Ribble Valley and 76.5% in Fylde, which are above the national average.

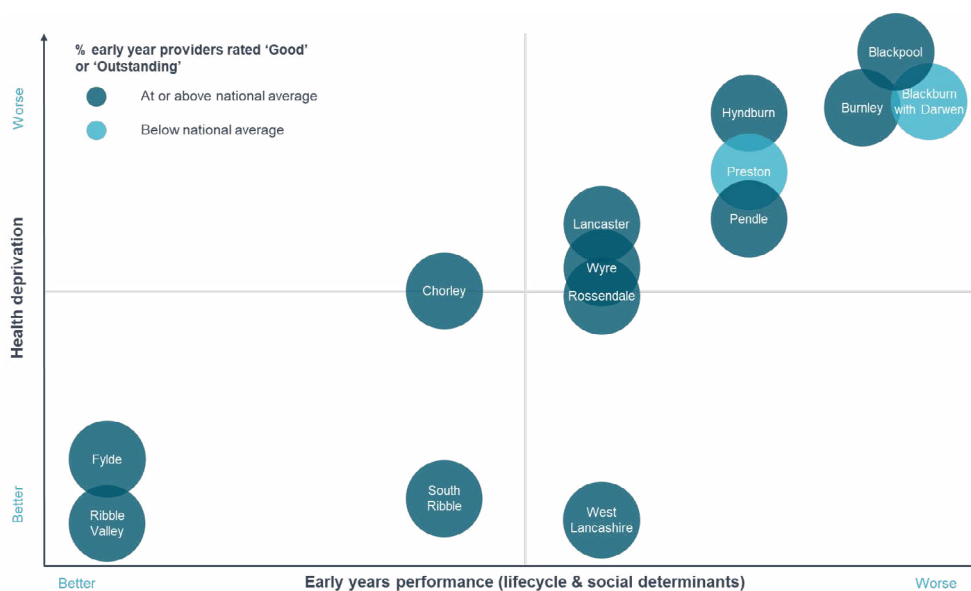
A holistic approach to early years

All this suggests a complex answer to the factors contributing to school readiness data. How residents start their lives impacts their educational attainment. The performance of a place in how children perform in early years is a strong determinant of how a place performs later in childhood. Many of the same places in Lancashire with challenges in early years, including Burnley, Blackpool and Blackburn with Darwen, also have low levels of childhood educational attainment, poor health and higher deprivation.

There is no one single reason why Lancashire underperforms, but improving this will likely see long term benefits to the residents and economy. It is not simply a case of investing in more preschool places for 2-4 year olds. Early years provision is important, but only one part of the picture of the broader context of a child's life. Figure 8 clearly demonstrates this by showing that places with higher levels of health deprivation tend to have lower outcomes in early years performance, and that most of these places have high quality early years provision (the darker circles). There are other important factors, which shape the life of the child at home for example, including the work available to their parents or guardians, the household income level and quality of housing.

Prenatal to 2 years old is a vital time in a child's development; schemes such as Troubled Families recently shifted in starting age to reflect this, and Blackpool's Better Start programme includes pre-natal projects. This has been the focus of the Leadsom review – the first 1001 days of a child's life and a whole family and system approach. A focus on this – accompanying Lancashire's existing good work on 2-4 year old education, family safeguarding and other areas – could help to shift some of the outcomes.

Figure 8. Early years performance (drawing on lifecycle and social determinant analysis) against health deprivation, with quality of early years provision



Source: Metro Dynamics analysis

Social determinant 2 – Education

Educational attainment is an important driver of opportunities and life chances, including the type of work they are able to do and how much they earn. The Department for Education has previously estimated that individuals who achieve five or more good GCSEs (as their highest qualification) have lifetime productivity gains worth around £100,000 on average, compared to those with qualifications below this level. When compared to children with no qualifications, the returns on having five or more good GCSEs increase significantly, to around £260,000.²³

A combination of socio-economic factors, proximal factors (i.e. parental support), school peer factors (i.e. nature of school and pupils) and individual factors impact educational outcomes.²⁴ In this analysis, pre-16 education, further and higher education, and skills are considered.

Table 5 shows that Lancashire has a mixed picture in terms of educational and skills attainment. Positively, at Key Stage 2 and 4, most areas perform in line with or above the North West average. Blackpool and Blackburn with Darwen perform relatively well in these measures, despite having high levels of health deprivation, with the largest improvements in Key Stage 2 attainment in Lancashire between 2016 and 2019. Some areas perform significantly below the regional and national averages, such as Burnley, Hyndburn and Pendle.

²³ Early Intervention Foundation (2018) Realising the potential of early intervention. London: Early Intervention Foundation.

²⁴ Michael Marmot, Jessica Allen, Peter Goldblatt, Tammy Boyce, Di McNeish, Mike Grady, Ilaria Geddes (2010) Fair Society, Healthy Lives: The Marmot Review. London: Institute of Health Equity.



Case Study: Blackpool Opportunity Area

The Blackpool Opportunity Area plan aims to “Raise attainment and progress in Blackpool’s schools” with a focus on STEM, English, and modern foreign languages. Identified issues are being targeted through delivery of school improvement and levelling up of teaching. Funding from the Strategic School Improvement Fund has gone towards improving maths teaching across Blackpool. The Teaching and Leadership Innovation Fund (TLIF) is also being leveraged to improve English and STEM outcomes.

Table 5) Education Scorecard

	Key Stage 2 attainment	Key Stage 4 attainment	No qualifications	NVQ Level 4+
Blackburn with Darwen	66.2%	49.3	9.9%	29.5%
Blackpool	66.9%	42.9	7.4%	23.6%
Burnley	55.6%	45.4	9.9%	33.2%
Chorley	68.2%	51.8	6.0%	45.6%
Fylde	72.4%	51.2	Supressed	39.3%
Hyndburn	59.9%	46.4	6.2%	31.3%
Lancaster	64.2%	49.2	4.7%	36.1%
Pendle	57.8%	45.1	10.4%	34.7%
Preston	64.2%	51.9	9.1%	41.7%
Ribble Valley	66.3%	56.1	2.6%	58.8%
Rossendale	65.0%	50.0	6.4%	37.1%
South Ribble	65.4%	51.5	10.6%	39.4%
West Lancashire	65.7%	49.4	11.3%	33.1%
Wyre	65.5%	49.0	5.0%	39.3%
Lancashire	64.5%	49.2	7.6%	36.4%
North West	64.6%	48.9	7.5%	38.7%
England	65.3%	50.2	6.2%	42.8%

Source: Key Stage 2 attainment (% reaching expected level of reading, writing and maths) – DfE (2018/19); Key Stage 4 (Average 8 GCSE score) – DfE (2019/20); No qualifications and NVQ4+ – ONS Annual Population Survey (2020)

Typically, in deprived areas across the county, educational attainment in secondary school can be lower than attainment at primary school, due to challenges for young people around maintaining attainment over transition periods. This may be due to low expectations, aspirations and a lack of confidence. As Blackburn College put in their submission to this Review: “Deprivation, health, and expectation remain the key barriers and perhaps it is the presence of low expectation amongst some parts of the community that presents the most challenge”. In Blackpool, Key Stage 4 attainment is below the English average, which is potentially indicative of this trend. Local programmes are helping to support the transition from secondary school to further education, which can also be a challenge for young people.



Case Study: Lancashire Key Stage 4 to Key Stage 5 Transition

In the context of Covid-19 and young people missing out on large parts of the academic year, Lancashire County Council is supporting clearer communication between schools and colleges or sixth forms to identify those young people in most need of support during this transition.



Case Study: New Directions Careers Service, Blackburn and Darwen

New Directions provides independent and impartial careers information, advice, and guidance to young people in Blackburn and Darwen. By working with young people and understanding what is best for them, A levels, Apprenticeships, Traineeships, and following up to offer continued support, the service works to reduce the number of NEET in Blackburn with Darwen. The service also works to address lower levels of level 3+ qualifications by guiding the young people they work with towards upskilling opportunities.

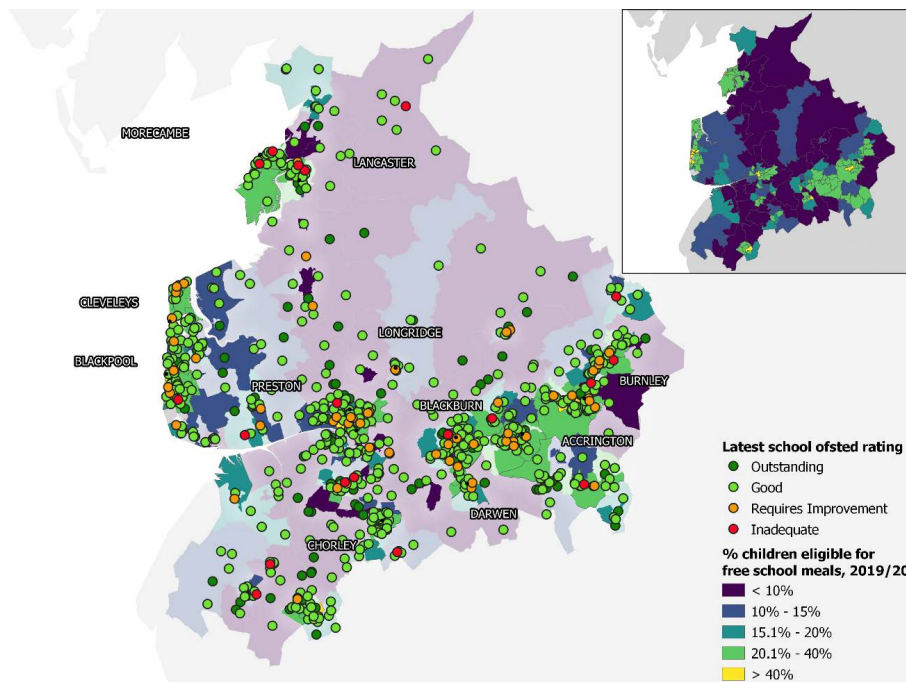
Figure 9 shows schools, colour coded by Ofsted rating, mapped onto the proportion of children eligible for FSM. The areas that are highlighted are amongst the 40% most deprived nationally. The lowest performing schools, either those with the Ofsted rating 'Requires Improvement' or 'Inadequate', are typically in urban areas with higher population density, higher deprivation and more children on FSM (yellow and green on the map). This is not to say that there are not 'Good' or 'Outstanding' schools in deprived areas, but that lower performing schools are almost always in more deprived areas. These areas also tend to have lower levels of educational attainment. In contrast, areas that are not deprived have relatively few poor performing schools.



Case Study: Morecambe Bay Curriculum

In partnership with Eden Project North, the Morecambe Bay Curriculum programme seeks to develop the knowledge and skills of young people whilst gaining an understanding of and caring for Morecambe Bay. Wellbeing, resilience, and social and environmental sustainability within Morecambe Bay are key focuses. Local learning is used to make comparisons and connections between local, national and global issues.

Figure 9. School Ofsted ratings and Free School Meals with the areas highlighted among the 40% most deprived for health in England



Source: MHCLG (2019), Ofsted (2020) and Explore Education Statistics (2020)

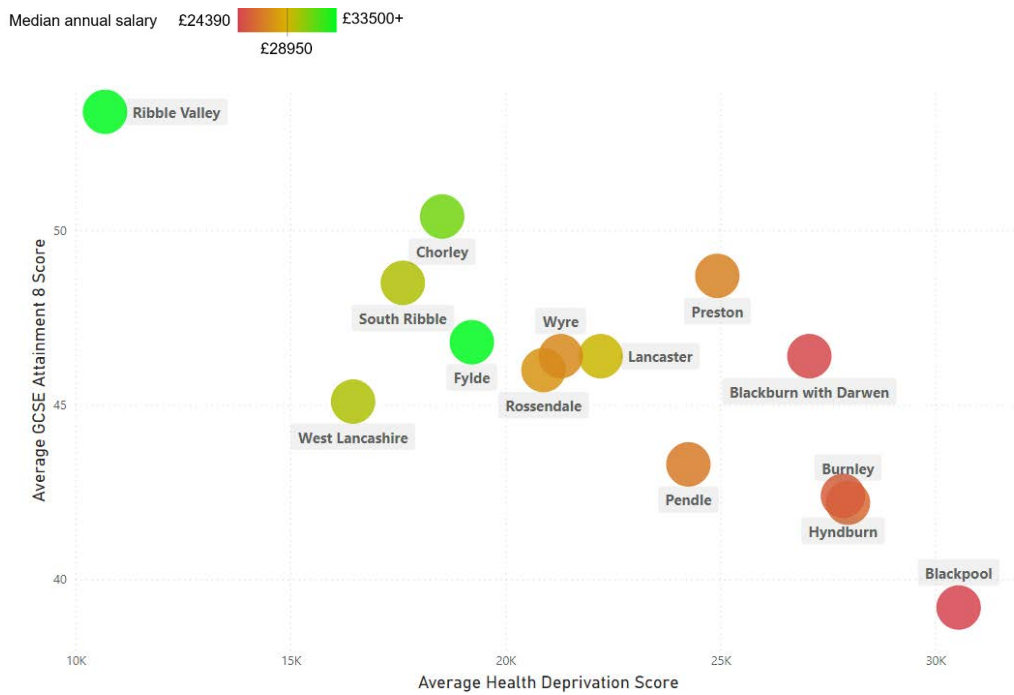
Figure 10 shows that there is a strong correlation between high levels of health deprivation, lower GCSE attainment and lower median wages of residents later in life. Blackpool, Burnley and Hyndburn, the top three most health deprived areas in Lancashire, also have the three lowest average GCSE attainment 8 scores (which measures pupils’ results in eight GCSE-level qualifications including English and Maths), falling below the national and Lancashire averages. These areas also make up three of the four lowest average resident wages in Lancashire.

