

# The changing causes of poverty and health inequalities in Plymouth: a public health perspective

Director of Public Health Annual Report 2015/16



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# Foreword

I am pleased to present this Director of Public Health annual report, my second since being appointed as Plymouth's DPH. It has been a privilege to live and work in this beautiful, ambitious city where the growth agenda provides a well-understood opportunity for transformation across many aspects of Plymouth's life, including health and wellbeing.

A growing city needs to ensure that it secures the kind of growth that does not systematically leave behind any members of its population. Given that examples of developments that have compromised social balance in society are not hard to find, Plymouth's unwavering commitment to the right type of growth is very pleasing. Our award-winning Plymouth Plan presents a clear outline of our rationale and approach to this kind of growth.

Evidence suggests that growth produces perverse consequences when it fails to address the systemic drivers of socio-economic disadvantage. Securing positive growth that delivers an outstanding quality of life for every resident of Plymouth therefore demands accurate understanding of the root causes of poverty

and how poverty mediates poor health and wellbeing outcomes.

Accordingly, the last DPH annual report introduced and baselined Thrive Plymouth, our programme for tackling health inequalities in the city. This report however looks back into the past, runs through to the present, and looks ahead to the future through modern-day lenses approximating Sir William Beveridge's five 'giant evils'. The choice of the lenses of Beveridge's 'giant evils' is informed by the breadth and quality of view they potentially offer on the subject of socioeconomic disadvantage – chiefly its determinants and the mitigation of its health-related impact.

This report aims to discern the root causes of poverty in Plymouth, exploring how they have changed over time and how understanding of the impact of poverty on population health and wellbeing might strengthen the evidence base for our current interventions while providing insights to new approaches. I hope you find the report informative and interesting, and that it both motivates action and offers insight on where and how to act.



A handwritten signature in dark ink, appearing to read 'Kelechi Nnoaham', written in a cursive style.

**Professor Kelechi Nnoaham**

Director of Public Health, Plymouth City Council

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# Introduction

## The history of poverty

Historically, poverty has had a huge impact on people's health. During the nineteenth century many people lived in overcrowded, unsanitary conditions, and the causes of ill health were little understood. As a result of this, infectious diseases were a significant problem, and life expectancy was considerably shorter than it is today. Moving into the twentieth century, developments in medicine, technology, and the economy rapidly drove down levels of poverty and the impact poverty had on health. There were still however many people living in sub-standard conditions, with limited resources to meet their basic needs.

The introduction of the welfare state in the mid-twentieth century acted as a safety net against poverty in our society, and has helped to achieve further gains in population health. The welfare system largely took shape following the publication of 'Social Insurance and Allied Services', an influential report written by Sir William Beveridge in 1942. In his report, Beveridge stated that in order for Britain to prosper, in addition to the creation of the welfare state, five 'giant evils' of society needed to be addressed. These were 'ignorance', 'disease', 'squalor', 'idleness', and the main focus of his report, 'want'. Although our understanding of these 'giant evils' has moved on considerably since then, and the language and terminology has changed, some of the underlying issues are still relevant today.

Despite huge improvements to standards of living, health, and wellbeing, significant inequalities persist. People living in the poorest neighbourhoods in England will not only die an average of seven years earlier than people living in the richest neighbourhoods, but they will spend on average seventeen fewer years living free of disability<sup>1</sup>. Understanding the root causes of poverty in Plymouth and how the impact of poverty on health is mediated is of key public health importance, and essential in trying to reduce health inequalities.

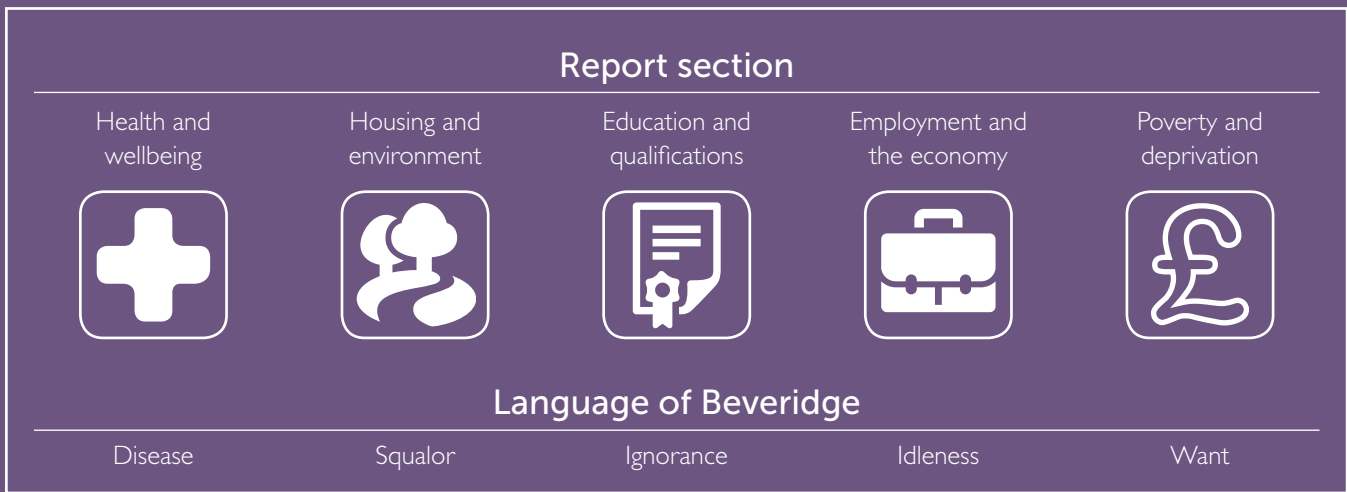
## This report

In 2012, a new Welfare Reform Act came into effect, introducing fundamental changes to the way welfare assistance was provided. These changes stated intentions of increasing social mobility and promoting work as the most sustainable route out of poverty. The implications for Plymouth, where a higher-than-average number of people are dependent on welfare support, are not fully understood. It is therefore timely to reflect on the root causes of poverty, deprivation, and inequalities first comprehensively documented in the Beveridge Report of 1942, and the impact this has on health for the population of Plymouth. This report seeks to answer two simple but crucial questions: 1) what are the factors associated with poverty in Plymouth and 2) how have they changed over time? The report investigates the factors that contribute towards poverty in modern Plymouth, and reflects on how the effects of poverty on the health of Plymothians are mediated. It looks at these issues in a longitudinal fashion through the lenses of Beveridge's five 'evils'.

The first section, Health and wellbeing, looks through the 'disease' lens, discussing how the factors impacting health have changed over time. It also reflects on Thrive Plymouth and its target behaviours, diseases, and intermediate conditions, and provides an overview of another key public health priority – mental health.

The subsequent three sections, Housing and environment, Education and qualifications, and Employment and the economy look through the lenses of the three 'evils': 'squalor', 'ignorance', and 'idleness'. Each of these sections outlines how each 'evil' is relevant to health, describes its historical status in Plymouth, and provides an overview of the modern day challenges, which are causes of inequalities and linked to poverty.

The last section, Poverty, deprivation and inequalities, looks through the 'want' lens. It describes some of the key challenges that Plymouth faces in relation to poverty, investigates deprivation and inequalities within Plymouth, and shows the association between these inequalities, behaviour, and health.



# Key messages and recommendations

## Health and wellbeing

### Key messages

- Non-communicable diseases have been the biggest cause of mortality for many decades. In Plymouth, four non-communicable diseases; cancer, heart disease, stroke, and respiratory diseases are responsible for over half of deaths.
- Thrive Plymouth seeks to reduce the impact of four behaviours that are associated with these diseases; unhealthy diet, smoking, inactivity, and excessive drinking. These behaviours are more common in Plymouth compared to nationally.
- Intermediate conditions associated with these behaviours such as obesity, high blood pressure, and diabetes reduce the quality of life of people who suffer from them and place a significant burden on healthcare resources.
- Though communicable diseases now exert a far less dominant impact on our health, significant emerging threats exist, with one of the most notable of these being anti-microbial resistance.
- There is evidence to suggest that inequalities in mental health are likely to be widened as the support available through the welfare state shrinks.
- Locally, there is a significant gap in the health and care budget. This has required re-modelling and integration of health and social care services to help reduce financial pressures.

### Recommendations

- Support behavioural change through sustained promotion of the Thrive Plymouth programme with businesses, schools and the wider community, aligning messages with the national One You programme.
- Influence the re-engineering of the social and physical environments, and drive forward the commitments made in the Plymouth Plan to ensure that healthy lifestyle choices are the easier choices for people living in Plymouth.
- Support the early diagnosis and effective management of long term health conditions, in order to improve health and reduce burden on healthcare services.
- Work with healthcare professionals to ensure an effective anti-microbial stewardship action plan is in place.

## Housing and the environment

### Key messages

- Plymouth works with increasingly out-of-date information and limited actionable intelligence on the quality of its private housing stock.
- A considerable body of evidence links poor housing quality with poor physical and mental health.
- Plymouth's private rented housing stock is older and in poorer condition than elsewhere in the country, with some areas and population groups being particularly affected. Over one third of Plymouth's privately rented housing stock is classed as 'non-decent'.
- Over the past couple of years there has been a sharp increase in the demand for housing as a result of statutory homelessness. This is particularly true for vulnerable, single homeless people. Current provision of supported accommodation is not able to meet this demand, promoting a review of options for meeting the required provision.
- There is both need and opportunity to further integrate healthy urban design into all aspects of planning, creating environments that enable healthy lifestyle choices.
- Plymouth is currently meeting its air quality objectives for particulate matter, but for smaller particulates, the national target of a 'downward trend' is not being achieved.
- Whilst levels of nitrogen dioxide (NO<sub>2</sub>) are reducing in Plymouth, Air Quality Objectives in some areas are not currently being met. An Air Quality Management Area has been set up to monitor NO<sub>2</sub> levels at these sites.

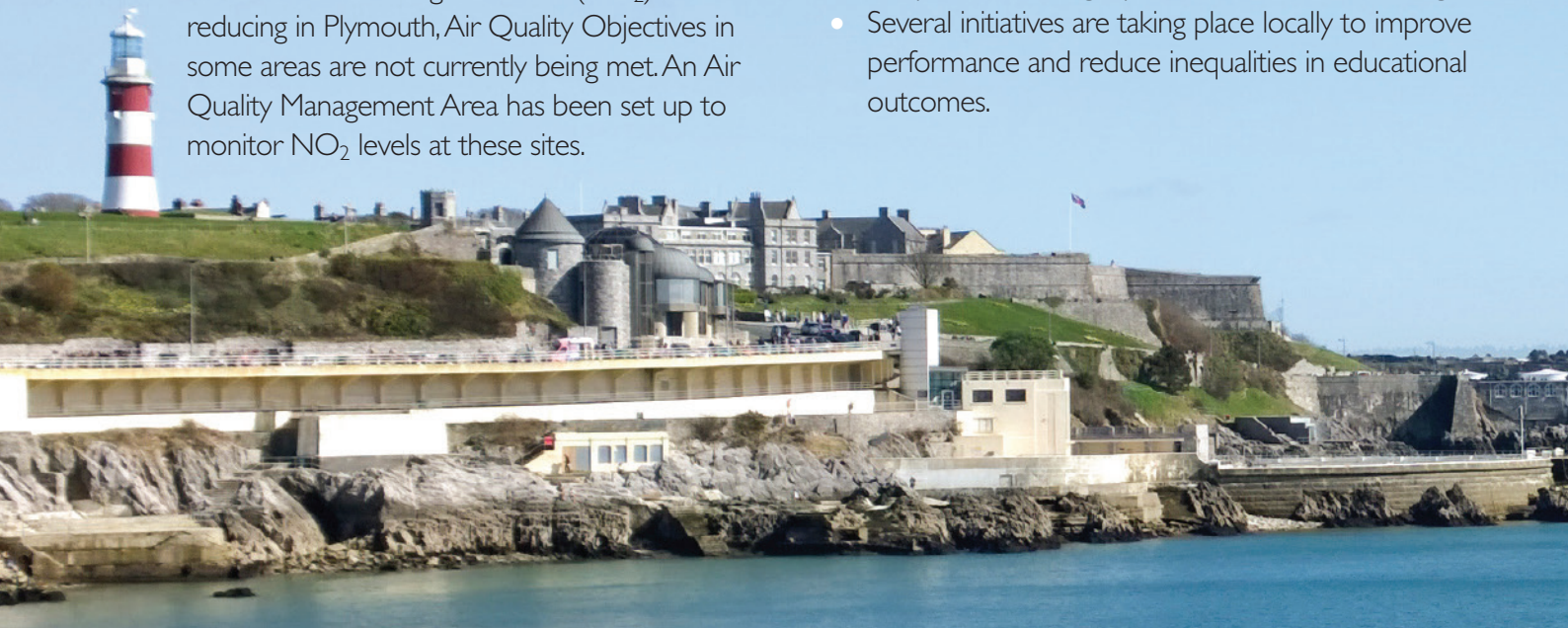
### Recommendations

- Urgently prioritise developing information systems that generate actionable intelligence on housing quality especially in the private rental sector.
- Continue to develop and strengthen the relationship between ODPH and Place directorates. In particular, ensure the community infrastructure levy is used to monitor the impacts of continued expansion of housing and improve walking, cycling and public transport routes.
- Support the housing team to investigate, plan, implement and evaluate the changes required to increase the provision of housing for the statutory homeless.
- Investigate the role ODPH can play in helping to reduce emission levels in the city by promoting healthy, non-polluting modes of travel, particularly in the Air Quality Management Area.

## Education and qualifications

### Key messages

- Given the strong association educational attainment has with deprivation and poverty, improving educational outcomes for disadvantaged children will help to give them a better start in life and reduce inequalities in the city.
- At present, overall levels of educational attainment in Plymouth are slightly below the national average.
- Several initiatives are taking place locally to improve performance and reduce inequalities in educational outcomes.





- In Plymouth there are more children with Education, Health, and Care plans, who have a greater requirement for educational support.
- Educational outcomes for children with Special Educational Needs in Plymouth are not as good as they are nationally.

### Recommendations

- Investigate whether inequalities in educational outcomes in Plymouth are sustainably reducing and whether any reductions are translating into progress on narrowing overall health and wellbeing inequalities.
- Encourage and support the re-modelling of our children and young people's services to support children's early development, school readiness and subsequent educational outcomes.

## Employment and the economy

### Key messages

- The economic history of Plymouth has played a strong role in shaping the character of the city.
- Significant strides have been made to build diversification and resilience into the Plymouth economy. Despite this, compared to nationally there is still an over-dependence on the public sector for employment, lower wages for residents, and a higher proportion of people dependent on benefits.
- Unemployment figures alone do not provide a clear picture of the health of the Plymouth labour force. Compared to England, a significantly higher proportion of Plymouth's economically inactive population are classed as such due to long term illness. There are more people in this group than there are people who are unemployed.

- Economic improvements over recent years have not been distributed evenly. A small but significant part of the Plymouth population is disengaged with the job market, with many facing significant barriers to returning to work. This group may struggle to make the required changes within the short timescales of the welfare reforms, posing the risk of further increasing inequalities for some of Plymouth's most deprived communities.
- Evidence suggests that returning to employment can help to improve health outcomes.
- Hourly wages in Plymouth are 93p lower than national average, though this gap is the smallest in the past ten years. The lower wages are in part due to higher wage earners choosing to live outside the city and a lack of graduate retention.

### Recommendations

- Develop local understanding of the impact of welfare reforms, and ensure measures are in place to protect those facing significant barriers to returning to work during their transition back into employment.
- Further investigate the needs of those classified as economically inactive due to long term illness in order to identify opportunities for improving their health and helping them back to work.
- Encourage and support initiatives designed to make Plymouth a more appealing place to live for higher wage earners and graduates.



## Poverty, deprivation, and inequalities

### Key messages

- Poverty can still be an issue at all stages of life and comes at a cost to both those who are experiencing it and to the rest of society.
- Despite significantly improved living standards and material wealth, levels of inequality are significantly higher than they were around the time of the Second World War.
- Financial hardship still affects many people in Plymouth. Compared to nationally, more people in Plymouth are over-indebted.
- Poverty, deprivation, and inequalities have a significant impact on people's health and wellbeing.
- Inequalities in deprivation have a strong bearing on lifestyle behaviour choices, with people who are less well-off typically leading healthier lives. This has a knock-on effect to the use of healthcare services and mortality rates.
- Bringing people out of poverty and reducing inequalities is an essential component of supporting people to live happy, healthy lives.
- Compared to England, a higher proportion of children in Plymouth live in low income families and in workless households.
- The intense financial pressure local health and social care is now under means addressing these fundamental issues is as important as ever.

### Recommendations

- The strategy to address poverty and break its link with poor health and wellbeing should incorporate enabling individuals to acquire skills and qualifications, access paid employment, and live in housing with acceptable standards of habitability.
- Endeavour to protect the variety of support given to people who cannot flourish in a market economy whenever it is within our capacity to do so.
- Advocate for coherent policies seeking to reduce inequalities in the domains of healthcare, education, housing, and economic development both internally (council) and city-wide.
- Support initiatives seeking to promote financial inclusion (such as credit unions), reduce people's dependence on short term, high cost lending, and provide support to those affected by welfare reform.

# Health and wellbeing



## At the time of Beveridge

A snapshot of health in Plymouth the year the Beveridge report was released.

## The transition to modern day Plymouth

A summary of the changes in health and wellbeing since the Beveridge report was released.

## Communicable disease

A review of the changing impact of communicable disease.

## Non-communicable disease

An overview of non-communicable disease in Plymouth, including the Thrive Plymouth programme.

## Associated long term health conditions

An overview of some of the intermediate health conditions that are associated with unhealthy behaviour and disease.

## Mental health

An overview of mental health in Plymouth.

## Provision of health and social care

An overview of current provision of health and social care, and the financial challenges faced.

## Health

In 1948 the World Health Organisation defined health as 'a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity'. This popular definition, which is still used today, highlights the need to consider the impact of wider determinants on health.

This section compares modern day public health approaches and challenges with those that were present in the year the Beveridge report was published, as described in the 1942 Chief Medical Officer report.



# At the time of Beveridge

By the 1940s, huge strides had been made in improving population health. Public health interventions, such as the introduction of immunisation programmes, were being used to help control communicable disease, and some of the wider determinants of health, such as quality of housing, food hygiene, and diet were well recognised. These, alongside other factors such as improvements in healthcare technology, had contributed to a steady decline in mortality rates. In 1942, there were 1,976 deaths in Plymouth resulting in a crude mortality rate of 15.5 per 1,000 population. Infant mortality stood at 51.8 per 1,000 births.

## Communicable disease

Compared to the previous century, where Plymouth saw many outbreaks of diseases such as cholera and smallpox, mortality caused by communicable disease had reduced considerably. Despite this, some diseases still caused significant problems. In 1942, there were 300 new cases of, and 151 deaths due to, tuberculosis (TB), more deaths than any other communicable disease. Although unpasteurised milk had been recognised as a major risk factor for TB, pasteurisation was not legally required, and around one fifth of the 11,500 gallons drunk by the city was untreated. Care for TB patients placed a significant burden on healthcare services, with 57 beds at Mount Gould Tuberculosis and Orthopaedic Hospital and the majority of 137 beds at Didworthy Sanatorium being allocated for their care. The average length of stay of people discharged from the sanatorium in 1942 was 287 days, which highlights the impact a single case of TB could have on healthcare services.

Other communicable diseases commonly reported in 1942 were scabies (2,232 cases), diphtheria (227 cases), and whooping cough (119 cases). Although the vaccination programme for diphtheria was in operation, and number of cases had been falling consistently, only 50% of children under five and around 75% of school age children had been immunised. This was below the target of 80% that was required to reduce the number of cases to 'insignificant proportions'.

Sexually transmitted infections (STIs) were also an issue, particularly in people working in the

armed services. In 1942, 756 persons from Devon, Cornwall, and Plymouth made 12,774 attendances at the City Isolation Hospital, an increase of 4,602 attendances on the previous year. The most common STIs were syphilis and gonorrhoea, and in Plymouth there were 240 cases of syphilis and 186 cases of gonorrhoea.

## Non-communicable disease

By 1942, non-communicable diseases had established themselves as the biggest killers. The two most significant were heart disease and cancer, which between them were responsible for over 40% of deaths (501 and 320 deaths respectively).

Whilst the role of diet and nutrition was recognised as being important to health, interventions relating to diet, such as provision of milk and free meals at schools, tended to focus on preventing children from being malnourished. The impacts of other behaviours such as smoking, alcohol consumption, and physical inactivity were not as well understood as they are today, and did not feature in the Chief Medical Officer report.

## Provision of hospital care

In addition to services provided by the isolation hospital, the sanatorium and Mount Gould Tuberculosis and Orthopaedic Hospital, the main hospital in Plymouth, the City General Hospital, had a total of 337 beds, and during 1942 there were a total of 2,774 admissions and 1,072 surgical operations. The average length of stay for patients discharged during the year was 31 days.

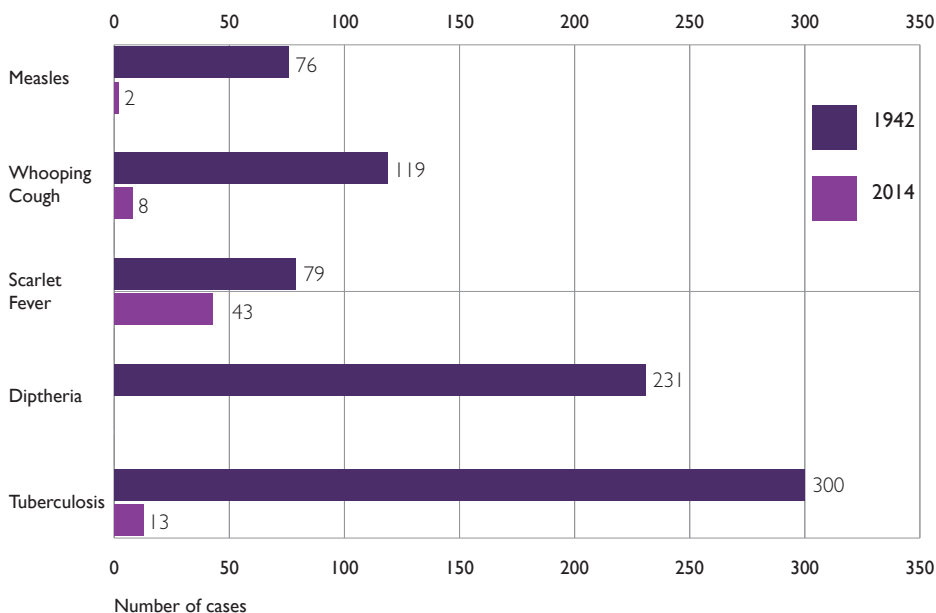
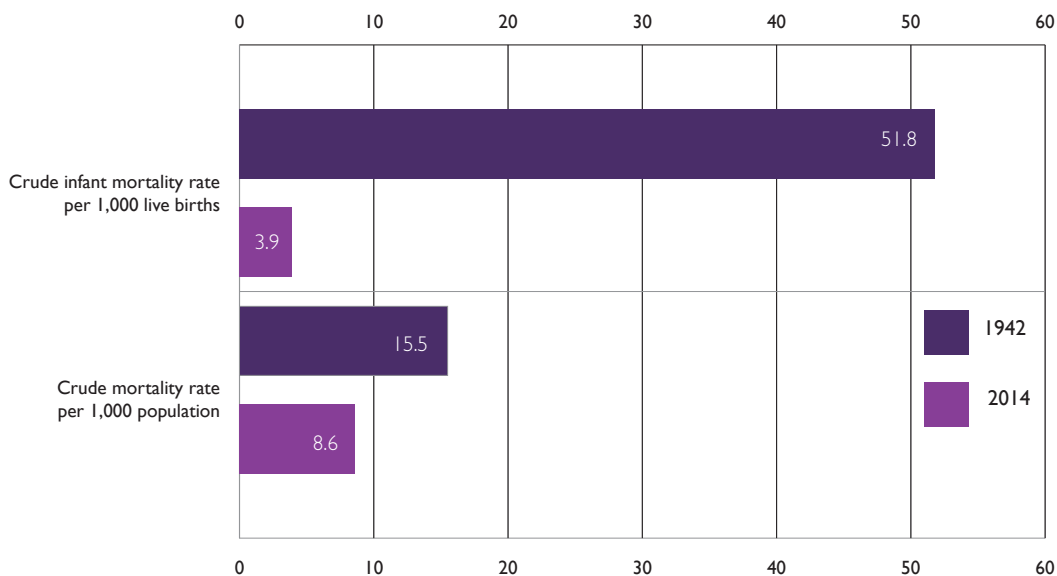
## The transition to modern day Plymouth

Since the Beveridge report there have been huge advances in medical research and technology. These advances, alongside rapid improvements in housing, food hygiene, and the healthcare system, have contributed to further reductions in mortality rates. In 2014, there were 2,246 deaths in Plymouth, which equates to a crude mortality rate of 8.6 per 1,000 population, around half the rate seen in 1942. The infant mortality rate has decreased even more rapidly, and now stands at 3.9 per 1,000 live births, less than 10% of the rate seen at the time of Beveridge (Figure 1).