As Edge Hill University (EHU) put in their response to this review “skills are a huge barrier to economic and societal participation”. Most places in Lancashire have a low skills base with above average levels of residents with no qualifications and fewer residents with NVQ Level 4 and above qualifications than the national average. This may be caused by both a low proportion of residents accessing higher level skills and low graduate retention. EHU also highlight that for low educational attainment and skills, “poverty, poor health and wellbeing are underlying factors, and stark in some parts of Lancashire with digital poverty now added to that”.

Higher level skills are in high demand with projections between 2018 and 2028 showing a 5% increase in demand for Level 3 skills and a 4% increase in demand for Level 4+ skills, coupled by a decline in demand for lower level skills of -4% for both Level 1 and Level 2.²⁵ East Lancashire Chamber of Commerce have suggested in their response to this Review that “skills support needs to be tailored precisely to the new and future industrial needs” and that “this needs to be done with businesses at individual course level”. UCLan are working to “increase the capacity and capability within the region’s workforce” by developing plans that will “support people to develop the skills needed to get good jobs and improve national productivity”.

²⁵ Lancashire Enterprise Partnership (2021) Lancashire Skills and Employment Strategic Framework: 2021 Refresh Incorporating the Local Skills Report.

Figure 10. Health deprivation against GCSE attainment by median salary



Source: Health deprivation – MHCLG Index of Multiple Deprivation (2019); Educational attainment – DfE (2019/20); wages – ONS Annual Survey of Hours and Earnings (2019)

Social determinant 3 – Work

This social determinant considers both unemployed people and those in work, but in poor quality, insecure and low pay jobs or with no or low skills. Health for working age people matters because those who leave the workforce due to a spell of ill health in the Northern Powerhouse are 39% more likely to lose their job than those in the rest of England.²⁶ The lifecycle analysis identified Working Years as an important area of focus and the ONS Health Index shows that the county performs poorly for work related metrics. Even when people are in work, over one in four employee jobs earn less than the Real Living Wage, the threshold required for people to reach a minimum acceptable living standard.²⁷

Table 6 shows that areas with higher deprivation tend to have higher levels of economic inactivity and fewer people employed in professional or high skilled occupations. Since the start of the pandemic, the claimant rate has risen across the country, with resilience to job losses depending on the sectoral make up of businesses in the area.

Table 6) Work Scorecard

	Claimant count	Economic inactivity	Professional or skilled occupations
Blackburn with Darwen	8.4%	27.6%	60.8%
Blackpool	12.4%	24.2%	58.6%
Burnley	9.2%	26.2%	61.2%
Chorley	4.4%	23.5%	70.6%
Fylde	5.3%	20.8%	78.7%
Hyndburn	8.2%	25.8%	69.4%
Lancaster	5.2%	18.9%	60.2%
Pendle	7.6%	20.0%	66.5%
Preston	6.8%	26.0%	64.2%
Ribble Valley	3.1%	19.6%	80.5%
Rossendale	6.4%	16.5%	71.3%
South Ribble	4.1%	16.3%	60.5%
West Lancashire	5.2%	23.5%	61.3%
Wyre	5.9%	18.2%	71.4%
Lancashire	6.8%	22.3%	65.0%
North West	7.1%	22.4%	66.9%
England	6.5%	20.5%	70.0%

Source: Claimant Count (16-64 year olds) – ONS (March 2021); Economic inactivity (proportion of working age population) and occupations (Groups 1-5) – ONS Annual Population Survey (2020)

There are large variations across Lancashire with as high as 12.4% in Blackpool, potentially reflecting a loss of jobs in retail, hospitality and leisure, and as low as 3.1% in Ribble Valley, with a difference of 9.3 percentage points. It is important to note that Blackpool is an outlier with the second highest rate in Burnley at 9.2%. This range is higher than in other counties, including Cumbria where there is a 1.9 percentage point difference between South Lakeland (3.4%) and Barrow-in-Furness (5.3%), and Cheshire where the claimant rate is 0.7 percentage points higher in Warrington (5.3%) than in Cheshire East (4.6%). The variation in Lancashire is wider than metro regions, ►

²⁶ Bamba, Munford, Brown et al (2018) Health for Wealth: Building a Healthier Northern Powerhouse for UK Productivity. Newcastle: Northern Health Sciences Alliance.

²⁷ Resolution Foundation (2020) Calculating the Real Living Wage for London and the Rest of the UK: 2020-21.

- ▶ such as Greater Manchester where there is a 4.6 percentage point difference between Trafford (5.3%) and Oldham (9.9%), and the West Midlands Combined Authority area, which has a 5.5 percentage point difference between Solihull (5.9%) and Birmingham (11.4%).

There are good examples across Lancashire of initiatives aiming to improve in work health across different sectors.



Case Study: Business Health Matters

Business Health Matters is a programme to support employers and employees to maintain health at work, and to improve healthy ageing. It is part of Active Lancashire in collaboration with a range of health and innovation partners, including UCLan, district councils, UKRI and registered housing providers amongst others. Active Lancashire emphasise in their response to this Review that health and wellbeing are “underlying weaknesses of the Lancashire economy; driving lower levels of productivity”. The programme will invest £9m across 30 partners and received £32k of Innovate UK funding in 2019/20. It carried out a social impact study with employees, employers and health providers, which found that poor emotional and mental health has a direct impact on many aspects of employment for young people, such as leadership capacity, whilst many people over 50 develop health conditions due to lifestyle factors. One of its projects is to upskill gym and leisure centre employees, so they are qualified to conduct health screenings within their workplaces.



Case Study: Health and wellbeing at work, Healthier Lancashire and South Cumbria

Partnered with Lancashire County Council as well as Blackpool, Blackburn with Darwen, and Cumbria Councils, and the NHS, Healthier Lancashire and South Cumbria aims to tackle the biggest health challenges in the region. They operate a number of programmes targeting a range of issues including heart attack and strokes, lung health and diabetes prevention. They also address in work health, working to make workplaces supportive, enabling people to help themselves, growing the economy and being productive and well.

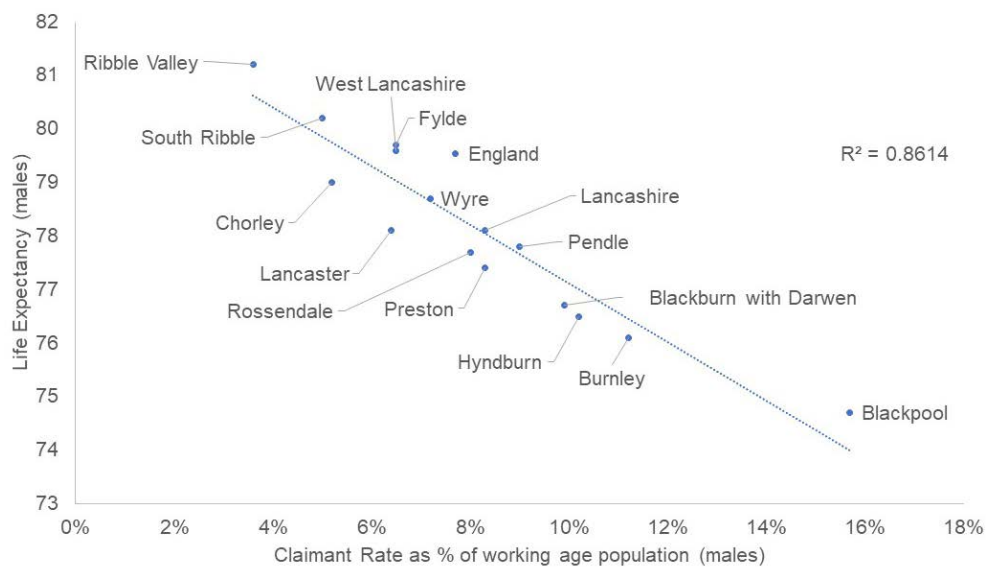
In Lancashire, what is more important for health than the sector someone works in, is if they are in work at all. This is a significant issue in Lancashire with 11% of the workforce on incapacity and disability benefits.²⁸ Central Lancashire ICP highlight in their Call for Evidence response that “health can be a barrier to people participating in/benefiting from economic growth”.

There is a strong relationship between a higher claimant rate and lower life expectancy in Lancashire. This is shown in the graph below for males, a similar trend is also seen for women ▶

²⁸ Lancashire LEP Health and Life Science Sector Group.

- ▶ (see Figure 11). Ribble Valley and South Ribble have the highest male life expectancy (MLE) in Lancashire of 81.2 and 80.2 years respectively, which is above the England average of 79.5. These places also have the lowest claimant rates among the working age population in Lancashire. At the other end of the spectrum, Blackpool performs worst in both measures, with an MLE of 74.7 years and a claimant rate of almost 16%. This is significant in the context of Covid-19, particularly given the 93.4% rise in claimant count between March 2020 and 2021.²⁹

Figure 11. Claimant count against life expectancy (males)



Source: Public Health England and Claimant Count – ONS (March 2021)

Examples of local programmes supporting both young and older adults into work and ensuring that once in work, they are able to progress are included below.



Case Study: Advance Employability Programme, Blackburn College

The Blackburn College Advance Employability Programme helps facilitate the improvement of young people’s professional skills, ensuring they are prepared for work and further study. It helps ensure that they develop the attributes they need to continue to progress towards their future career goals once in work. The programme helps identify areas for improvement and career goals and sets young people up for success through careers guidance, skills development, and industry placements.

²⁹ County Councils Network (2021) Counties: Leading Recovery, Delivering Renewal.



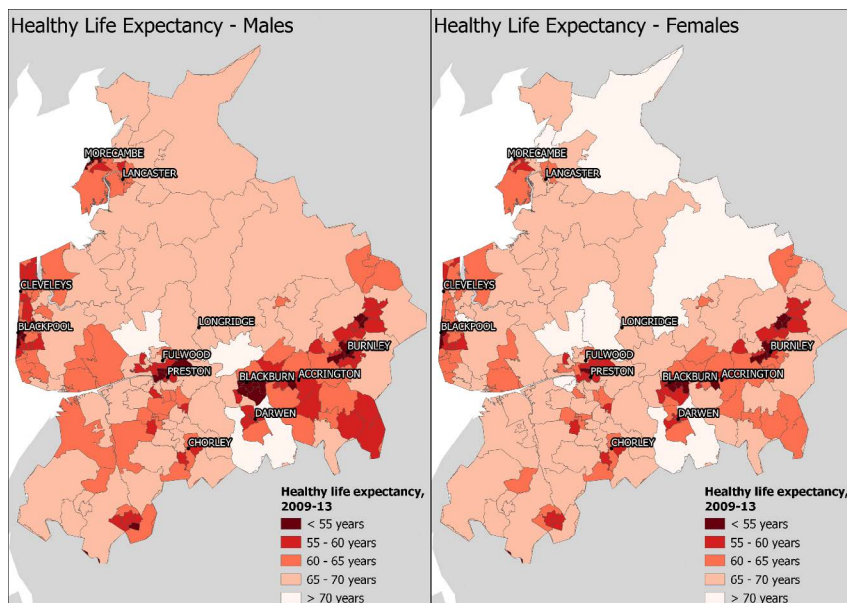
Case Study: Lancashire Adult Learning

Lancashire Adult Learning is helping adults rediscover a love of learning through courses in a diverse range of subjects from maths and science to construction to hair and beauty. 14,500 adults have benefited from over 2,000 courses delivered through more than 300 venues across Lancashire. A number of the courses are free and help adults gain new skills, advancing in their current role or potentially take a step towards a new career.