## Communicable disease

Some of the most significant health gains have been achieved through reductions in the incidence of communicable diseases. Figure 2 illustrates the huge reduction in number of cases of some historically common conditions. Whilst recording practices may not make data directly comparable, they provide a strong indication of the effectiveness of modern methods of communicable disease control.

**Figure 1: Comparison of mortality rates in 1942 and 2014**



**Figure 2: Number of cases of communicable disease in Plymouth in 2014 compared to 1942**

There are however many emerging threats relating to communicable diseases. Globally the most significant of these is antimicrobial resistance (AMR), which could potentially reverse many of the gains achieved by modern medicine. Antimicrobial stewardship (AMS), the control of the supply of antibiotics, is essential to help reduce the development of AMR. The Public Health England AMR local indicators dashboard<sup>2</sup>, shows that compared to nationally, more antibiotics are prescribed to inpatients and outpatients in Plymouth, and whilst a local review of AMS has been conducted, an action plan still needs to be developed.

## Non-communicable disease

Fewer people are now dying as a result of communicable diseases and, as life expectancy has increased, non-communicable diseases are having an ever greater impact on our health. As the body of evidence linking certain behaviours to poor health outcomes has grown, public health in the UK has recognised that supporting people to make healthy choices is one of the cornerstones in tackling the rise of non-communicable diseases and improving population health.

Thrive Plymouth is a 10 year public health programme that uses a '4-4-54' construct to improve health and wellbeing and reduce health inequalities in Plymouth. The 4-4-54 construct focuses on reducing the impact of four lifestyle behaviours – unhealthy diet, smoking, inactivity, and excessive drinking – that together contribute to four diseases (cancer, heart disease, stroke, and chronic obstructive pulmonary disease (COPD)), which account for 54% of deaths in Plymouth.

Although individuals have a responsibility for actions that affect their health, the programme recognises that the physical, social, and economic environment in which people find themselves exerts a strong influence over individual decisions. The four behaviours are most common in the poorer areas of the city and largely account for the nearly 10 years difference in life expectancy between different communities. Addressing the four behaviours is seen as a way of helping to reduce the inequalities in health outcomes experienced by the city.

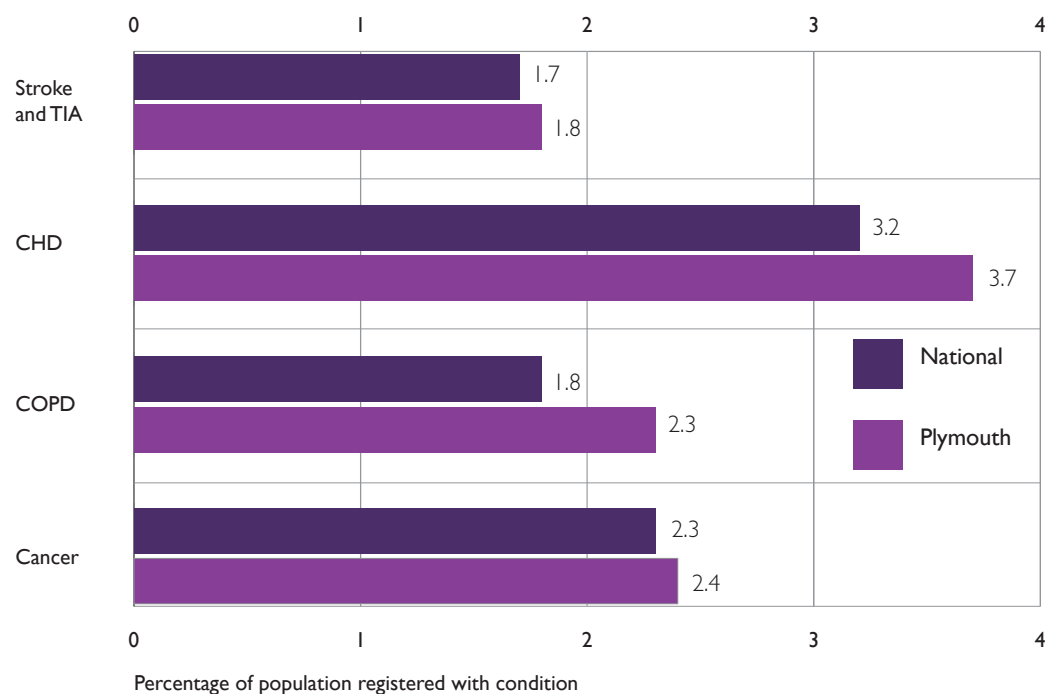
The next few pages describe the prevalence, diagnosis, management and mortality associated with cancer, heart disease, stroke and COPD. This is followed by a summary of some of the main long term health conditions associated with the four diseases.



## Prevalence of cancer, heart disease, stroke, and COPD

GP practice data<sup>5</sup> suggests that there are more cases of cancer, heart disease, stroke, and COPD in Plymouth than would be expected given the rates seen nationally (Figure 3). In terms of numbers this equates to: 6,719 cases of cancer; 10,191 cases of heart disease; 4,972 cases of stroke and transient ischaemic attack; and 6,276 cases of COPD. When considered alongside mortality data this highlights the impact that tackling smoking, physical inactivity, poor diet, and excessive alcohol consumption in the city could have on improving health and wellbeing.

**Figure 3: Percentage of the registered population living with one of the four Thrive Plymouth diseases (2014/15 QOF data)**



## Diagnosis and management of cancer, heart disease, stroke, and COPD

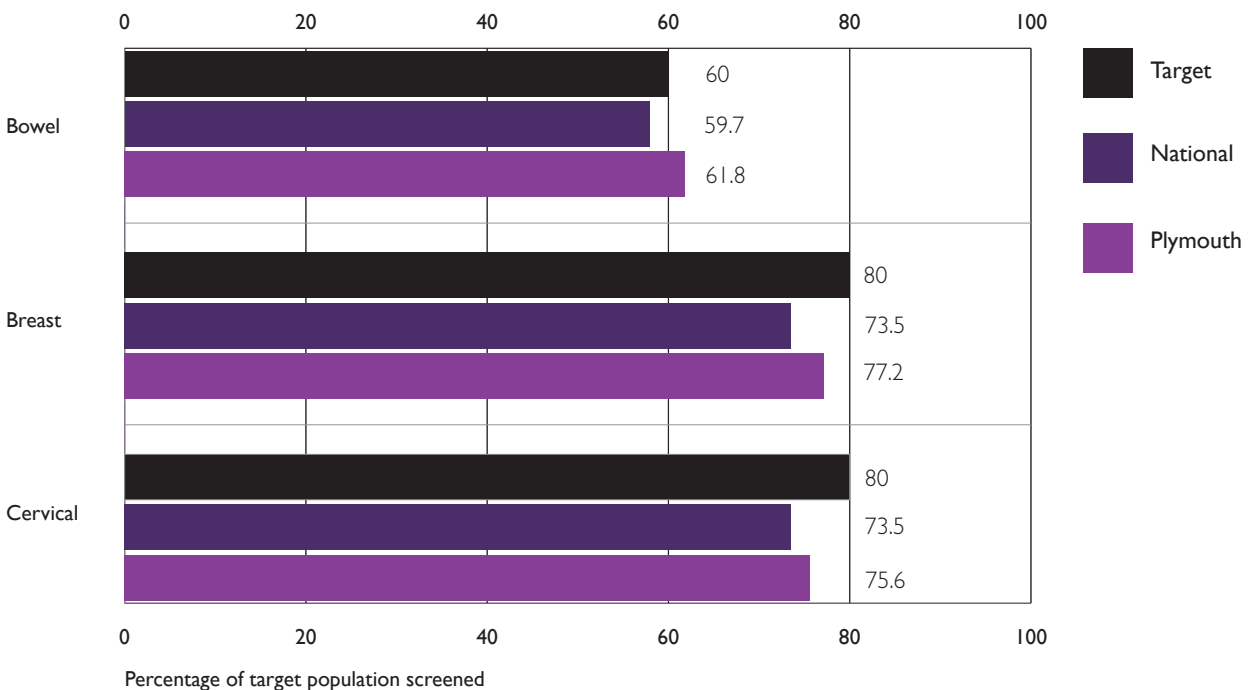
As well as trying to reduce the number of people who develop these conditions, another essential part of reducing the harm they cause is ensuring that people who have them are effectively diagnosed and managed.

### Cancer

The four most common cancers, which also cause the greatest number of deaths, are cancer of the breast, prostate, lung, and bowel. The two most common types, breast cancer and prostate cancer, occur mainly or exclusively in only one sex. Early diagnosis of cancer is essential in order to maximise survival rates. Whilst screening has not proven effective for lung and prostate cancer, there are currently national cancer screening programmes for bowel, breast, and also cervical cancer.

For cancer screening programmes to bring about reductions in mortality, a substantial proportion of the population must participate. Uptake of cancer screening is often lower in deprived areas, where risk of developing cancer is often higher. Encouraging uptake of screening in these areas is important to ensure screening doesn't widen inequalities in health. Fortunately, uptake of cancer screening programmes in Plymouth is higher than is seen nationally, although for cervical and breast cancer, coverage is still lower than the national targets (Figure 4).

**Figure 4: Uptake of cancer screening programmes (2014/15 NHS Cancer Screening Programme data)**





## **Heart disease and stroke**

Heart disease and stroke can be managed effectively with a combination of lifestyle changes, medication, and in some cases, surgery. With the right treatment, the symptoms of heart disease can be reduced and the functioning of the heart improved. Stopping smoking after a heart attack will quickly reduce the risk of having a heart attack in the future to near that of a non-smoker, and eating more healthily and doing regular exercise, will also reduce future risk of heart disease<sup>3</sup>. Although information is not available specifically for people who have been diagnosed with heart disease, compared to England, in Plymouth a higher percentage of people smoke, fewer have a healthy diet, and fewer achieve the recommended amount of physical activity. This suggests that helping people who have been diagnosed with heart disease and stroke to manage their lifestyle choices could result in significant health gains.

## **Long term respiratory conditions**

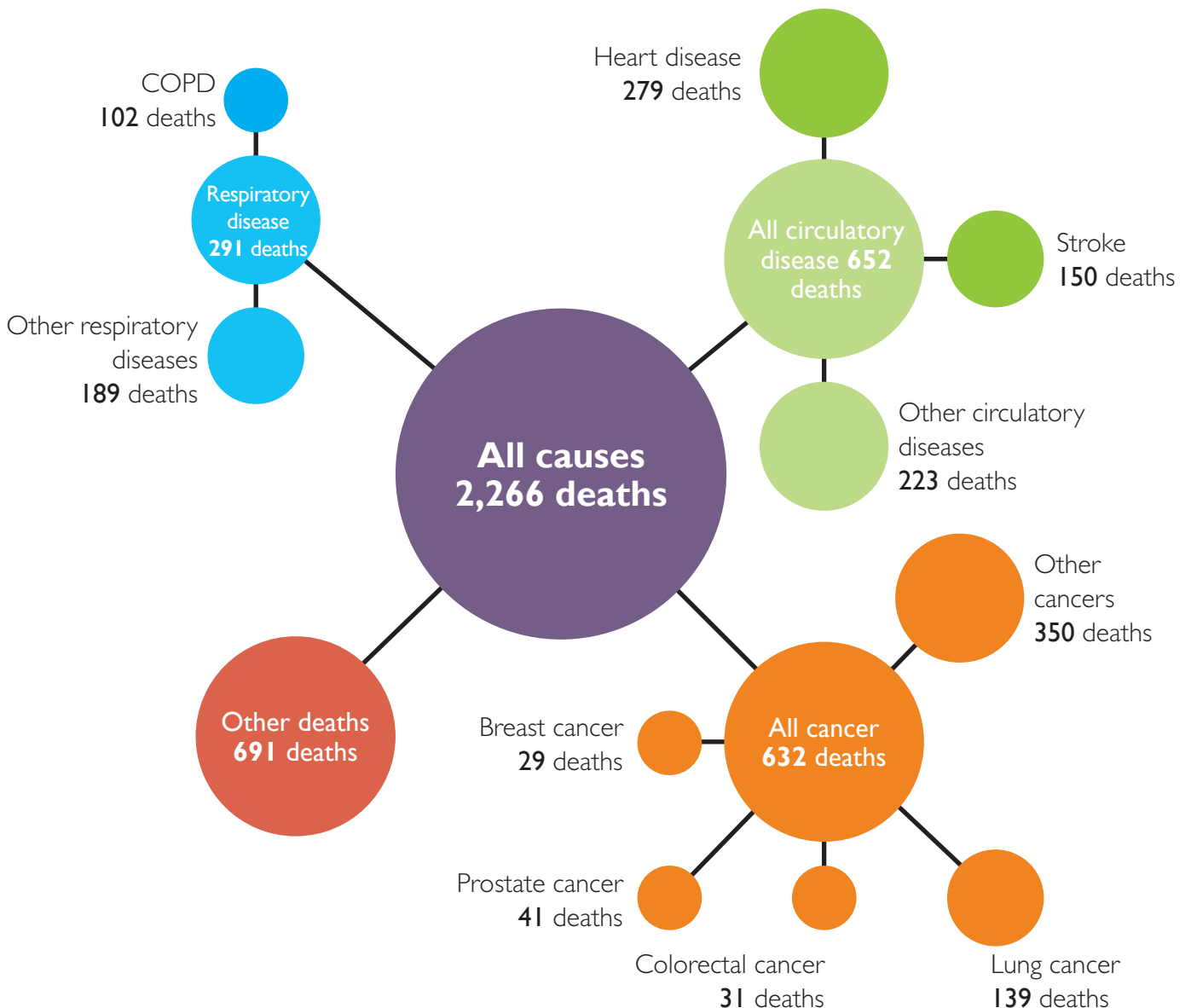
Effective management of COPD involves timely diagnosis, and once identified, management of the condition through methods such as inhalers, oral therapy, and rehabilitation to minimise its progression. An indicator of how well respiratory disease is managed is the number of related emergency hospital admissions. During 2013/14 there were a total of 3,016 emergency admissions relating to respiratory disease in Plymouth (over one in ten of all emergency admissions). Admissions rates are strongly influenced by deprivation, with rates being much higher in areas that are more deprived.

### Deaths due to cancer, heart disease, stroke, and COPD

Figure 5 provides a breakdown of the causes of death in Plymouth during 2014, with the more brightly coloured circles representing the four diseases targeted by the Thrive Plymouth programme. The overall number of deaths in 2014 was slightly higher than in 1942 (2,266 compared to 1,976), but during this time the population of Plymouth has more than doubled, and as such mortality rates are much lower.

During 2014, 28% of deaths were due to cancer (632), 12% were due to heart disease (279), 7% were due to stroke (150) and 5% were due to COPD (102). For cancers, the most common causes of death were lung, prostate, breast, and bowel cancer which, even though there are more than 200 types of cancer, accounted for around two out of five cancer deaths.

**Figure 5: Causes of death in Plymouth (Primary Care Mortality Database [PCMD], 2014)**

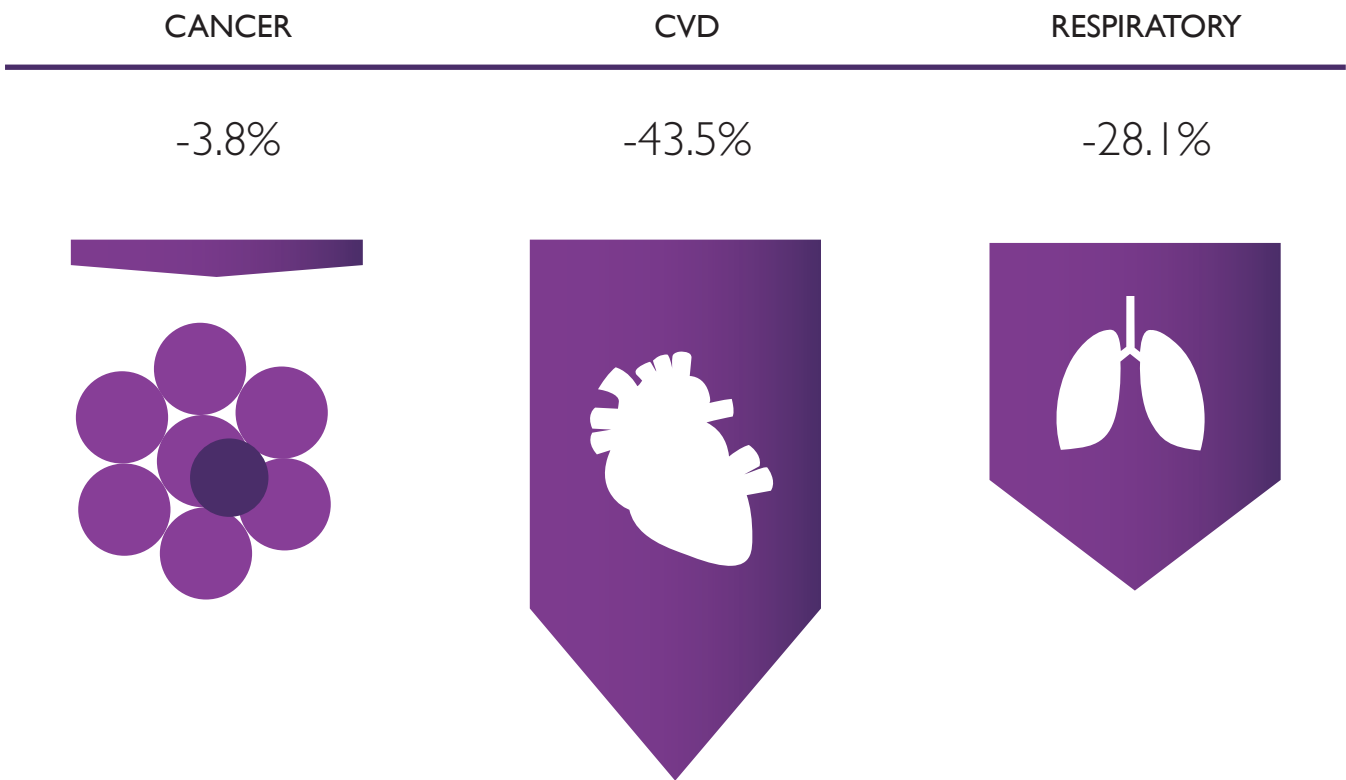


Note: Bright colours represent the diseases targeted by the Thrive Plymouth programme.

## Reductions in deaths due to non-communicable disease

Since 1942, an increase in life expectancy has meant that overall, mortality rates are lower than they were. Despite the fact that fewer people are dying from communicable diseases, mortality rates for non-communicable diseases are also lower. This reduction has however been more pronounced for some diseases than for others. Matched data for deaths due to cancer, cardiovascular disease (which includes coronary heart disease and stroke), and respiratory disease (which includes COPD) shows that whilst the mortality rate due to CVD has almost halved, the rate for cancer has changed very little (Figure 6).

**Figure 6: Percentage reduction in crude mortality rates in Plymouth since 1942 (2014 PCMD data matched to mortality data from 1942 Chief Medical Officer report)**



## Associated long term health conditions

There are a range of long term 'intermediate' health conditions, which are associated with both the four behaviours and four diseases targeted by the Thrive Plymouth programme. These conditions are important to consider in their own right due to the impact they have on people's lives and the large burden they place on healthcare services. They are also important to consider as early indicators of progress being made towards tackling some of the major causes of mortality.

### Obesity

Obesity is a significant risk factor for a wide range of diseases including heart disease, respiratory diseases, and some types of cancer. It is recognised as one of the most serious global public health challenges for the twenty first century. As our lifestyles have become more sedentary, and availability and affordability of high calorie food has increased, the prevalence of obesity among adults has grown considerably over the past few decades; around a quarter of men and women in England are now estimated to be obese.

Obese children and young people are at an increased risk of developing various health problems and are also more likely to become obese adults. Information on obesity in children is collected during their reception year and final year of primary school as part of the National Child Measurement Programme (NCMP). By the time they start primary school around one in four children living in Plymouth are either overweight or obese, and by the time they leave this has increased to over three in ten. Compared to Plymouth, fewer children nationally are overweight or obese when starting primary school, but more are by the time they leave<sup>4</sup>. This suggests that the environment in Plymouth may be more 'obesogenic' for pre-school children, but less obesogenic for those of primary school age. Childhood obesity is strongly linked to deprivation, with children from more deprived backgrounds being significantly less likely to be a healthy weight.

GP registration data for Plymouth<sup>5</sup> shows that around 12.1% of adults aged 16 and over are registered as being obese, which is higher than the 9.2% seen for England.

### Hypertension (high blood pressure)

GP registration data for Plymouth<sup>5</sup> shows that 14.2% of people have been diagnosed with hypertension; a significant risk factor for heart disease and a range of other vascular diseases such as atrial fibrillation and heart failure. Though not statistically different, this is slightly higher than the 13.8% seen for England. There are a number of risk factors for developing hypertension. Some such as age and ethnicity are not modifiable, but many are; such as high salt diets, a lack of exercise, being overweight or obese, smoking, and drinking large amounts of alcohol. These include all four of the behaviours currently being targeted by Thrive Plymouth.

### Diabetes

Diabetes is a risk factor for heart disease and stroke, and is associated with being overweight. Although historically rare in youth, diabetes is now becoming more common in children and adolescents as more people are becoming overweight and obese at an earlier age. GP registration data for Plymouth shows that around 6.0% of people have been diagnosed with diabetes mellitus, which is slightly lower than the national figure of 6.4%. The costs associated with treating people with diabetes are huge, and it is estimated that nationally this accounts for around 10% of the NHS budget<sup>6</sup>. When considered at GP practice level, the percentage of patients with diabetes varies from 2.8% to 8.3%, a threefold difference. This suggests that reducing inequalities in the prevalence of people with diabetes in Plymouth could have significant financial benefits to the local healthcare system.

## Mental health

Mental health is a significant and growing issue. Poor mental health is the largest cause of disability in the UK<sup>7</sup>. It is also closely connected with other issues, including poor physical health and problems in other areas like relationships, education, and work prospects. Almost three in every five people with mental health conditions are currently unable to work, despite evidence showing employment can be a crucial part of treatment. It has been estimated that based on costs for health and social care, loss of output, and human costs, mental health problems in England cost over £100 billion a year<sup>8</sup>. Over recent years, mental health services in England have received additional investment and undergone significant reform, but as the population ages, and due to the harsher economic environment, demand for mental health services has been rising, and there is still significant unmet need.