Healthy life expectancy is an important measure to look at alongside life expectancy, as advances in modern medicine mean people are generally living for longer, but often in poorer health. The Centre for Progressive Policy developed an Inclusive Growth Community Index, whereby healthy life expectancy was one of five metrics considered to be an important measure of inclusive growth and a driver of ‘the good life’.³⁰ In Lancashire, one in three workers are over the age of 50 and 59% of people living in the county over the age of 50 have at least one long-term health condition.³¹ Poor health can create barriers to economic participation and also increases the demand on public services.

Figure 12 shows healthy life expectancy for males (left) and females (right) at the local level in Lancashire.^x Areas with the lowest healthy life expectancy tend to be urban, such as the town centres of Burnley, Blackburn, Blackpool and Cleveleys, whilst healthy life expectancy is higher in more rural areas, such as Ribble Valley and South Ribble.

Figure 12. Healthy Life expectancy for Males and Females



Source: Public Health England (2013)

³⁰ Centre for Progressive Policy (2019) The Good Life: Measuring inclusive growth across communities.

³¹ Lancashire LEP Health and Life Science Sector Group.

^x Healthy life expectancy is an estimate of the average number of years spent in good health.

Healthy life expectancy varies by 24 years across Lancashire. The area with the highest healthy life expectancy of 71 years is the outskirts of Fulwood, whereas healthy life expectancy is lowest in Blackpool at 46.5 years. This is significantly below the North West average of 61.5 years and England average of 63.3 years. With an average healthy life expectancy of 46.5 years and a life expectancy of 69.6 years, residents in this neighbourhood spend roughly 23 years in poor health, while in the outskirts of Fulwood, males only spend 11 years in poor health as life expectancy is around 82.6 years. Not only are residents in Fulwood living around 13 years longer than those in Blackpool, but they are living in poor health for roughly half the time. In England, the average time spent in poor health for males is around 16 years.

For females, healthy life expectancy is slightly higher than for males but with a similar variation of 22 years between the highest and lowest areas. The area with highest life expectancy for females is in Preston (72 years) and the lowest is in the centre of Blackpool (49.7 years), compared with the North West average of 62.5 years and England average of 63.8 years. In Blackpool, female residents are living in poor health for an average of 27 years, living until on average 76.5 years. This is longer than males spend in poor health because women tend to live for longer. In contrast, residents in the area of Preston are living for an average of 16 years in poor health as life expectancy is around 88.2 years. In England, the average time spent in poor health for females is around 18 years.

Social determinant 4 – Income

The ability of residents to work or the type of work people do affects income levels, which in turn can have adverse impacts on health. Often people on low incomes refrain from purchasing goods and services to maintain or improve health or may be forced to purchase cheaper options that increase health risk.³² Residents in areas with high proportions of seasonal labour can also face challenges, highlighted by Fylde Coast ICP in their response to this Review: “Due to tourism, seasonal employment impacts opportunities to earn a living wage, low- or seasonal-income impacts likelihood to have a good living and in turn impacts standards of health”.

As Table 7 shows, low pay is a challenge in Lancashire with a higher proportion of employee jobs paying below the Real Living Wage (27.2%) than both the regional (24.1%) and national (23.0%) averages (RLW in the table).^{xi} Areas with the highest share of jobs earning below the Real Living Wage typically have higher health deprivation. Wyre is an exception with relatively low health deprivation but 40% of jobs earning below the threshold, potentially due to a large retail sector.

Across Lancashire there is variation in the difference between resident wages (people who live in an area) and workplace wages (people who work in the area). Ribble Valley and Hyndburn have higher workplace wages than resident wages, which can be indicative of a disconnect between residents and economic opportunities in the area. In Chorley and Pendle, the opposite is the case where resident wages are higher than workplace wages, which may be indicative of these being residential areas where people commute into Preston and Greater Manchester for higher wages.

In Preston, joint efforts between the Council, anchor institutions, and businesses may have contributed to a low level of employees earning below the Real Living Wage; however, average wages are still low compared to the Lancashire and England averages. This seems to indicate that although a majority of people earn above the Real Living Wage, most do not earn much higher, perhaps due to a ‘hollowing out’ of middle-income jobs and growth in lower paid roles, leading to the average wage being skewed towards the lower end.

³² Michael Marmot, Jessica Allen, Peter Goldblatt, Tammy Boyce, Di McNeish, Mike Grady, Ilaria Geddes (2010) Fair Society, Healthy Lives: The Marmot Review. London: Institute of Health Equity.

^{xi} As defined by the Living Wage Foundation.

Table 7) Income Scorecard

	Employees earning below RLW	Average resident annual wage	Average workplace annual wage
Blackburn with Darwen	28.2%	£24,579	£24,761
Blackpool	33.5%	£24,393	£24,784
Burnley	29.6%	£25,987	£24,480
Chorley	26.0%	£31,110	£27,786
Fylde	21.8%	£36,089	£35,166
Hyndburn	26.3%	£25,425	£30,040
Lancaster	23.0%	£29,228	£29,218
Pendle	33.7%	£26,613	£23,458
Preston	19.2%	£26,918	£26,938
Ribble Valley	22.8%	£34,688	£38,326
Rosendale	26.9%	£27,738	£26,156
South Ribble	22.2%	£29,781	£30,782
West Lancashire	27.3%	£29,833	£29,757
Wyre	40.8%	£27,252	£26,136
Lancashire	27.2%	£28,553	£28,549
North West	24.1%	£29,700	£29,558
England	23.0%	£31,766	£31,777

Source: Real Living Wage - Annual Survey of Hours and Earnings (April 2019 and April 2020); Wages – ONS Annual Survey of Hours and Earnings (2019)

^{xii} Here the average refers to the median annual wage.



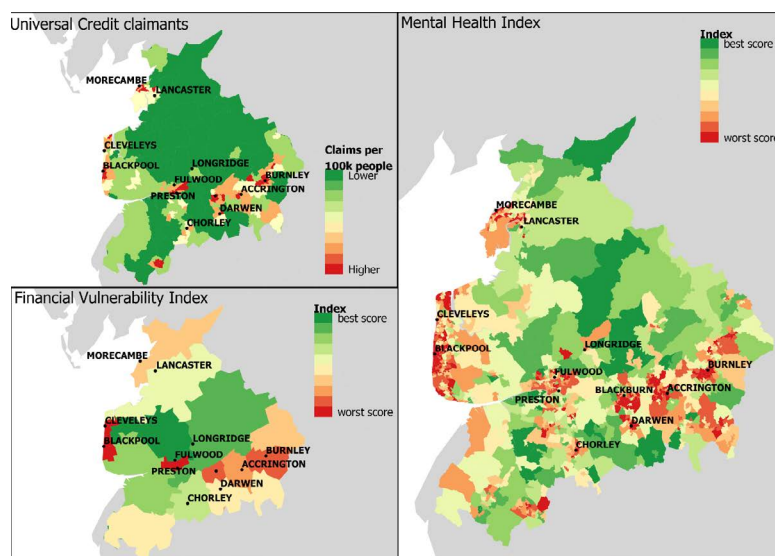
Case Study: Real Living Wage, Preston

Since pioneering Real Living Wage pay in the North over ten years ago, Preston City Council have been promoting the pay rates set by the Living Wage Foundation. Nearly 50 other employers in the area have joined the Council in paying their employees the Real Living Wage, helping Preston have the lowest rate of employees paid below the Real Living Wage in Lancashire. This is part of wider work in Preston on Community Wealth Building, which aims to create a resilient and inclusive economy for the benefit of the local area.

Places with concentrations of health deprivation and low healthy life expectancy also have high Universal Credit claimant rates, driven by people either out of work or on low incomes. As shown in Figure 13, these places, including Blackpool, Preston, Blackburn and Burnley, have higher levels of financial vulnerability and score worse on the Mental Health Index than other parts of the county. Money troubles and mental health are interconnected with poor mental health making managing money more difficult and potentially causing barriers to entering and sustaining employment, whilst stress caused by financial difficulties can also worsen mental health.³³

Mental health is a growing concern amongst all age groups due to Covid-19 with the Lancashire and South Cumbria NHS Foundation Trust highlighting in their Call for Evidence response that they are “currently experiencing a high demand for mental health services with people accessing services through the urgent care pathway”. Lancashire County Council also set out in their response to this Review that “young people who are NEET have significantly higher levels of mental health concerns than those 5-6 years ago, impacting on social mobility and employment”. Improving mental health and working towards zero suicides is an ambition of the Lancashire and Cumbria ICS.

Figure 13. Universal Credit claimants, Mental Health Index and Financial Vulnerability Index



Source: Department for Work and Pensions (2021), Urban Institute, Parliamentary Constituency-Level: Financial Vulnerability Index (2019) and Place-Based Longitudinal Data Resource, Small Area Mental Health Index (2018)

³³ Mind (2021) Money and mental health.



Case Study: Shelter Lancashire

The Lancashire arm of the national charity Shelter UK has been working to address the rise in demand for housing advice and provide services to help support the homeless but also work to prevent homelessness. They offer a specialist debt and benefits advice service and run a drop in at the Blackburn Job Centre, supporting people with Universal Credit, or those with problems accessing benefits. They also offer access to specialist housing, debt and benefit advisers, and solicitors that can help people facing eviction or homelessness.

Social determinant 5 – Communities

The word ‘communities’ has different interpretations, but in The Marmot Review it refers to housing quality, transport accessibility and environmental factors, such as air pollution and access to green space.³⁴ Lancashire Wildlife Trust note that “people’s health and wellbeing can be improved by ensuring there are wildlife-rich, natural spaces near the places where people live and work”. This is also reflected in the response from the Ribble Rivers Trust. Climate and environmental change has the potential to have significant impacts on health and wellbeing.

In this report, the analysis has mainly focused on housing, as this has been identified as important challenge, whilst Lancashire scores relatively well for environmental measures in the ONS Health Index, and has below average levels of mortality attributable to air pollution.

Table 8 shows that housing in Lancashire is more affordable than the English average. Some areas, such as Burnley, have high levels of affordability (a ratio lower than 4), where housing is on average 3.54 times higher than annual incomes. The challenge in Lancashire is the quality of housing with high levels of fuel poverty (unable to afford heating costs) in many areas, including Blackpool, Hyndburn and Burnley.

Table 8) Communities Scorecard

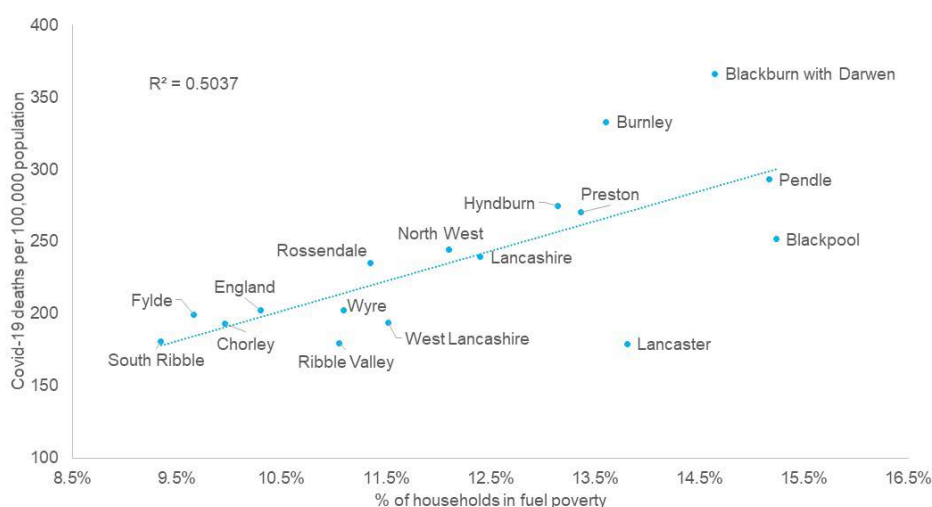
	Housing affordability ratio	Households in fuel poverty	Deaths caused by air pollution
Blackburn with Darwen	4.68	14.6%	4.3%
Blackpool	4.71	15.2%	3.8%
Burnley	3.54	13.6%	4.3%
Chorley	5.33	10.0%	4.2%
Fylde	5.40	9.7%	3.4%
Hyndburn	4.13	13.1%	4.4%
Lancaster	5.39	13.8%	3.5%
Pendle	4.10	15.2%	4.3%
Preston	5.02	13.4%	4.2%
Ribble Valley	6.20	11.1%	3.6%
Rosendale	5.05	11.3%	4.0%
South Ribble	5.45	9.3%	4.1%
West Lancashire	5.97	11.5%	4.1%
Wyre	5.69	11.1%	3.5%
Lancashire	5.05	12.4%	4.0%
North West	5.50	12.1%	4.5%
England	7.56	10.3%	5.1%

Source: Housing affordability – ONS (2019); fuel poverty – BEIS (2018); Air quality and health impacts – Lancashire County Council (2019)

³⁴ Michael Marmot, Jessica Allen, Peter Goldblatt, Tammy Boyce, Di McNeish, Mike Grady, Ilaria Geddes (2010) Fair Society, Healthy Lives: The Marmot Review. London: Institute of Health Equity.