GP data for Plymouth<sup>5</sup> shows that over one in ten (23,123) people are registered as suffering with depression; the most commonly registered mental health condition. The percentage of people registered with other types of mental health condition is lower, generally less than 1%. These include dementia; 1,927 (0.7%), epilepsy; 2,177 (1.0%), learning disabilities; 1,394 (0.5%), other mental health conditions; 2,497 (0.9%).

The Plymouth Mental Health Needs Assessment highlights a number of protective and risk factors for mental health. Protective risk factors include: employment, education, physical activity, access to green space, social capital, and community cohesion while risk factors include: poor quality housing, deprivation and inequality, unemployment, crime, poor physical health, and drugs and alcohol misuse. The breadth of these factors highlights how interconnected mental health is with physical health, environment, and behavioural choices.

## Provision of health and social care

As medicine has advanced, the number of services that are available to protect, maintain, and improve people's health has expanded rapidly. This, combined with an increase in both the number of people living with health conditions and the length of time they live with them, poses significant financial challenges for the NHS.

Compared to healthcare services provided around the time of the Beveridge report, modern day healthcare is considerably more comprehensive. At present, health and social care providers in the Northern, Eastern, and Western (NEW) Devon CCG area (including Plymouth) annually deliver over 130,000 non-elective spells, 170,000 elective procedures, 1.2 million outpatient appointments, and 220,000 visits to A&E. There are over 800,000 community contacts, 260,000 mental health community contacts, 80,000 mental health inpatient stays, and 1.34 million bed days in nursing and care homes. Between now and 2020/21, the health and social care economy in NEW Devon is estimated to be facing a budget shortfall of £398 million. To try and address this, a programme of work is being undertaken to integrate health and social care budgets and services, with the intention of making sufficient efficiency savings to meet this shortfall. This is a good example of the considerable challenges that face health and social care in the UK, and highlight the importance of 'upstream' thinking to try and reduce burden on limited resources.

## Health and wellbeing

### Key messages

- Non-communicable diseases have been the biggest cause of mortality for many decades. In Plymouth, four non-communicable diseases; cancer, heart disease, stroke, and respiratory diseases are responsible for over half of deaths.
- Thrive Plymouth seeks to reduce the impact of four behaviours that are associated with these diseases; unhealthy diet, smoking, inactivity, and excessive drinking. These behaviours are more common in Plymouth compared to nationally.
- Intermediate conditions associated with these behaviours such as obesity, high blood pressure, and diabetes reduce the quality of life of people who suffer from them and place a significant burden on healthcare resources.
- Though communicable diseases now exert a far less dominant impact on our health, significant emerging threats exist, with one of the most notable of these being anti-microbial resistance.
- There is evidence to suggest that inequalities in mental health are likely to be widened as the support available through the welfare state shrinks.
- Locally, there is a significant gap in the health and care budget. This has required re-modelling and integration of health and social care services to help reduce financial pressures.

### Recommendations

- Support behavioural change through sustained promotion of the Thrive Plymouth programme with businesses, schools and the wider community, aligning messages with the national One You programme.
- Influence the re-engineering of the social and physical environments, and drive forward the commitments made in the Plymouth Plan to ensure that healthy lifestyle choices are the easier choices for people living in Plymouth.
- Support the early diagnosis and effective management of long term health conditions, in order to improve health and reduce burden on healthcare services.
- Work with healthcare professionals to ensure an effective anti-microbial stewardship action plan is in place.

# Housing and the environment



## Relevance to health

An overview of the relationship between housing, the environment, and health.

## At the time of Beveridge

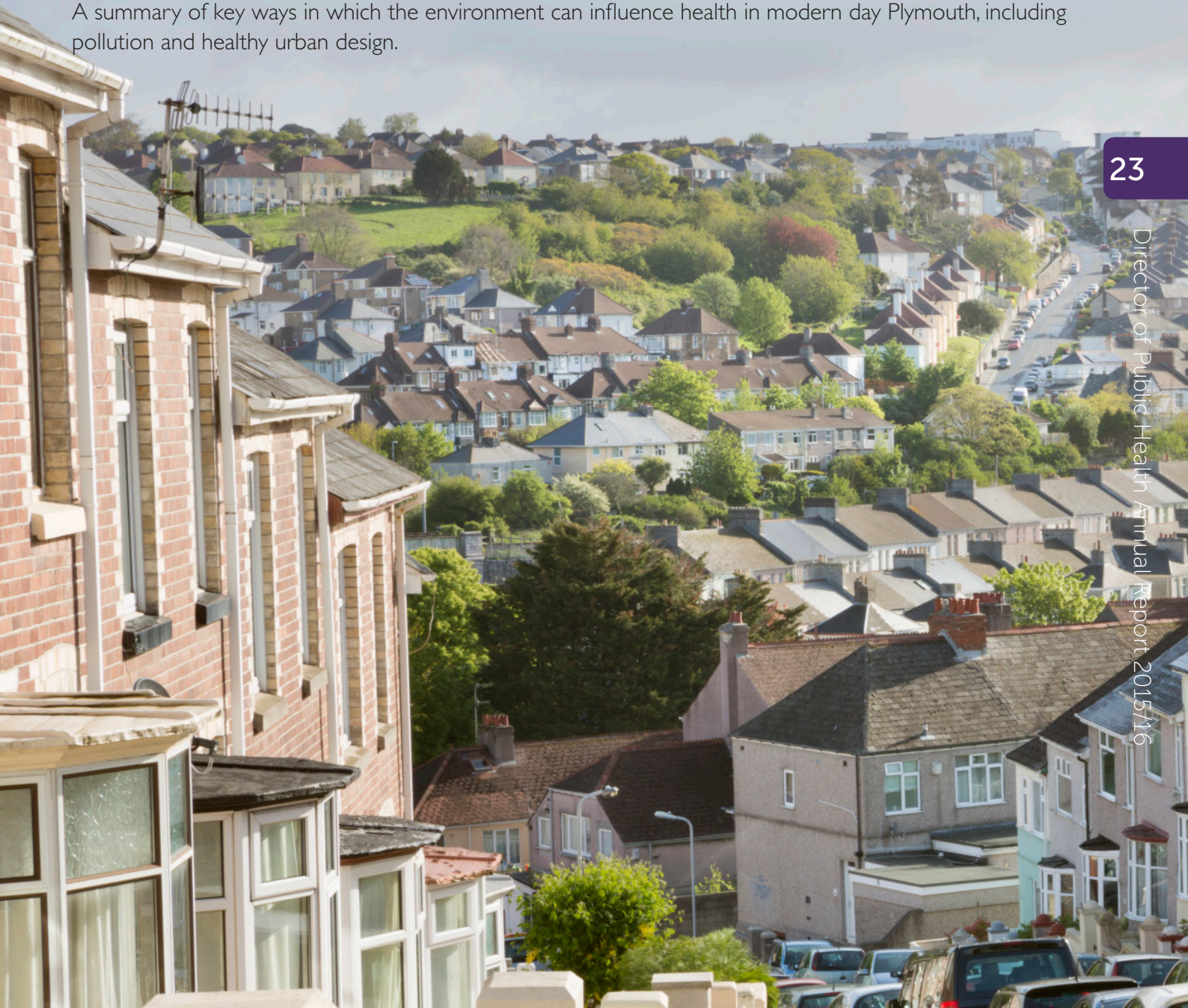
A snapshot of housing and the environment in Plymouth around the time the Beveridge report was released.

## Key issues for housing in Plymouth

A summary of key ways in which housing can influence health in modern day Plymouth, including quality of rented accommodation, homelessness, housing affordability, welfare reform and fuel poverty.

## Key issues for the environment

A summary of key ways in which the environment can influence health in modern day Plymouth, including pollution and healthy urban design.



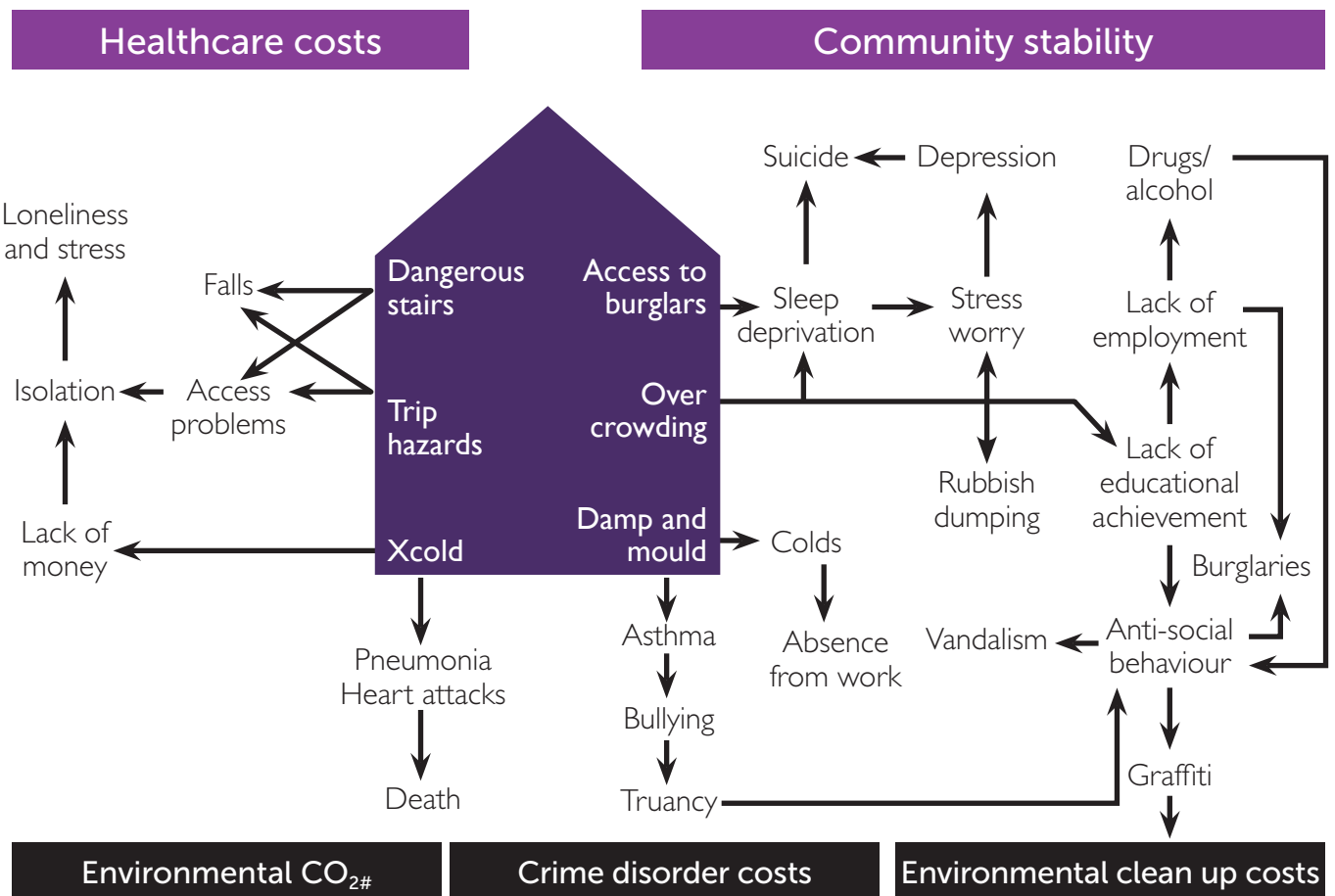
## Relevance to health

The quality of both housing and the wider environment can have a significant impact on health.

### Housing

Good housing design, construction, and upkeep can help to: reduce hazards, resulting in fewer preventable injuries; prevent indoor air pollutants and mould, which can cause asthma, allergies, and respiratory disease; and prevent fuel poverty, which can help reduce excess winter deaths. In addition, availability and affordability of good quality housing can help prevent over-crowding, which can lead to increased transmission of communicable disease. A summary of some health and social conditions affected by housing design can be found in Figure 7.

**Figure 7: The impacts of poor housing on health**



Adapted from CIEH: Good housing leads to good health: a toolkit for environmental health practitioners

### The wider environment

The wider environment can have a huge impact on our health. Health can be adversely affected by pollution of the air we breathe due to industry, transport, and second hand tobacco smoke and from contamination of the food and water supply by chemical or biological agents. In addition, noise pollution and social factors can have an impact on mental health. Effective urban design can affect our health in many ways; from creation of a safe, appealing environment that encourages physical activity, to design of parks and playgrounds to provide shade from the sun to help prevent skin cancer.



# At the time of Beveridge

Between 1939 and 1942, as people were evacuated from the city, the population of Plymouth decreased from 220,800 to 127,300. Although this may suggest there was ample housing available for the people who remained, there were very few resources available to manage the upkeep of the housing stock, or repair the damage done by German air raids, and many people were still living in poor quality and overcrowded accommodation. Inspections for defects were conducted at 1,275 houses, with 764 found not to be fit for human habitation. Most of these were successfully rendered fit after informal local authority action. A total of 957 houses were visited to investigate overcrowding; such was the need for adequate accommodation, many resorted to sleeping in air raid shelters. The transient nature of such sleeping arrangements posed a significant public health risk, and measures were put in place to regularly spray and steam-disinfect bedding in the shelters. A total of 8,534 air raid shelter inspections were made during the year, representing a significant burden of work.

War damage to utilities infrastructure was widespread resulting in homes regularly going without fresh water or functioning drainage systems. In an environment where not all houses had an inside tap, and often several families shared the same water source, this made management of personal hygiene challenging. School nurses were used to assess the cleanliness of pupils and 1,683 pupils were found to be of unacceptable cleanliness. To help with this a mobile bath unit was created which visited Plymouth's schools on a fortnightly basis and enabled children to have a bath.

The widespread damage done to the city resulted in many areas being abandoned and left in ruin. These areas became a breeding ground for vermin. At the time two rat catchers were in full time employment and tasked with preventing vermin infestations; helping to reduce the transmission of disease.

Despite these efforts communicable diseases, exacerbated by the poor living conditions, remained a significant problem, a good example of this being the 2,232 reported cases of scabies, three quarters of which were reported in school aged children.

Soldiers clearing rubble in Plymouth, circa May 1941



## Key issues for housing in Plymouth

Compared to the wartime era, it is unquestionable that houses are now generally safer, and have significantly better facilities such as an internal water supply and effective drainage. Similarly, a significantly more regulated wider environment has helped to reduce the health impacts of pollutants and hazards such as road traffic accidents. Despite these improvements, there are still many people living in Plymouth whose health is being adversely affected by their residential accommodation and wider environment. Over the past 70 years the understanding of the relationship between environment and health has become more sophisticated and many more opportunities have arisen for changing the environment to improve health. This section describes some of the key factors around housing and the environment that have an impact on the health of Plymouth's population, what is currently being done to address them, and asks what else can be done to consolidate progress.

### Quality of rented accommodation

The Plymouth Housing Services are tasked with monitoring and improving the standards of private rented housing in Plymouth through advice, education, management of complaints, inspections and when necessary, enforcement. These are delivered through a number of mechanisms and programmes of work, including introduction of a Charter and Plan for Private Rented Housing in April 2015, programmed inspections of houses in multiple occupation (HMOs), targeted action through additional funding through the Rogue Landlord Project, and Landlord and letting agent training events including Private Rented Forum Meetings with local stakeholders.

In Plymouth, around four out of ten households are rented, which is higher than the national average. Of these, around half are socially rented and half are privately rented. The quality of accommodation for those that are socially rented is generally good. Privately rented homes, of which there are around 22,000 in Plymouth, are generally older than is seen nationally and are of variable quality. The most recent survey investigating rented accommodation (conducted in 2010) estimated that based on safety, state of repair, and facilities available, over 8,000 privately rented homes in Plymouth were non-decent. This represents over one third of the private housing stock, a higher proportion than is seen nationally.

Within Plymouth, the proportion of homes that are non-decent varies considerably by electoral

ward. Almost half of homes in some areas were classified as non-decent; over three times greater than the proportion seen in other areas and suggesting significant inequalities in quality of housing (Figure 8). These inequalities are particularly apparent for certain groups such as migrant workers, who are increasingly being reported as living in poor conditions.



In 2014/15, 900 cases investigating issues with privately rented housing were opened. The most common issues were damp and mould (229 cases) and general disrepair (227 cases). Around one in five properties had serious 'Category 1' health and safety hazards, and a total of 355 hazards had to be removed during the year. Although significantly less of an issue than during the war, vermin still cause problems in some Plymouth properties. In 2014/15, Plymouth's environmental health team conducted 631 property visits for rat treatments. In 2015/16

this number had reduced to 218. Although this reduction is thought to have been driven by reduced staff capacity and the introduction of charges rather than a drop in demand, it suggests there may be a growing unmet need. In order to assess this, more information regarding activity levels for private providers of this service would be required. Property visits for treatment of mice are also conducted, and unlike rat visits, numbers in 2015/16 were higher than in 2014/15 (385 compared to 308). This is possibly because charges were not introduced for this service.

The impact that the home environment has on the health of people living in Plymouth is still significant. A local study of accident and emergency attendances at Derriford hospital between 2009/10 and 2011/12 showed that for children under 16, around one third of incidents took place at home, approximately 2,200 a year. In 2013/14 there were 3,016 non-elective admissions relating to respiratory disease, a number which could be reduced if fewer homes had problems with damp and mould.

### Homelessness

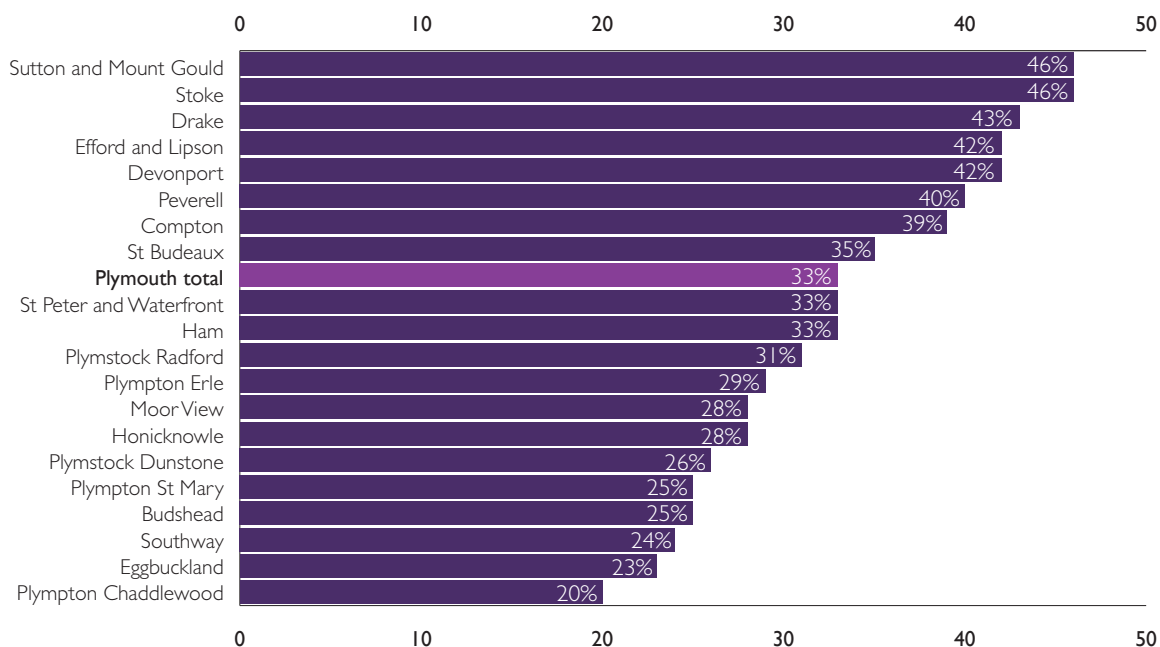
The homeless are usually amongst the most vulnerable members of society. Almost half have a diagnosed mental health issue and a similar number have a long term physical health problem.

Homelessness is also associated with lifestyle choices that are adverse to health. Around three quarters are smokers and two thirds drink more than the recommended amount of alcohol each occasion they drink. They often also suffer from a range of other health issues which can require intensive support from the health and social care system.

Levels of homelessness and numbers living in temporary accommodation in Plymouth are higher than both the regional and national averages. As a result of challenging economic and housing market environments, and with welfare reforms now beginning to impact, 2014/15 saw a sharp increase in the number of approaches made to Plymouth City Council regarding statutory homelessness.

One of the most significant and concerning increases was the number of approaches from vulnerable single homeless people; increasing to 784 cases from 333 cases the previous year. Current provision of supported housing/hostels has been unable to meet demand for the single homeless and people have frequently had to be placed in B&Bs, in some cases for many months at a time. This has prompted a review of the options for increasing the provision of temporary accommodation and longer term private sector units, and more intensive housing management support.

**Figure 8: Percentage of private rented homes classified as non-decent by ward (data from CPC Private Sector Stock Condition Survey Report 2010)**

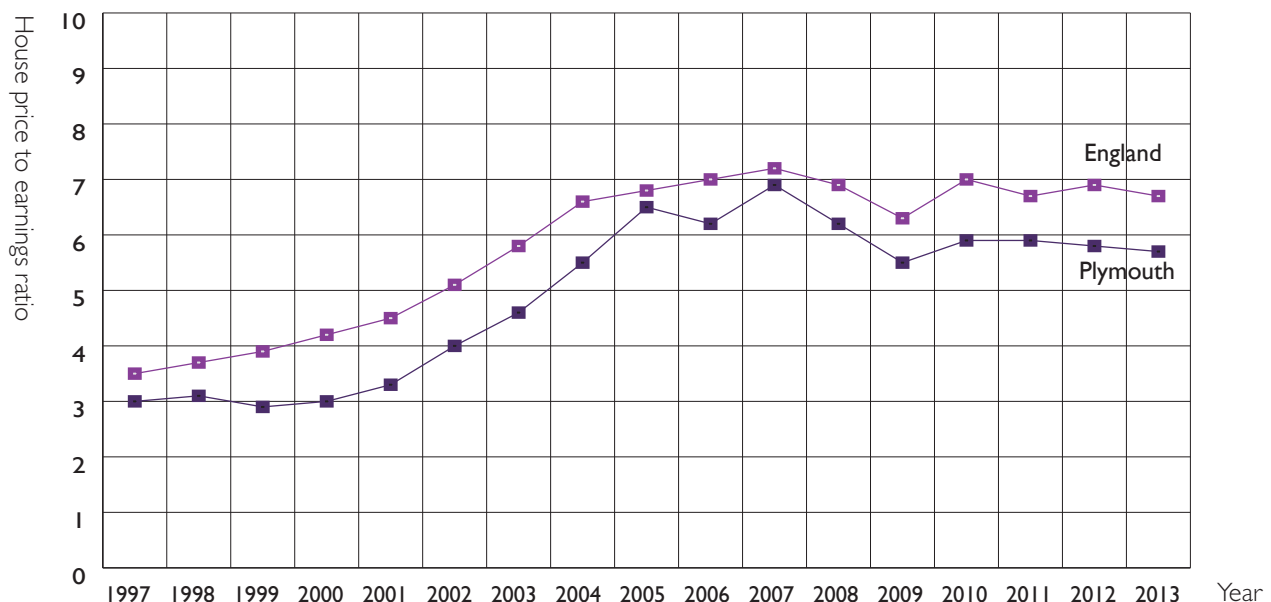


## Housing affordability

The affordability of house ownership can be measured by looking at the ratio of average house price to average earnings. Although slightly more affordable than at the peak of the housing bubble, by historic standards the cost of owning a house is very high. In Plymouth the average house price to earnings ratio in 2013 was 5.7 which, despite lower average earnings, made houses more affordable than nationally, where the ratio was 6.7 (Figure 9).