Figure 14 shows that there is a strong relationship between fuel poverty and Covid-19 deaths. Areas with higher fuel poverty such as Blackburn with Darwen, Burnley and Pendle also have high Covid-19 deaths. In contrast, areas with low fuel poverty, such as South Ribble, Fylde and Chorley, have lower Covid-19 death rates.

Figure 14. Fuel poverty against Covid-19 death rates



Source: Fuel poverty – BEIS (2018); Gov.uk UK Coronavirus Dashboard (March 2020 to April 2021)

Higher levels of fuel poverty are often linked to concentrations of older housing. Similar to other parts of the north, Lancashire has relatively old housing stock, as shown by the proportion of homes built prior to 1945 in Figure 15. In much of the county, including Blackburn, Preston, Ribble Valley and Lancaster, between 40% and 50% of homes predate the end of the Second World War. It is over 50% in Blackpool, Hyndburn, Rossendale and Burnley, and 66% in Pendle (the fifth highest proportion across England and Wales). This is similar to other ex-industrial areas, including South and North Wales, and major urban areas, such as London and Liverpool. Older housing stock is typically less energy efficient and so more expensive to heat.

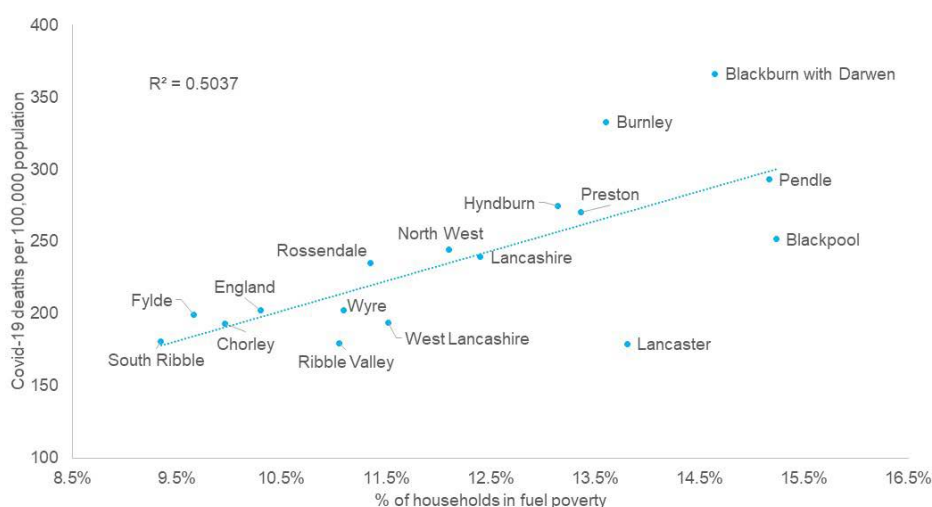


Case Study: Housing retrofit

There are several examples of housing retrofit schemes in Lancashire to reduce carbon emissions and fuel poverty. In its 2021 Budget, the County Council has allocated £3m of Green Energy Fund money to renewable energy projects, including retrofitting homes at scale to help address fuel poverty. The Cosy Homes In Lancashire (CHiL) is a countywide energy efficiency and affordable warmth initiative, established by the 15 Lancashire local authorities following a comprehensive energy efficiency study commissioned by Blackpool Public Health in 2013. Since it launched in 2014, it has secured over £10m of funding, helping more than 10,500 residents. In March 2021, Blackpool Council was awarded £2m to retrofit 285 homes, including 50 Council owned homes.

Figure 14 shows that there is a strong relationship between fuel poverty and Covid-19 deaths. Areas with higher fuel poverty such as Blackburn with Darwen, Burnley and Pendle also have high Covid-19 deaths. In contrast, areas with low fuel poverty, such as South Ribble, Fylde and Chorley, have lower Covid-19 death rates.

Figure 14. Fuel poverty against Covid-19 death rates



Source: Fuel poverty – BEIS (2018); Gov.uk UK Coronavirus Dashboard (March 2020 to April 2021)

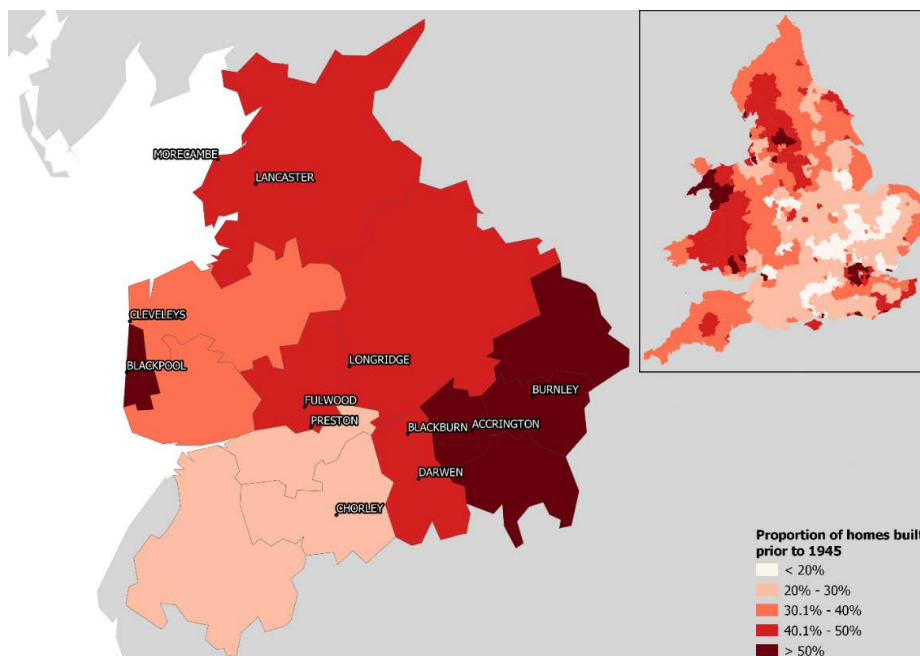
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Figure 15. Proportion of homes built prior to 1945 in Lancashire and England



Source: Valuation Office Agency (2020)

Overcrowding and multigenerational living is common in many urban areas. Figure 16 shows analysis of household overcrowding using average household size. Blackburn with Darwen has higher levels of overcrowding than most areas in the North West. This is often referenced as an important factor in high Covid-19 death rates.

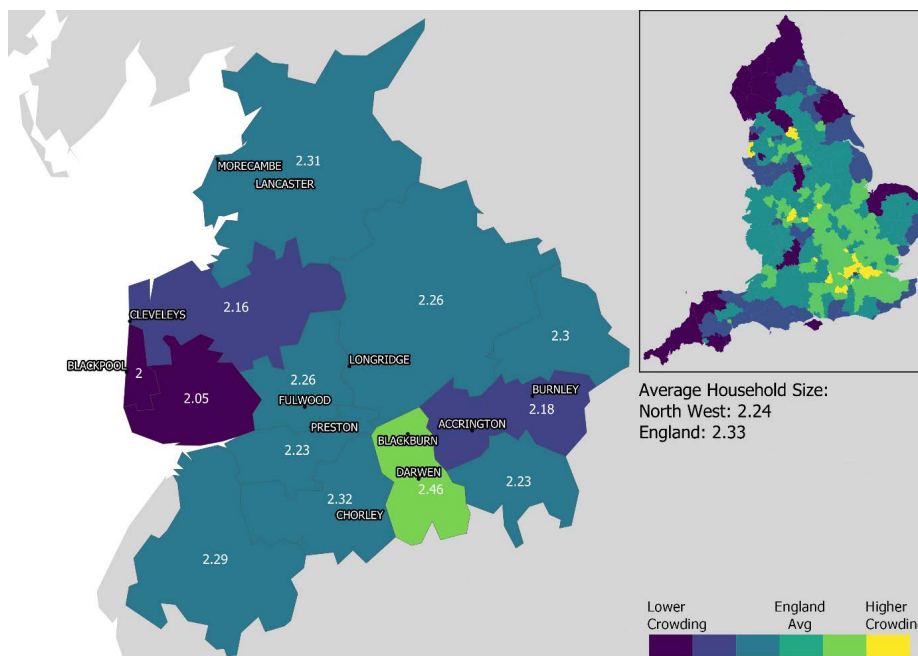
In some coastal areas, such as Blackpool, Houses in Multiple Occupancy (HMOs) are a particular challenge. This does not show up in the overcrowding data, as HMOs are properties rented out by at least three people who are not from one 'household', such as a family, but share facilities like a bathroom or kitchen.³⁵ Old, disused and low-price guest houses and hotels, bought by private landlords, generate high yields from subdividing the buildings to a high number of tenants. There is often little incentive to improve the poor conditions of many of these premises. Many of the tenants living in the HMOs are on low incomes and have been displaced from other towns, resulting in a concentration of poor health, poverty, crime and alcohol and drug misuse.³⁶ Blackpool is a net importer of people with poorer health, who may be out of work or in a precarious job and a net exporter of people with good health and skills, as shown by analysis of inflows and outflows of people by socio-economic group and by limiting long-term illness.³⁷

³⁵ UK Government.

³⁶ LGA (2020) Improving the private rented sector: Blackpool Borough Council.

³⁷ Blackpool Council (2017) From the ground up: The health of the people of Blackpool 2017.

Figure 16. Average household size in Lancashire and England



Source: House of Commons Library (2020)



Case Study: New Homes from Old Places, Blackpool

Blackpool Council is working to address the challenges around HMOs. The 'New Homes from Old Places' planning policy was introduced to improve the quality of conversions of old guest houses. It has been implemented alongside a widening of areas for potential conversions to maintain the new supply at a rate of 80-100 homes per year.

Where next?

The places in Lancashire with challenges in the five social determinants also have poor health outcomes. In the most health deprived places, outcomes for children in their early years are poor, impacting how children perform at school and the opportunities available to them later in life. Whether or not a person is in work is closely related to their health, but even when people are in work, 27% of jobs are in low pay. In parts of Lancashire, housing quality is poor with adverse impacts on health outcomes.

The five determinants are interconnected. Poor quality or overcrowded housing may impact a child's development or ability to study, for example. This means that investments and policy must look across the lifecycle. For social infrastructure this should start with prenatal support and the first 1001 days of a child's life and look towards ensuring that there are routes into meaningful and high-quality jobs with progression and lifelong learning opportunities. On physical improvements, good quality housing is a priority in Lancashire to ensure people at all stages of life can live healthily and flourish.

This next section looks at the role of health innovation in delivery of healthcare and health outcomes in Lancashire, as well as creating new economic opportunities.

Health innovation



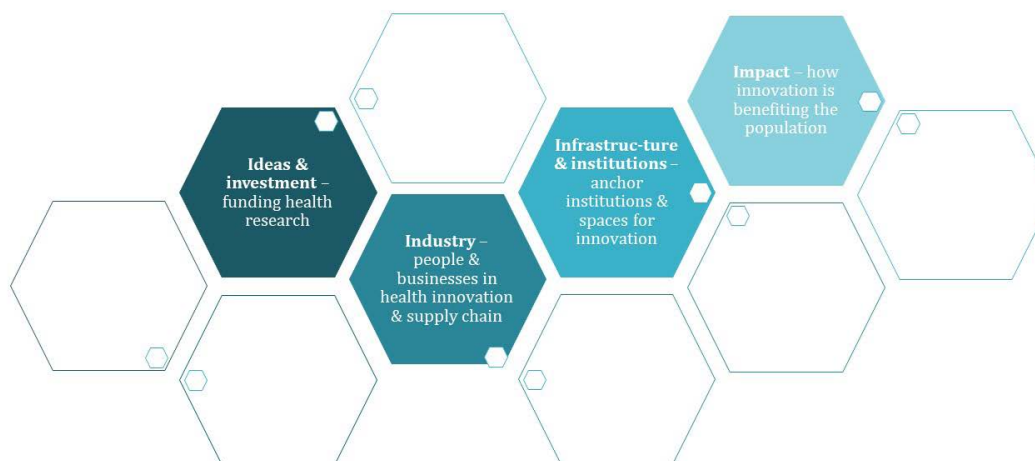
The fourth aspect reviewed in this report is the potential health innovation has to bring new jobs and investment to Lancashire, as well as address poor health outcomes. Lancashire is well located within the North West region to complement activity in Manchester and Liverpool to pursue health innovation. There are similar health challenges across the region and Covid-19 brings an opportunity to collaborate on health improvement.

Health innovation has different definitions, some of which are set out below:

- Research and development (R&D), life sciences and pharmaceuticals, such as the development of the Covid-19 vaccine
- Innovation in the delivery of health services, for instance through GP surgeries shifting to online consultations during the pandemic, the digitalisation of medical records, and new forms of collaboration and joint commissioning
- Trialling and testing of digi-health, diagnostics and devices, such as new web-based apps for patients to self-manage conditions through predictive prevention
- Innovation in procurement and skills, such as through the Lancashire Anchor Charter and work of Well North Enterprises

This section starts to capture and measure health innovation across Lancashire, including its strengths and opportunities. This initial analysis could be continued by Lancashire through the Lancashire Enterprise Partnership Health and Life Science Sector Group to better identify and articulate health innovation opportunities. As R&D in areas such as health and life sciences continue to be a priority for UK government, it will be important for Lancashire to develop its USP, refine its focus and think through how it collaborates and works with neighbouring regions.

Three lenses have been used to understand what health innovation means in Lancashire: ideas and investment, industry, and infrastructure and institutions, with the impact on the population considered across these three.



Identifying Lancashire's USP

Health innovation is a relatively new opportunity in Lancashire, but there is some interesting and promising activity across the county, through the Lancashire Enterprise Partnership Health and Life Science Sector Group, North West Coast Clinical Research Network and work in population health led by the ICS and ICPs. The NHS Innovation Agency highlight in their response to this Review that health and life sciences are likely to be important sectors in the post-Covid-19 context and need to be “strategically invested in as part of the build back better levelling up agenda”.



Case Study: Health and Life Science Sector Group

The aim of the Group is to improve the economic prosperity of Lancashire. Their vision is to develop a Health Productivity Hub to bring together business, academia, health and community sectors to bring health and productivity above the national average within 20 years, as well as to increase the number of businesses. Their long-term approach to health and productivity also involves targeting the areas with worst health inequalities, employment challenges and most significant nursing and social care needs.

Lancashire brings together the following attributes to consider when thinking around USP:

Health sector

A large, growing health sector with strong assets, including its universities, medical schools and hospitals with strengths in training allied health care professionals. This is a complex landscape with three public health departments, five ICPs, eight CCGs, four Health Care Trusts, three universities and a diverse business base. Looking across the North West, there are strong cross-border relationships between health providers, universities and businesses in Lancashire and Manchester, Liverpool and South Cumbria, which have strengths in life sciences and pharmaceutical manufacture. There is the opportunity to join up and coordinate at the ICS level, which if maximised would bring significant benefits to addressing poor health.

Population health

Lancashire's stable population of 1.5m is characterised by relatively low but steady growth of 0-1% year on year, but with a slightly ageing population. The combination of coastal, rural and urban deprivation and areas with ethnically diverse communities and older, ageing populations, are all within a large and distributed geographical footprint. This diverse mix of areas, ethnicities and demographics provides a testbed for health innovation.

Ideas and investment

Lancashire is starting from a relatively low base in terms of generation of ideas and investment in health innovation. Over 60% of health research funding in the UK is concentrated in the 'golden triangle' of London, the South East and East of England.³⁸ For Innovate UK health funding alone, this is higher at 68% of total funding, whilst in the last ten years, the North has only received 16%, the North West just 4%, and less than 1% in Lancashire (0.17%). Insights from the consultation has suggested that this creates a reputational barrier and a cycle where public and private funding in health research continue going to the same places where there is track record of success.

There are relatively low levels of patent applications in health innovation relative to sub-sectors of advanced manufacturing and engineering in Lancashire, as well as regional and national comparators.³⁹ From 2005 to 2017, less than 1% of patent applications have been in pharmaceuticals and biotechnology, which is below the regional and national average. There are signs of growing strengths in medtech with a higher share of patent applications (around 5% of total applications), which is slightly higher than the English average, but lower than the Northern Powerhouse average.

Lancashire has received a relatively low number of Innovate UK grants relating to health. Between 2011 and 2021, Lancashire has received less than six grants per year in 'Ageing Society, Health and Nutrition', relative to 2-16 per year in the Liverpool City Region and 5-31 per year in Greater Manchester. Over the last ten years, 6% Innovate UK funding has related to health in Lancashire, compared with 20% in the North West, 15% in the North of England and 18% in England. ►

³⁸ Bamba, Munford, Brown et al (2018) Health for Wealth: Building a Healthier Northern Powerhouse for UK Productivity. Newcastle: Northern Health Science Alliance.

³⁹ Lancashire Enterprise Partnership (2021) Local Industrial Strategy: Evidence Base – 2020 Refresh, using analysis of Intellectual Property Office data (2017).

- ▶ Looking at how this proportion has changed across these ten years shows that in 2011, there was a large gap between Lancashire and the North West and England, which has reduced over time, as Lancashire has tracked the regional and national trajectory (Figure 17). There has been a decrease in the number and proportion of health-related grants since 2016. The proportion of Innovate UK grants awarded in health peaked at 17% in Lancashire in 2016/17, before decreasing to 2% in 2020/21. Relative to other sectors, such as manufacturing, health related grants have a low total value.

Figure 17. Proportion of Innovate UK projects awarded in health



Source: Innovate UK (2011-21)



Case Study: Lancashire Health Matters

Lancashire Health Matters is a partnership between the Innovation Agency and UCLan, the initiative aims to connect businesses with healthcare and support them to move into the healthcare sector with new, or innovations to existing products. Lancashire Health Matters is part of an ERDF funded programme with two other collaborators: Cheshire and Warrington Health Matters and Liverpool City Region Health Matters.

Four out of ten health related Innovate UK projects have been in hospital equipment and technology since 2018, improving the methods used in healthcare. Production of medical technology and equipment has been accelerated over Covid-19, as manufacturing firms have shifted to producing PPE and ventilator parts, and UCLan has provided 3D printing and rapid manufacturing facilities for local manufacturers.

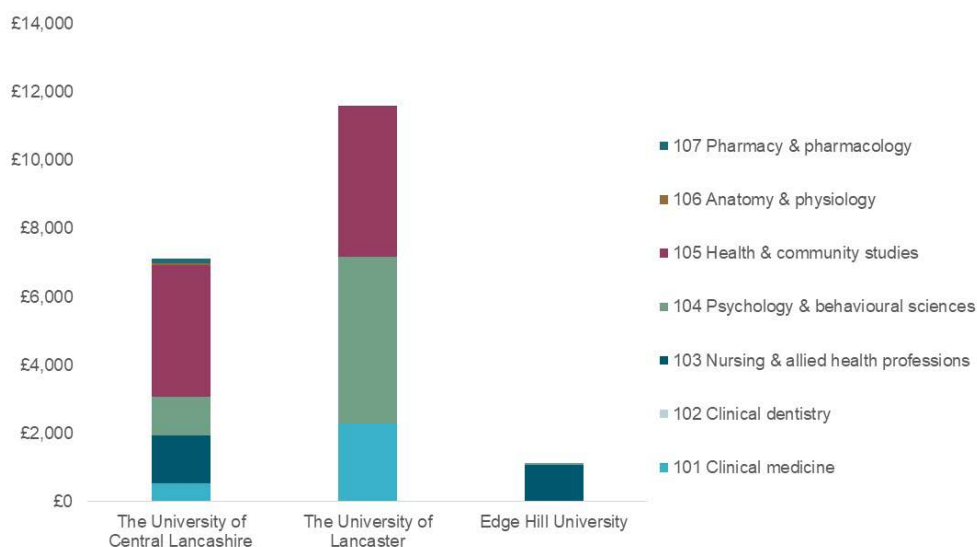


Case Study: C Major – Auto-Retractable Syringe

There are an estimated 100,000 needle stick injuries in the UK annually and an estimated 3m worldwide. Currently being used in primary care worldwide to reduce the frequency of injuries, the auto-retractable safety syringe is an example of product innovation with roots in Lancashire. Developed in Blackburn with Darwen and produced by the business C-Major, the technology is patented worldwide and is a key component in improving the safety of healthcare staff. The company received circa £450k in grant funding in 2018/19 to produce a feasibility study – accounting for approximately half of Lancashire’s grant funding in health-related projects that year.

Figure 18 shows the total research income to Lancashire universities for health-related research.^{xiii} The value of income from health-related research has slightly increased since 2016/17 at UCLan (23%) and Edge Hill (19%).

Figure 18. Research income related to health by category (£000)



Source: Higher Education Statistics Agency (2015-19)

Lancaster University’s health research income is higher than its neighbouring universities, but represents a smaller proportion of total research income (5%). Lancaster University produces high quality research with the Faculty of Health and Medicine at Lancaster University achieved a 100% 4* rating for its research environment and was ranked 3rd of 94 in the UK for Grade Point Average (GPA), referring to level of achievement at the end a degree. However, income from health-related research has fallen between 2017/18 and 2018/19, unlike UCLan and Edge Hill.

^{xiii} Please note, this analysis has been carried out for universities that have their administrative centre in Lancashire. The University of Cumbria has a Lancaster campus, but its main university is in Cumbria, and the data does not allow for disaggregation by campus.

⁴⁰ Driving productivity growth through innovation in high value manufacturing: A Science and Innovation Audit report sponsored by the Department for Business, Energy and Industrial Strategy (2016).

The region has growing expertise in the field of medical practice and process improvement, led by its universities. Edge Hill and UCLan have large professional development programmes aimed at upskilling healthcare employees. Edge Hill University has a focus on improving medical practice and clinical outcomes through collaboration with academic and medical professionals. This research is enhanced by the university's facilities – namely the new Clinical Skills and Simulation Centre, designed to simulate a healthcare environment to practice new innovations. The space includes wards, theatres, and clinical space, allowing new innovations to be trialled before they reach the public.

Lancashire is also carrying out research and projects in population health. This includes creating structures to engage residents in the testing of new methods through the NIHR Lancashire Clinical Research Facility.



Case Study: NIHR Lancashire Clinical Research Facility

A partnership between the Lancashire Care NHS Foundation Trust, Lancashire Teaching Hospitals NHS Foundation Trust and Lancaster University, the facility aims to bring early phase research studies into the area and allow innovations to be tested and scaled within Lancashire. This project involves R&D, clinical research organisation and analytical services to be conducted. It also creates business opportunities for startups.

Industry

Lancashire has a large and growing health sector with high employment in service delivery and large hospitals. There are over 74,000 health jobs in Lancashire (including pharmaceuticals, manufacturing and R&D)^{xiv}. As shown in Table 9, this is a larger part of the Lancashire economy (10.6%) than the regional (10.2%) and national average (8.9%). Employment growth is relatively high at 11%, compared to 7% nationally.

Table 9) Employment share and growth in health

	Share of total employment	Employment growth
Lancashire	10.6%	11%
North West	10.2%	13%
England	8.9%	7%

Source: ONS BRES (2015-2019)

^{xiv} Please note, this analysis has been carried out for universities that have their administrative centre in Lancashire. The University of Cumbria has a Lancaster campus, but its main university is in Cumbria, and the data does not allow for disaggregation by campus.