For many, significant barriers to home ownership still remain. The barriers most commonly reported by would-be house buyers<sup>9</sup> are raising a deposit (52%), access to a large enough mortgage (38%), affordability of monthly mortgage repayments (33%), and lack of job security (26%).

**Figure 9: House price to earnings ratio (DCLG)**



## Welfare reform – the spare room subsidy

The government's own figures estimate that at least 440,000 disabled households will lose out under cuts to housing benefit for homes with one or more spare bedrooms. Housing charities such as Shelter estimate much higher numbers. The £30 million discretionary fund available to councils to help alleviate the worst impacts of these cuts, as many councils are pointing out, is far below the level needed. The situation facing these vulnerable tenants is compounded by the lack of alternative properties available for them to move in to in order to avoid further reductions in their housing benefit<sup>10</sup>.

## Fuel poverty

When considering the 'thermal comfort' of homes, based on an assessment of the efficiency of the heating system and level of insulation, around one in five homes are considered to be of an inadequate standard. As with non-decent housing, within Plymouth this varies widely from area to area, and for people with limited incomes can result in a considerable percentage of that income being spent on fuel. Fuel poverty is defined as higher than average fuel costs which, when paid for, leaves the household with residual income that is below the poverty line. It affects around one in five Plymouth households (18.6%) and a number of schemes are in place in Plymouth to help address this, including those run by Plymouth Energy Community (PEC).

The main health conditions associated with cold housing are circulatory diseases, respiratory problems, and mental ill-health. Other conditions influenced or exacerbated by cold housing include the common cold and influenza, as well as arthritis and rheumatism<sup>11</sup>.

## Key issues for the environment

### Air pollution

In the 1940s and 1950s smog and smoke from coal fires were a very visible form of air pollution and sulphur dioxide (SO<sub>2</sub>) levels were high. With the migration from coal to gas, and the introduction of more modern fuel systems, SO<sub>2</sub> levels dropped whilst levels of other pollutants such as nitrogen dioxide (NO<sub>2</sub>), fine particulate matter (PM<sub>2.5</sub>) and particulate matter (PM<sub>10</sub>) increased. Despite often being invisible to the naked eye, these pollutants can still have a significant impact on health. It has been estimated that air pollution shortens average life expectancy by 8.6 months<sup>12</sup>.

Air quality in Plymouth is monitored at a wide range of sites by both the council's environmental protection team and the Environment Agency. There are a number of static NO<sub>2</sub> monitoring sites on strategic transport routes and grant funding is used to monitor air quality in walk-to-school areas. Air quality at sites with permits to operate (including controls on emissions), such as the Plymouth Energy from Waste (EFW) site, is monitored to ensure compliance.

Air quality objectives (AQOs) are used for local air quality management (AQM) and set maximum recommended thresholds for PM<sub>2.5</sub>, PM<sub>10</sub> and NO<sub>2</sub>. PM<sub>10</sub> is measured in three areas of Plymouth. Levels have been decreasing in the city over recent years, and for the past three years have met AQOs. PM<sub>2.5</sub> is measured in the city centre, and at a site close to the EFW site. PM<sub>2.5</sub> levels are currently meeting AQOs, but are not currently showing signs of reducing as per the recommendations of recent guidance. This suggests that further work may be needed at a national level to reduce PM<sub>2.5</sub> exposure if public health targets are to be met.

NO<sub>2</sub> is measured at several sites across the city. Overall trends appear to be downwards, but in 2014 there were some sites, particularly in areas with high traffic volume, where NO<sub>2</sub> levels exceeded the AQO. Sites failing AQOs included approximately half of the sites on Mutley Plain and all sites on Royal Parade. These routes form part of the Plymouth 'Air Quality Management Area', where levels of air pollutants are known to be high.

### Contaminated land

As with air pollution, although now closely regulated, contaminated land, often from historical activities such as former industrial or waste storage sites, still poses a health risk in Plymouth. As pressure to develop potentially contaminated brownfield land has increased, so has the need to investigate the associated health risks. This is often done using a source-pathway-receptor model. An example of this occurred at Lipson playing fields where high levels of lead contamination were discovered, putting users of the playing fields and sports pitches at risk of exposure. Remedial action was required to make the site safe.

## Healthy urban design

Traditionally, the impact that the urban environment can have on health has been more focussed on health protection than health improvement. Nowadays the management and design of the environment is being increasingly recognised for its wider health benefits. Given the impact that lifestyle choices and behaviour have on health, shaping the urban environment to encourage healthy lifestyles, such as increased physical activity and healthy eating choices, is essential in order to help improve health and reduce inequalities. Physical activity can be increased through improving the connectivity and safety of our streets, and by improving the access to, and quality of, recreational spaces. Restricting access to fast food outlets and improving the availability of fresh, healthy food options can help improve people's diet. Creating spaces and opportunities to meet and connect with one another, providing a range of housing to enable people to remain near the people they know, as well as encouraging and protecting social networks, can improve social cohesion and build community resilience.

Walking and cycling have been identified as particularly easy ways to increase exercise and the Plymouth Plan seeks to reduce barriers to exercise and healthy travel by providing and protecting cycle infrastructure and green spaces.

Over recent years there has been significant investment in the planned strategic cycle network<sup>13</sup> and associated walking routes, including developments such as the recently opened Laira Rail Bridge for pedestrians and cyclists. These developments have improved walking and cycling connectivity and provided facilities such as cycle parking. The infrastructure improvements are supported by programmes such as Plymotion to give residents the skills and confidence to walk and cycle. Together this has helped contribute to a 50% increase in cycling in the city over the past six years.

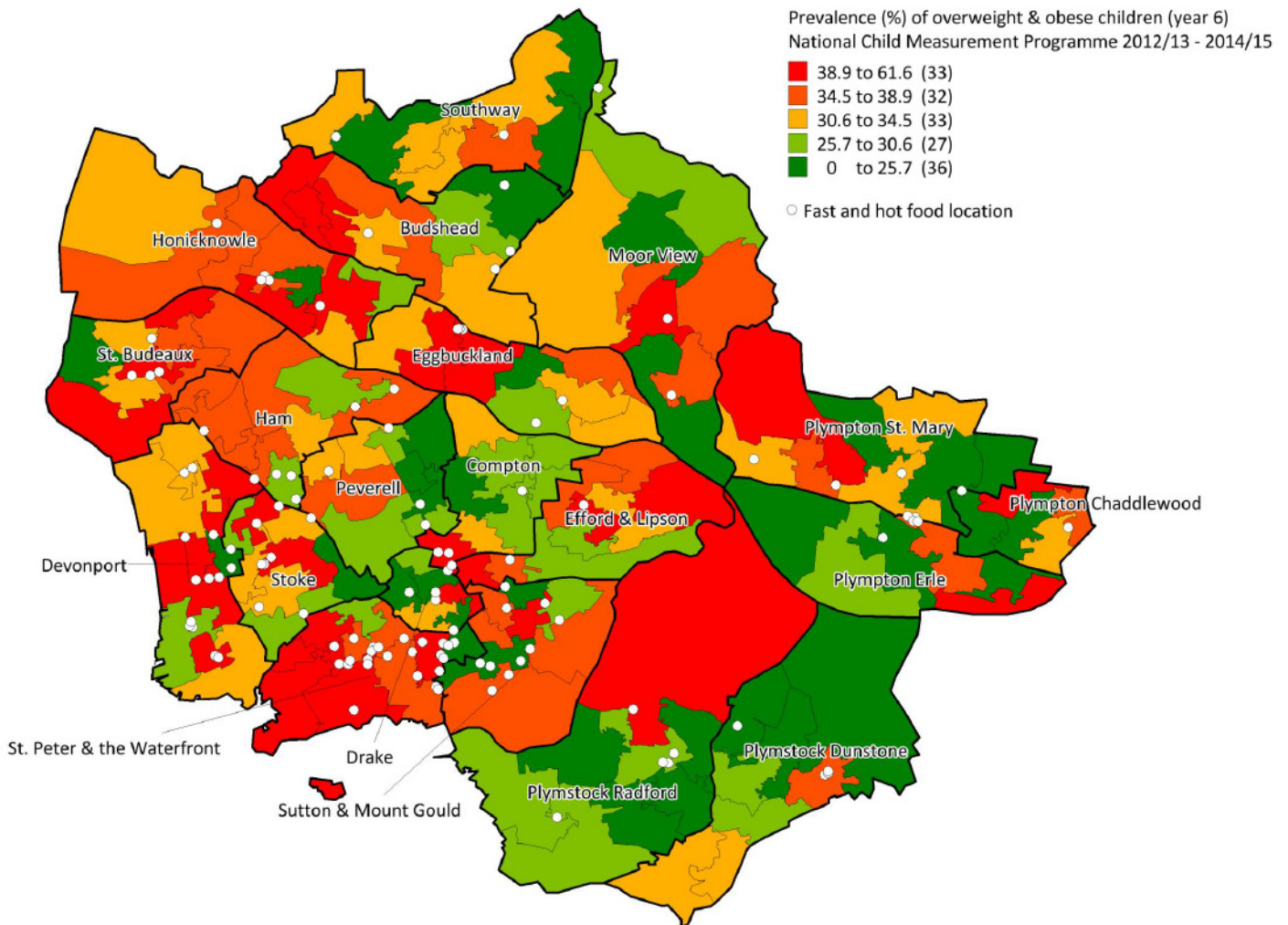
Increasing the quantity and quality of accessible green spaces is an important part of improving

the city's health and is reflected by 'Theme 3 – Green City' that runs throughout the Plymouth Plan. The Plan aims to provide access to green spaces within certain distances of where people live and protect designated locally and nationally important existing green spaces. Furthermore, plans to improve and provide regionally important green spaces at Derriford Community Park, Central Park, Plym Valley and Plympton, Saltram Countryside Park, Sherford Community Park, and the Plymouth Sound and Estuaries European Marine Site have already been established.

The quality and design of the urban environment also improves the health benefits of neighbourhoods. Well-designed refuse storage, landscaping and street trees, quality materials, and a host of other measures can all improve citizens' perceptions of their neighbourhood and enjoyment of the urban environment, resulting in improved well-being and reduced stress. The fear of crime is also something that can impact health and can be significantly reduced through consideration of measures such as 'secure-by-design'.

According to Public Health England, planning authorities should influence the built environment to improve health and reduce the extent to which urban design promotes obesity. Improving the quality of the food environment around schools has the potential to influence children's food-purchasing habits and potentially their future diets. 'Policy 8' of the Plymouth Plan creates a 400m zone around secondary schools where the food environment is to be protected. This includes preventing the development of new fast food retailers within the zone and working with existing retailers to improve the food environment; the purpose of which is to offer children the opportunity to choose a healthy lifestyle. Figure 10 shows the prevalence of overweight and obese children in year six of primary school by LSOA in relation to location of fast and hot food outlets.

**Figure 10: Prevalence of overweight and obese children in year six of primary school by LSOA in relation to location of fast and hot food outlets**



## Housing and the environment

### Key messages

- Plymouth works with increasingly out-of-date information and limited actionable intelligence on the quality of its private housing stock.
- A considerable body of evidence links poor housing quality with poor physical and mental health.
- Plymouth's private rented housing stock is older and in poorer condition than elsewhere in the country, with some areas and population groups being particularly affected. Over one third of Plymouth's privately rented housing stock is classed as 'non-decent'.
- Over the past couple of years there has been a sharp increase in the demand for housing as a result of statutory homelessness. This is particularly true for vulnerable, single homeless people. Current provision of supported accommodation is not able to meet this demand, prompting a review of options for meeting the required provision.
- There is both need and opportunity to further integrate healthy urban design into all aspects of planning, creating environments that enable healthy lifestyle choices.
- Plymouth is currently meeting its air quality objectives for particulate matter, but for smaller particulates, the national target of a 'downward trend' is not being achieved.
- Whilst levels of nitrogen dioxide (NO<sub>2</sub>) are reducing in Plymouth, Air Quality Objectives in some areas are not currently being met. An Air Quality Management Area has been set up to monitor NO<sub>2</sub> levels at these sites.