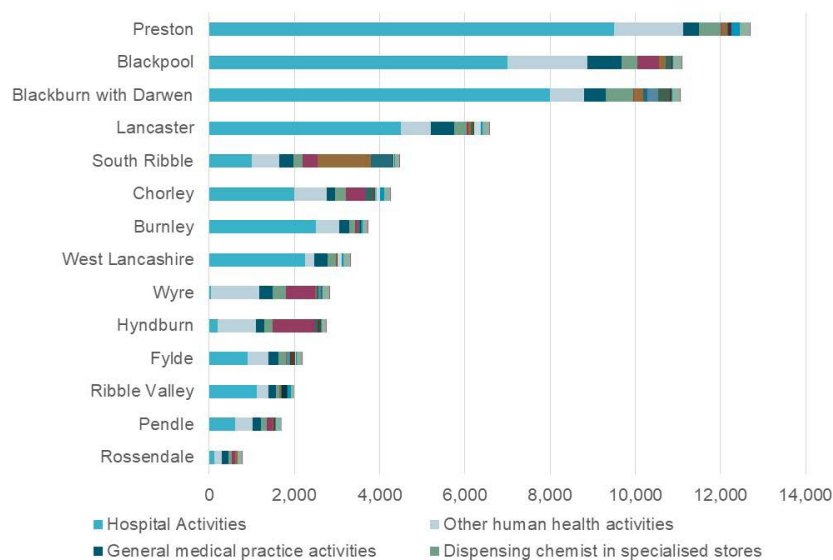
Most employment is in hospital activities and other human health activities (50,000 jobs; 72% of health jobs), general medical practice (4,750 jobs; 7% of health jobs) and dispensing chemists (3,500 jobs; 5% of health jobs). As shown in Figure 19, employment in human health contributes significantly to the total health employment in Blackburn with Darwen (86%), Blackpool (94%), Lancaster (91%) and Preston (94%), due to the large hospitals based there. Human health also includes employment out of hospitals, such as GP surgeries, walk-in centres and community hospitals.



Case Study: Lancashire Hospitals

Lancashire Teaching Hospitals NHS Foundation Trust is moving forward as part of the second phase of the Government’s Health Infrastructure Plan. The initial funding of £10m will enable a business case to be created to access significant funds for a new build hospital upgrade and updated facilities. The strength and quality of hospital assets is critical to improving health and economic outcomes in Lancashire. It is likely that the final funding will be in excess of £1bn, presenting a significant economic opportunity with the potential to improve health and wellbeing.

Figure 19. Employment in health by local authority

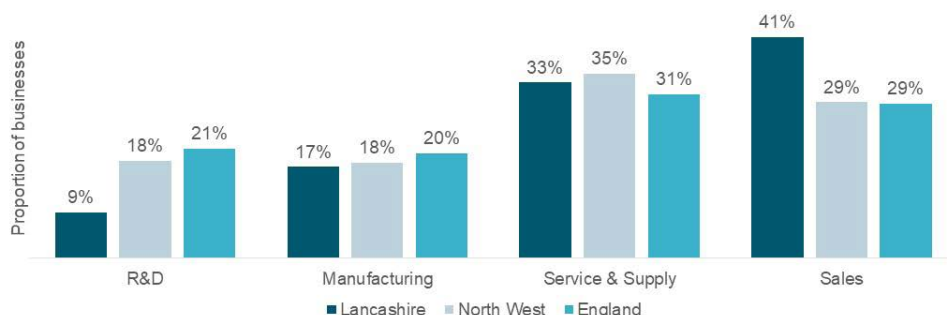


Source: ONS BRES (2019)

Growth in Lancashire is driven by delivery of health services, with lower, declining employment in innovation and R&D. The majority of growth has been in human health activities with 4,500 new jobs since 2015. Pharmaceutical manufacture is a small sub-sector in Lancashire with 525 jobs, but there has been modest growth in employment since 2015 with 265 new jobs, mainly in Blackburn. Retail of medical technology has 345 jobs with 210 new jobs since 2015, most in Fylde. Employment in R&D is relatively low with 400 jobs in natural sciences in 2019, having fallen 50% since 2015 (from 800 jobs), and less than 50 jobs in biotechnology R&D.

Most bioscience and health technology businesses in Lancashire are engaged in service and supply^{xv} or sales. Only 9% of businesses operate in the R&D activities, half that of the North West (18%), and lower than in Greater Manchester (20.6%) and the Liverpool City Region (20.9%). The proportion of businesses involved in the manufacturing process is higher than in Cheshire and Warrington, but lower than the regional and national averages, as well as Greater Manchester (20.6%) and Liverpool City Region (23.5%). Lancashire has a higher proportion of businesses involved in sales, which is above the regional and national averages and comparator areas. The share of firms in service and supply is slightly higher than the average for England, Greater Manchester and Liverpool City Region, but significantly below the level for Cheshire and Warrington (43.2%).

Figure 20. Proportion of health businesses operating in core activities^{xvi}



Source: *Bioscience and Health Technology Sector Statistics (2019)*

Businesses are distributed across Lancashire, but often in close proximity to universities. Blackpool and Fylde are home to a number of major employers in the production of medical devices. Firms in the west of the county tend to be more supply and service focused, whereas in the east they are more manufacturing focused, reflecting traditional sector strengths in manufacturing.

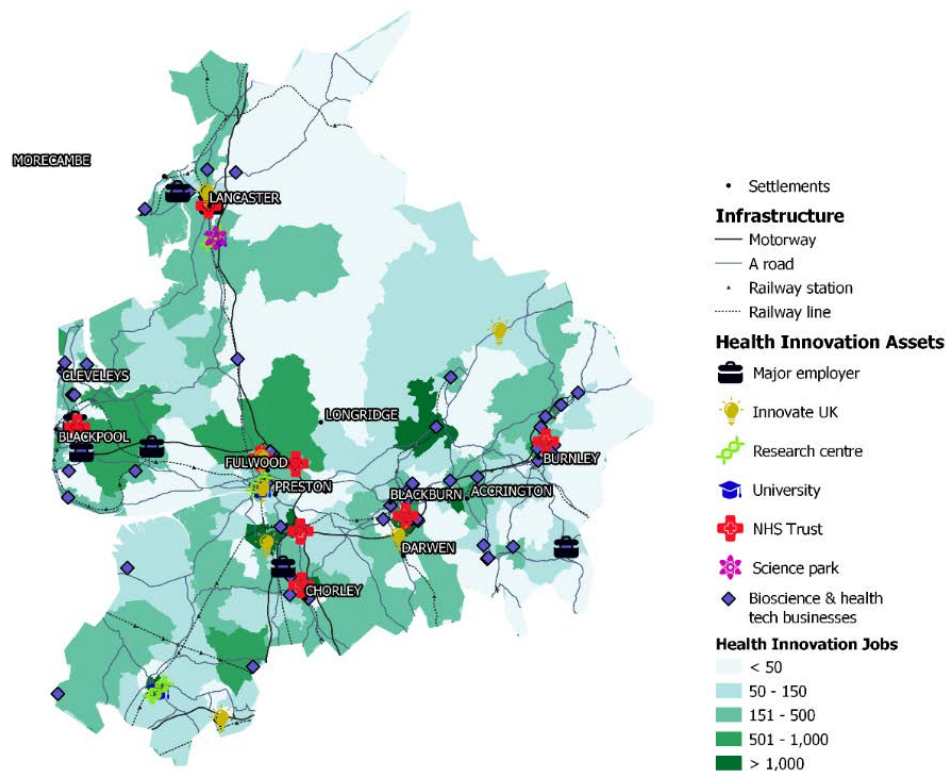
^{xv} Please note, this analysis has been carried out for universities that have their administrative centre in Lancashire. The University of Cumbria has a Lancaster campus, but its main university is in Cumbria, and the data does not allow for disaggregation by campus.

^{xvi} Please note, the sum for an area may not equal 100% due to businesses with more than one activity listed.

Infrastructure and institutions

Mapping research centres, hospitals, universities, science parks, Innovate UK projects and businesses across the county shows that there are concentrations of activity and assets in major towns.

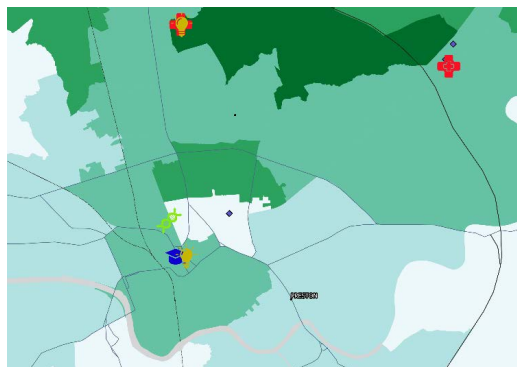
Figure 21. Health innovation assets and activity across Lancashire



Source: ONS BRES (2019); ONS APS (2020)

Concentrations of activity

Preston

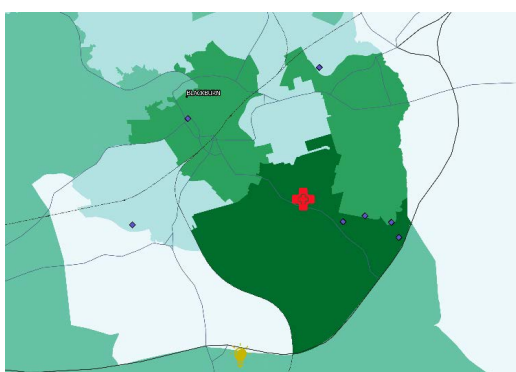


Preston has 12,685 jobs in health with high growth of 23% since 2015.^{xvii} Three in four jobs are in hospital activities, which has grown by 1,500 jobs, whilst there have been 925 new jobs in other human health activities. Preston has a large teaching hospital, Royal Preston Hospital, with Chorley and South Ribble Hospital nearby. These hospitals have specialisms in neurology and neurosurgery, major trauma and rehabilitation, and renal treatment. UCLan is based in Preston, which is the largest provider

^{xvii} Please note, jobs are quoted at the district level, rather than for the built up urban area.

of health and care education in Lancashire with research across the breadth of allied health professionals. The Faculty of Allied Health and Wellbeing, a school and research centre at UCLan, focuses on social work, community care and sport and health sciences. The school is the largest provider of social work education and one of the largest providers of health, social care and sports education in the North West. The university provides support to SMEs to test physical intervention products and devices, and has a new unit, MedTech Solutions, which supports the design and development of medical devices and interventions.

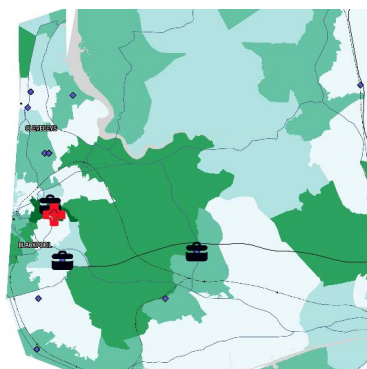
Blackburn with Darwen



Blackburn with Darwen has a large health sector (11,050 jobs), which has had a slight decline in jobs since 2015 (8%). The area is the second largest employer in hospital-related activities in Lancashire, despite a 16% decline in jobs. The borough is home to the Royal Blackburn Hospital, which specialises in treating liver disease, head and neck injuries, cardiology, and providing neonatal care. In November 2020, a £10m acute care project was completed at the hospital. There are several bioscience and health technology businesses in Blackburn,

including two healthcare equipment manufacturers based at the Shadsworth Business Park. Mi3 Medical Intelligence manufacture medical devices used in prevention, diagnostics, treatment and monitoring of diseases, and BMI Critical Care supply single-use products used in the healthcare industry used to treat patients. Bringing together its hospital and manufacturing strengths, Blackburn has plans for a Medi-Knowledge Park to be developed next to the hospital, providing space for medical and science firms and creating 1,542 jobs by 2025.

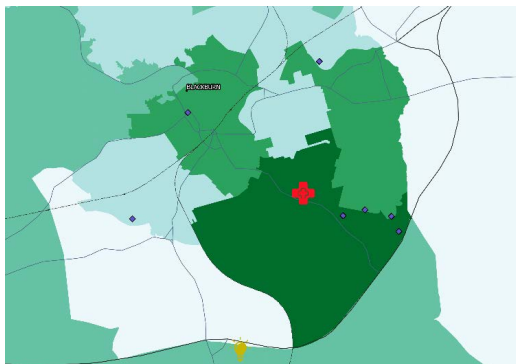
Blackpool



Blackpool has 11,100 jobs in health, growing 27% since 2015. Most of this growth has been in hospital and human health related activities. The local hospital is the Blackpool Victoria, which specialises in haematology and tertiary cardiac services, treating patients from across Lancashire and South Cumbria with heart conditions. Tertiary care involves carrying out complex procedures and treatments and providing care over an extended period of time. Blackpool has major employers including Deputy International and Bupa. Local to the hospital are

manufacturers of pharmaceuticals and wearable protective clothing, as well as firms responsible for producing health related digital technologies. There is strong business activity in Blackpool, but there is notably less Innovate UK projects or research centres than in other parts of the county.

Lancaster



There are 6,585 health jobs in Lancaster with 9% growth. A lower proportion are in hospital activities (68%) than in other areas. The Royal Lancaster Infirmary specialise in cardiology and respiratory problems, oncology and rheumatology, which are common conditions affecting residents across Lancashire.

The hospital is located close to the Lancaster University. The university is home to the Centre for Health Futures, which aims to innovate and improve patient care and a healthier population

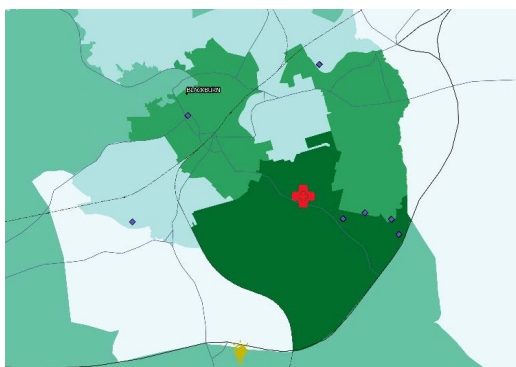
through academic and health practice perspectives with a focus on business and management practice, as well as the newly opened Health Innovation Campus. Major employers in Lancaster include GVS Filter Technology and Flexible Medical Packaging. There are businesses focused on the manufacture of hospital equipment and medical packaging. Rinicare operate in digital health and have received funding to develop a product used in preventative health. They are located in proximity of two biotechnology firms working in R&D in the field of digital health.



Case Study: Lancaster Health Innovation Campus

The £41m Health Innovation Campus is a partnership between the university, LEP and ERDF. In their submission to this Review, Lancaster University emphasised the important role of the Campus in supporting “the LEP on the health and wealth agenda – recognising health can be a barrier to entry into the workplace and then on productivity”. It aims to be a catalyst for stakeholders to address challenges in the wider determinants of health. Representing a shift away from treating illness purely through healthcare and medicine, it will sit alongside all faculties, drawing expertise from social science and management, as well as medicine. The aim is to design projects and pilots based on ideas coming forward from partners, such as the NHS and business.

Ormskirk



The health sector has 3,325 jobs in Ormskirk, but this has declined by 9% since 2015. Ormskirk District General Hospital is a small hospital that specialises in providing care to spinal patients across the North West, North Wales and the Isle of Man. Edge Hill University produces research in health and has two research centres, including a state-of-the-art facility that enables students and professionals to test new and innovative treatment methods. The Postgraduate Medical Institute offers professional development courses and produces research in evaluating

improvements in health. Edge Hill recently opened a Medical School at its Ormskirk Campus, training doctors from 2020.

Other forms of innovation

Lancashire's institutions are carrying out other forms of health innovation, such as through business support, skills and procurement. In their response to this Review, Lancashire and South Cumbria ICS state that "opportunities to improve health and reduce inequalities are available by better connection of the NHS", such as through occupational health support for SMEs, pathways into health and care roles through education and training escalators, social value, health care innovation, and a shift in procurement to increase the local proportion of the £3bn NHS spend in Lancashire and South Cumbria. The examples below illustrate this kind of activity across Lancashire.



Case Study: Morecambe Bay Anchor Collaborative

The Morecambe Bay Anchor Collaborative is led by the NHS and district councils, including Morecambe Bay CCG, University Hospitals of Morecambe Bay NHS Foundation Trust, Lancaster District Council, Barrow Borough Council and South Lakeland District Council. It aims to identify, develop and share how organisations can positively contribute to the Bay area by influencing the health and wellbeing of communities and impacts on the wider social determinants. The Anchor Charter, launched in May 2021, will support organisations to make a difference to local people by widening access to quality work, purchasing and commissioning for social benefit, using buildings and spaces to support communities, reducing environmental impact, and working closely with local partners. An adapted version is in the process of being developed for the ICS with more of an NHS focus.



Case Study: Well North Enterprises

Well North Enterprises, a consultancy firm based in Daresbury, Warrington, work in change management, operating in the innovation space with public and private sector clients in health, education and public services. They were commissioned by the NHS East Lancashire CCG to unlock the aspirations of local residents to improve the community in Burnley Wood. This has included strengthening relationships with key sectors to make improvements to the environment, housing and local economy to positively impact health inequalities. There is a local commitment to join up various opportunities to bring about sustainable place-based change.



Case Study: West Lancashire College Health Careers Academy

West Lancashire College has a Health Careers Academy, which is delivered in partnership with employers and universities, including the Royal College of Nursing, UCLan and Edge Hill University. It provides study in a range of areas, including anatomy, physiology, bioscience and psychology. Work experience placements are provided with the NHS, Virgin Care and West Lancashire CCG

The opportunity

Taking all of the above, and considering the findings in Sections 2, 3 and 4, there are three areas where Lancashire has potential to develop health innovation.

- **Codeveloping community approaches to addressing health deprivation** – to address challenges in health, educational attainment, skills and access to employment at the community level, where disparities in health outcomes are greatest. This would involve codeveloping holistic solutions to these challenges, within and by communities themselves, supported by centrally coordinated access to relevant evidence, industry innovators and academic R&D. This will build on the work of the ICS in co-creating solutions through local partnerships with communities to support neighbourhood development. If Lancashire could develop a successful and scalable approach, the learnings could be rolled out more generally and to attract industry investors through communications and marketing.
- **Managing ill-health in the community** – draw on strengths in training allied health professionals and large healthcare sector to identify areas for innovation to support the better management of ill-health through new models in the community. This could be through service and pathway reform, and through marketing the focus on whole system reforms through clinical trials. Joining up health data at the level of the citizen, with digitised health records and active public/patient engagement in developing robust protection of individual data, would enhance Lancashire’s position as a place that supports innovation. Data collection rooted in communities has the potential to support future public service design and community development, for instance by linking health to work and young people to support.
- **Testing digital, diagnostics and devices** – this would combine Lancashire’s large healthcare sector and proximity to life sciences R&D with a large, stable and distributed population with significant health needs. A strong partnership between the NHS, universities, business and patients would improve health outcomes and support business growth. This would support a shift to prevention and the early diagnosis and treatment of diseases, as well as more personalised approaches to managing health conditions through predictive prevention.

Where next?

Health innovation is a relatively new opportunity in Lancashire, but there is a range of activity across the county. This includes the strategic work of the Health and Life Science Sector Group, population health led by the ICS and ICPs, and large-scale projects led by the universities. There are opportunities to develop holistic solutions to poor health and related challenges at the community level and improve the better management of ill-health within the community through service and pathway reform, clinical trials and testing of digital, devices and diagnostics. Refining Lancashire’s USP and how it fits within the wider North West region will support the development and growth of health innovation, with the potential to increase productivity through the creation of high-quality jobs and to reduce the health gap.

This next section sets out the main findings from the lifecycle, health outcomes, social determinants and health innovation analysis and how Lancashire could take this forward.

Main findings and recommendations



Main findings

The main findings of the Health, Wealth and Wellbeing deep dive are set out below:

- Improving health outcomes in Lancashire has the potential to generate £1.4bn additional GVA for the UK economy per year.
- The most significant challenges across the lifecycle in Lancashire are in Early Years and Working Years.
- Health is an important driver of performance across the lifecycle and in the most health deprived places, there tend to be interrelated challenges across the five social determinants of health.
- There are high levels of health inequality with over a quarter of neighbourhoods in the top 10% most health deprived in the country and low levels of health deprivation in other areas, and a healthy life expectancy gap of 24 years between the best and worst performing areas.
- Some places in Lancashire are amongst the worst performing nationally for the performance of children in early years, despite having high quality provision, which is closely related to performance later on in childhood. There are strong links between educational attainment, health and wages.
- Whether or not a person is in work is closely related to health, but even when people are in work, 27% of jobs are in low pay.
- Lancashire has some of the highest levels of pre-1945 housing stock in the country, which is closely related to high levels of fuel poverty and poor health outcomes. ►

- ▶ • In parts of Lancashire, including Blackburn with Darwen, Blackpool, Burnley, Hyndburn and Pendle, multiple complex, overlapping challenges come together with poor outcomes for people in their early and working years, high levels of health deprivation, and low performance in outcomes for early years, education, work, income and housing.
- R&D activity in health innovation is starting from a relatively low base in Lancashire with the county receiving less than 1% of Innovate UK funding. There are signs of emerging strengths in medtech, but other regions are further ahead in this increasingly competitive sector.
- Lancashire's strengths in health tend to be focused on the delivery of healthcare and application of technologies, rather than in R&D or manufacturing, which is complementary to neighbouring regions.
- There are concentrations of health innovation activity in major Lancashire towns, typically based around an asset or institution, such as a hospital or university.

Recommendations

The opportunity for Lancashire is to transform its approach to the health and wealth agenda to close the productivity gap, recover inclusively, develop greater resilience and build back better from Covid-19. There are five potential priority areas with a set of recommendations for the Independent Economic Review, Health Inequalities Commission and Health and Life Science Sector Group to consider.

We recognise that there are a wide ranging set of recommendations below. These reflect the broad scope of this deep dive, and it is likely that not all can – or perhaps should – be implemented at once. The next step will be for Lancashire system leaders to consider where to focus efforts, with short and medium term implementation and further evidence gathering through the Health Inequalities Commission. We would suggest that Lancashire consider the report and recommendations collectively, using existing and emerging local partnerships to review and respond to what is set out here.

Health at the heart of economic strategy, recovery and levelling up

Lancashire should develop a strong foundation to transform Lancashire's health and wealth agenda through evidence, strategy, measurement, governance and leadership.

1. Develop a more in-depth understanding of key areas – the Health Inequalities Commission could build on this deep dive to develop detailed analysis of health at the micro, community and cohort level to identify vulnerable populations at all stages of the lifecycle, with a particular focus on early and working years. The Lancashire Local Enterprise Partnership Health and Life Science Sector Group could build on the analysis in this deep dive to better identify and articulate health innovation opportunities.
2. Embed health in the Greater Lancashire Plan – this is an opportunity to develop a health and wealth strategy, focusing on cross lifecycle interventions, particularly in whole family support, quality of work and housing.
3. Make Lancashire a national leader in measuring impact – this could involve measuring Value for Money through the economic and social benefits of health interventions, and the health ▶

- ▶ benefits of economic interventions to continue to demonstrate the links and improvements that can be made by considering health and wealth in one system. Embed a single set of shared outcome measures across the health and wealth system and all interventions. A strong evidence base of 'what works' could be used to roll out initiatives in other places.
- 4. Strengthen governance and leadership, including a Start for Life leader – Lancashire should continue to develop the roles of the ICS and Health and Life Science Sector Group, both of which offer an opportunity for the whole system to come together and coordinate activity to address poor health. Given the importance of early years and best start for life to local authorities and the ICS, Lancashire could identify a single leader who would be accountable for this work.

Systems change and planning

Lancashire should build on the good work to date on multi-agency collaboration and joint working to develop systems approaches to improving health.

- 5. Adopt a systems approach to health and wealth – this should enable local leadership to implement effective approaches to systems planning, bringing together different service areas to provide support. This should prioritise early intervention through long-term investment, co-ordinated across agencies.
- 6. Develop an Anchor Institution Charter – there is already good work in this area through the Morecambe Bay Anchor Collaborative and the work of the ICS on developing an NHS focused anchor charter. More could be done to leverage the collective procurement, skills, employment and investment power of Lancashire's anchor institutions in their widest sense. This could include voluntary & community sector organisations, the public sector and education providers for example.

National exemplar health and wealth projects

This analysis has demonstrated that there are challenges linked to particular life stages and social determinants, which Lancashire should aim to address through the design, delivery and evaluation of targeted interventions.

- 7. Consider where Start for Life and Family Hubs could be beneficial – building on Better Start Blackpool, Lancashire could consider implementing the recommendations from the Early Years Healthy Development Review Report around a Start for Life offer, accessible to all families through Family Hubs. This programme would have evaluation built in from the start to understand what works and the lessons learned could be used to shape how the programme is rolled out nationwide.
- 8. Increase health & work programmes to support working age adults to enter and remain in employment – this programme could be implemented in areas with a high claimant count and / or low average healthy life expectancy. It could build from some of the existing workplace health programmes and partnership working in Lancashire to better integrate health and employability support for those out of work or at risk of leaving the labour market. Better understanding of what works for local residents in this area could be a focus of the Health Inequalities Commission. ▶

- ▶ 9. Develop a Good Work Charter – complementing the work on anchor institutions, Lancashire could codevelop an employment charter with anchor institutions, businesses, and the Voluntary, Community, Faith and Social Enterprise sector. This could focus on improving the quality of jobs across the business base with a focus on income, contracts and in work health. It could follow a similar model to charters developed in other parts of the UK, including Greater Manchester and Liverpool City Region.
- 10. Increase the Lancashire Lifelong Learning offer – Lancashire should work with its colleges and training providers to facilitate lifelong learning for residents to support in-work progression and help people escape the cycle of low pay. This should involve the development of courses and bitesize learning, which is accessible for full-time employees. This should align with plans which are developed around the Lifelong Loan Entitlement.
- 11. Deliver a housing retrofit scheme – improving the quality and energy efficiency of housing across Lancashire should be a major priority to improve health, address fuel poverty and reduce carbon emissions. This could be linked to employment and training opportunities for young people and those out of work.
- 12. Codevelop high quality, liveable and connected neighbourhoods – through cocreation with local communities. Good quality housing should be complemented by strong community infrastructure and neighbourhoods. This should focus on connectivity, mobility and walkability with access to services, green spaces and good quality food, to support behavioural changes which will lead to healthy and resilient communities. Better understanding what works already and what local residents would like to see in their local spaces could be further explored in the Health Inequalities Commission.

Prevention and early intervention

It is important to incentivise longer-term investments in preventative measures that reduce the risk of developing ill health and disease, and support behaviours that improve health.

- 13. Set up a Prevention Fund – the objective of this fund should be on breaking the cycle of poor outcomes through early intervention at all life stages, recognising the social and economic benefits of doing so. It would be a multi-year funding pot, whereby expenditure can be reprofiled to spend more up front, with targets for increased spending on prevention. It could also have a rural funding stream to support innovative projects to improve health and reduce deprivation in rural communities. The Health Inequalities Commission could help shape community-based solutions to bid into this fund. The fund should be integrated into and aligned with existing projects in Lancashire, for instance by building on the good work of the Eden Project curriculum and work of Lancashire Health and Life Science Sector Group on health and productivity.

Lancashire's USP in health innovation

Lancashire should consolidate and co-ordinate activity by different partners across the county to develop its health innovation USP, refine its focus and think through how it collaborates and works with neighbouring regions. ▶

- ▶ 14. Develop Lancashire’s health innovation opportunities and strengths – this should build on any current and future work of the Health and Life Science Sector Group. Potential areas for exploration may include the cocreation of community approaches to addressing health deprivation, managing ill-health in the community, and testing digital, diagnostic and devices. This should be built into the Local Industrial Strategy, work on innovation, and be used to identify bidding opportunities.
- 15. Establish a Health Innovation Network – this could bring together leaders from health, universities, business and communities, and would act as an umbrella organisation, co-ordinating activity of existing bodies and building Lancashire’s strengths in health innovation.
- 16. Connect existing health innovation hubs – this would include hubs at the hospitals and universities to create a clear offer for Lancashire SMEs to engage with, and work more closely with other innovation hubs across the North West to consolidate Lancashire’s regional role in health innovation.

Appendix 1

Lifecycle Approach methodology

The lifecycle approach pulls together data for all local authorities in England. On every measure, the range has been divided into five categories, equally split between the 10th and 90th percentiles (this is to exclude outliers, which are then grouped into either the best (dark green) or worst (red) categories). Each lifestyle stage has been ranked by taking a blended score of each indicator, and categorising places accordingly.

The measures and sources used are set out below.

Lifecycle stage	Dataset	Description	Time Period
Early Years	Prevalence of overweight (including) obesity	% of children of Reception age (4-5) classified as overweight or obese	2019/20
	School Readiness at the end of reception	% of children defined as reaching a good level of development at the end of Early Years Foundation Stage (EYFS)	2019
	Income Deprivation Affecting Children Index (IDACI)	The proportion of LSOAs in most deprived 10% nationally which measures % of children 0-15 living in income deprived families	2019
Childhood Years	Prevalence of overweight (including) obesity	% of children of Year 6 schooling (aged 10-11) classified as overweight or obese	2019/20
	Children in low income families Before Housing Costs	Children aged under 16 in relative low income families Before Housing Costs (BHC)	2018/19
	Key Stage 2 attainment	% of children of Reception age (4-5) classified as overweight or obese	2018/19
	Children aged under 16 in relative low income families Before Housing Costs (BHC)	Children aged under 16 in relative low income families Before Housing Costs (BHC)	

Lifecycle stage	Dataset	Description	Time Period
Young Adults	Hospital admissions due to substance misuse per 100k	Directly standardised rate of hospital admission for substance misuse, per 100,000 population, for those aged 15-24	2016/17 - 18/19
	Universal credit claims per 100,000	Universal Credit claims made per 100,000 population for those aged 16-24	December 2019
	Enrolment to University among 18 and 19 year olds	% of students enrolling to university based on their previous known address	2020
	Proportion of 16-17 year olds recorded in education and training	Proportion of 16-17 year olds recorded in education and training, March 2020	2020
Working Years	Prevalence of overweight (including) obesity	% of adults (aged 18+) classified as overweight or obese	2018/19
	Universal credit claims per 100,000	Universal Credit claims made per 100,000 population for those aged 25-49	December 2019
	Proportion workers earning below Real Living Wage	Proportion workers earning below Real Living Wage in a district	2020
	Households in Fuel Poverty	% of Households in Fuel Poverty	2018
	Proportion of workers with no or low qualifications	% of 25-64 year old workers with no or low qualifications	2019

Lifecycle stage	Dataset	Description	Time Period
Older Years	Healthy life expectancy at birth in years (male)	Healthy life expectancy at birth in years (male) - defined as the number of years, from birth, a male remains in good general health	2014
	Healthy life expectancy at birth in years (female)	Healthy life expectancy at birth in years (male) - defined as the number of years, from birth, a female remains in good general health	2014
	Income Deprivation Affecting Older People (IDAOPI)	The proportion of LSOAs in most deprived 10% nationally which measures % of over 60s who experience income deprivation	2019
	Employment rate	Employment rate of 50+ year olds	2019/20

Appendix 2

A place view of the lifecycle

Spotlight on Burnley

Burnley has low performance in education, deprivation and health for people in their Early Years and Childhood. Skills and employment continue to be challenges throughout young adulthood and Working Years, although there are average levels of employment amongst the over 50s. Health outcomes are relatively poor across all life stages.



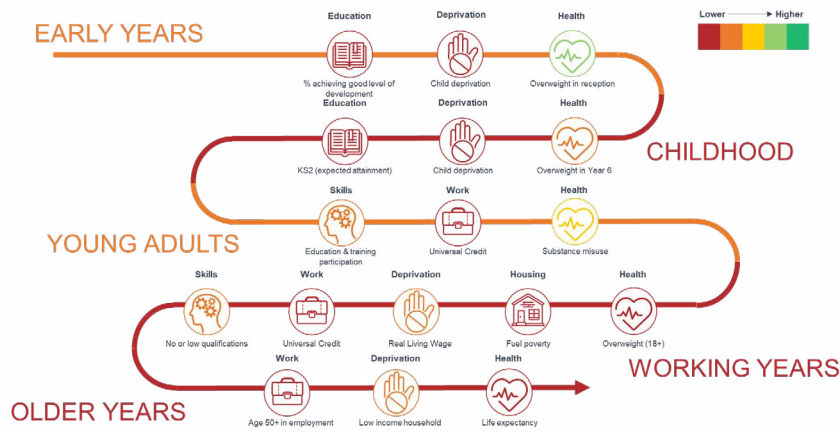
Spotlight on Chorley

Residents have a relatively mixed experience throughout their lifetime. Despite lower levels of child deprivation and relatively high educational attainment (at school), skills and income levels are low in Working Years. By older age, deprivation levels are low. Health outcomes are average for Childhood and Young Adults, but this worsens in later life.



Spotlight on Hyndburn

For people living in Hyndburn, outcomes are relatively low across the lifecycle, either RAG rated 'orange' or 'red'. There are low levels of educational attainment and skills levels, coupled by low outcomes in work for Young Adults, Working Adults and Older Years. Deprivation levels are high for children and continue to be relatively high in later life. Health outcomes worsen for older people.



Spotlight on Pendle

There are challenges for Pendle residents throughout their lives. Educational attainment is low and there are health issues linked to weight for young and older children. Low skills levels and high Universal Claimant rates persist both for Young Adults and Working Years, with many in low pay jobs. Housing quality is poor and healthy life expectancy is low.



Spotlight on Ribble Valley

Ribble Valley performs relatively well across the lifecycle. Skills levels vary across different life stages, but employment levels tend to be high and there are low levels of deprivation across all life stages, with the exception of average levels of jobs earning below the Real Living Wage. Health outcomes either track or outperform the average.



Spotlight on Rossendale

For older Rossendale residents, employment rates and income are high, but healthy life expectancy is low. Performance across the other life stages is relatively low with challenges around health in Early Years and Childhood, work for Young Adults, child deprivation and low wages.



Spotlight on South Ribble

South Ribble performs at the average across all life stages and most indicators. There are challenges around skills and health for those in their Working Years, and employment for the over 50s. Child deprivation is low, employment levels for adults in their Working Years are high, and few older people find themselves in low income households.



Spotlight on West Lancashire

Outcomes in West Lancashire are mixed. Child deprivation is average, whilst deprivation for older people is low. Average educational and skills attainment for children and young people does not continue into Working Years, where levels are lower and claimant rates higher, and employment is low for those over 50s. Health challenges around weight persist in Early Years, Childhood and Working Years.



Spotlight on Wyre

The experience of residents moving through their lives in Wyre is varied. Educational and skills attainment is higher amongst younger residents than older, although claimant levels are higher for Young Adults than those in Working Years. Wages are low, but child and older age deprivation is low. People in Early, Working and Older Years live in relatively poor health.



Appendix 3

Social determinant scorecard methodology

For each indicator in the scorecard, first the data range is calculated (max value – min value). Any value more than 10% of the data range better than the England value is 'green', any value more than 10% of the data range worse than the England value is 'red' and all other values are 'yellow'. For example, if the max value is 50 and min is 10, the data range is 40. If the England value is 35 then, assuming higher is better, any value over 39 would be green and under 31 would be red. If a value has been excluded for statistical reasons due to small sample size, it is replaced with the word 'supressed'.

Appendix 4

SIC code definition of health

SIC code	SIC code description
32500	Manufacture of medical and dental instruments and supplies
72110	Research and experimental development on biotechnology
86900	Other human health activities
72190	Other research and experimental development on natural sciences and engineering
46460	Wholesale of pharmaceutical goods
47749	Retail sale of medical and orthopaedic goods (other than hearing aids) n.e.c., in specialised stores
21100	Manufacture of basic pharmaceutical products
21200	Manufacture of pharmaceutical preparations
86101	Hospital activities
86220	Specialist medical practice activities
86230	Dental practice activities
86210	General medical practice activities
96040	Physical well-being activities
86102	Medical nursing home activities
47730	Dispensing chemist in specialised stores
47741	Retail sale of hearing aids in specialised stores
84120	Regulation of the activities of providing health care, education, cultural services and other social services, excluding social security

Lancashire

Independent Economic Review

The Lancashire Independent Economic Review (IER) is led and funded by Lancashire County Council, Blackburn with Darwen Borough Council, Blackpool Council and the Lancashire Enterprise Partnership on behalf of Lancashire Leaders. Lancashire Leaders comprises the leaders of Blackburn with Darwen Borough Council, Blackpool Council, Burnley Borough Council, Chorley Borough Council, Fylde Borough Council, Hyndburn Borough Council, Lancashire County Council, Lancaster City Council, Pendle Borough Council, Preston City Council, Ribble Valley Borough Council, Rossendale Borough Council, South Ribble Borough Council, West Lancashire Borough Council, Wyre Borough Council and the Lancashire Enterprise Partnership.