### Recommendations

- Urgently prioritise developing information systems that generate actionable intelligence on housing quality especially in the private rental sector.
- Continue to develop and strengthen the relationship between ODPH and Place directorates. In particular, ensure the community infrastructure levy is used to monitor the impacts of continued expansion of housing and improve walking, cycling and public transport routes.
- Support the housing team to investigate, plan, implement and evaluate the changes required to increase the provision of housing for the statutory homeless.
- Investigate the role ODPH can play in helping to reduce emission levels in the city by promoting healthy, non-polluting modes of travel, particularly in the Air Quality Management Area.



# Education and qualifications



## At the time of Beveridge

A snapshot of education in Plymouth around the time the Beveridge report was released.

## Education

A summary of education in modern day Plymouth, including provision of schools, educational attainment, key educational workstreams, and school absence.

## Level of qualifications in the adult population

A description of the levels of qualifications held by people living in Plymouth compared to England.

## Relevance to health

Research has shown that there is a strong link between the level of education and behavioural lifestyles chosen in relation to health. Four behaviours that increase the risk of chronic disease; poor diet, inactivity, alcohol misuse, and smoking have been shown to be significantly more common in people with lower levels of educational attainment; people with no qualifications are more than five times as likely as those with higher education to engage in all four of these behaviours<sup>14</sup>.

These factors, along with others associated with both education and health such as level of income, quality of living accommodation, and environment, mean that people who are less educated tend to live shorter lives in a poorer quality of health.



# At the time of Beveridge

At the time the Beveridge report was published, the education system had been severely disrupted by the Second World War. By 1942, 21 elementary schools had been completely destroyed, resulting in the loss of 7,645 school places. The evacuation of around 9,300 of the 26,000 elementary school pupils who were living in the city at the start of the war alleviated some of the pressure on school places. However in some areas there was still a shortage, resulting in some children not being able to attend school or having to travel significant distances. Many other schools were damaged, and whilst basic 'first aid' work was done to make them operational, pupils often had to learn and study in very poor conditions.

In 1942, the school leaving age was 15. Even though the official age to move to secondary

school was 11, most children stayed on in elementary school throughout their education. As a result, compared to elementary schools, there were significantly fewer secondary school pupils and places. Before the war there were 2,430 secondary school places available at five schools, two schools for boys and three for girls. In order to help with the war efforts, two of these schools were taken by the Admiralty and one was turned into an elementary school. As was seen with elementary schools, pressure on secondary school places was alleviated due to the evacuation of many secondary school pupils. By 1942, 1,120 boys and girls were attending secondary school in Plymouth, with over 1,000 expected to return after the war.



Evacuees at North Road station, Plymouth, 12 May 1941

## Education

### Provision of schools

In Plymouth in January 2016 there were 20,239 pupils attending 64 primary schools, three infant schools, and three junior schools. These include academies, maintained schools, and free schools. There were also 16,418 pupils attending 19 secondary schools. These include academies, maintained schools, a free school, and two designated Key Stage 4 providers.

In the city, there is an all-through free school; a primary free school; the University Technical College (UTC); a studio school; two local authority nursery schools; seven special schools; and the Alternative Complimentary Education (ACE) Service. There are four higher education organisations; the Plymouth College of Art and Design, the University of Plymouth, the University of St Mark and St John and City College Plymouth.

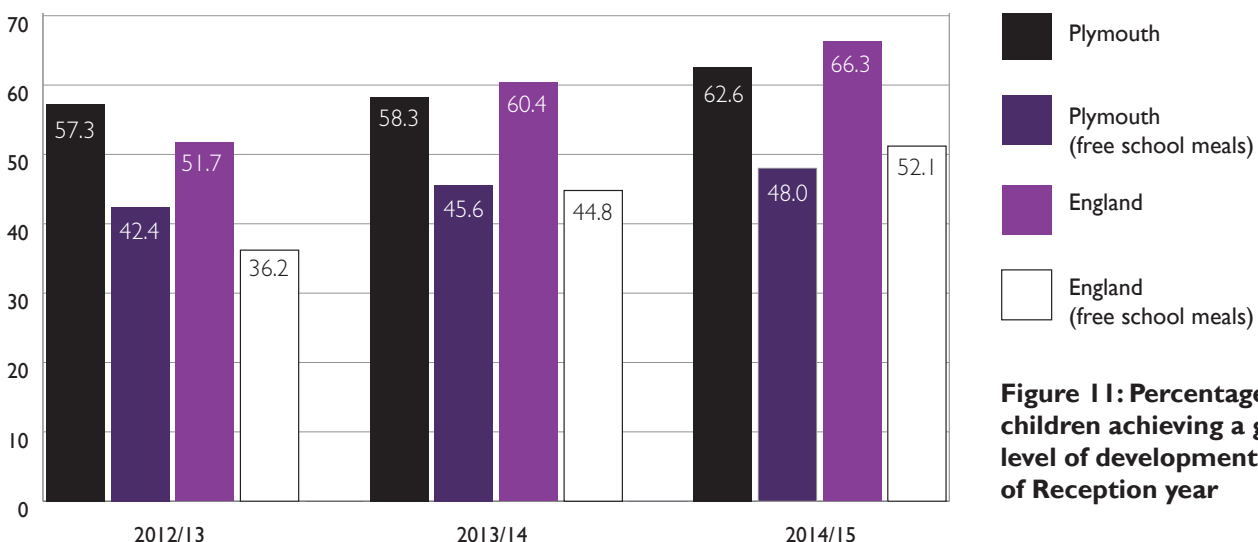
### Educational attainment

One government measure for education is the percentage of secondary school pupils achieving five GCSEs at grades A\*-C. In 2014/15, the percentage of pupils achieving this in Plymouth was 51.8%; lower than the national figure of 57.3% and a slight reduction on the 2013/14 Plymouth percentage of 53.1%. For children at the other end of the age spectrum, children are currently assessed using the Early Years

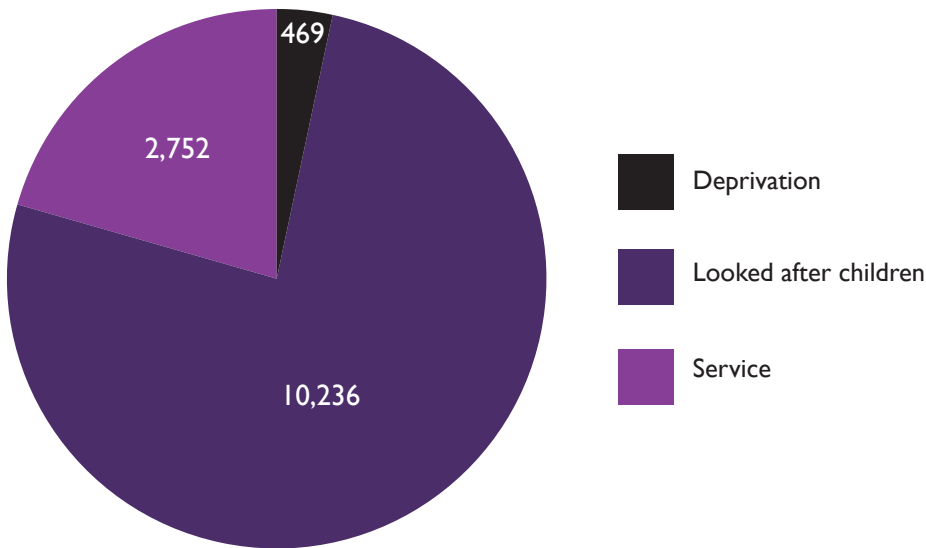
Foundation Profiles for their development levels at the end of their first year in school. In 2014/15 the percentage of children achieving a good level of development at end of reception year was 62.6%; lower than the national figure of 66.3%, and an increase on 2013/14 Plymouth percentage of 58.3% (Figure 11). Children entitled to free school meals do less well and in 2014/15 the percentage of children with free school meal status achieving a good level of development at the end of reception year was 48.0%; lower (but not significantly) than the national figure of 51.2%, and an increase on the 2013/14 Plymouth percentage of 45.6 %.

### Key educational workstreams

There are many factors that can influence how well a child does at school; with notable gaps in educational attainment for people living in different circumstances. In particular we know that a child's very early experiences, particularly in the first two years of life are crucial to long term learning and development with studies showing that when a baby's development falls behind the norm during the first years of life, it is more likely to fall even further behind in subsequent years. This is why a key supporting workstream to improve educational attainment is by supporting the best start to life. In an attempt to address this, and improve overall levels of attainment, there are a number of programmes of work applied in Plymouth.



**Figure 11: Percentage of children achieving a good level of development at end of Reception year**



**Figure 12: Number of children that Pupil Premium funding is received for**

### Workstream 1: Pupil Premium

The Pupil Premium funding, given by central government to local authorities and schools, is designed to specifically improve the educational attainment and progress of three groups of pupils: disadvantaged pupils, children that are looked after by the local authority, and service children. It is viewed as a major strategy for improving the life chances of pupils through education, narrowing gaps in attainment and, for service children and some children in care, their social and emotional needs.

The funding is predominantly spent on provision of additional staff. Most commonly these are regular and higher level teaching assistants but occasionally part-time teachers are also used. Delivery is also achieved through some initiatives such as breakfast clubs that provide children with a healthy meal before school, and others that are specific to the type of pupil including Personal Education Plans for children in care, and support from the HMS Heroes group for service children. The number of children funded is outlined in Figure 12.

The investments made through the Pupil Premium appear to be helping to close the gap in attainment. In 2015, the percentage of pupils receiving the premium and reaching the expected educational standard by the end of primary school was 70%. Although this was 11% lower than non-premium funded students, in 2014 this gap was 19%. The

percentage of pupils receiving the premium and reaching the expected educational standard by the end of secondary school was 31.6%. Although this was 27.5% lower than non-premium funded students, in 2014 this gap was 32%. When comparing the performance of pupils in Plymouth receiving the premium to those receiving it nationally, the city compares unfavourably, although again this gap appears to be narrowing. The performance of children of armed services personnel is generally better in Plymouth than in other comparable areas.

### Workstream 2: Special educational needs support

With the introduction of the Children and Families Act 2014, a new Special Educational Needs and Disability (SEND) Code of Practice informed schools of their statutory duties to identify and support all children with special educational needs.

Class and subject teachers, supported by the senior leadership team, will identify pupils making less than expected progress, given their age and individual circumstances, as requiring SEN Support. There are four broad categories of need:

- cognition and learning
- communication and interaction
- social, emotional and mental health difficulties
- sensory or physical need

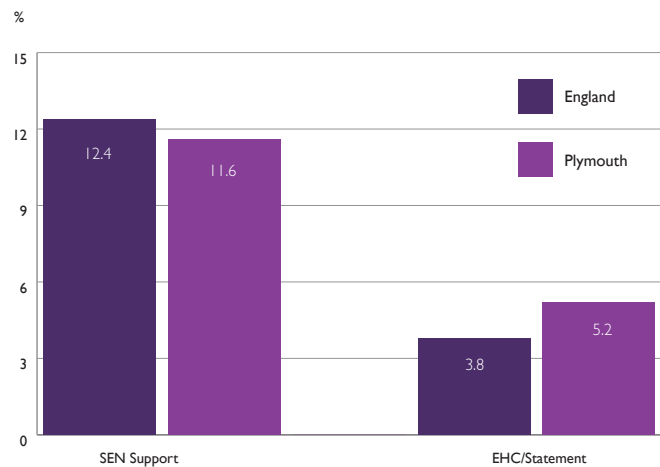
There is a wide range of information available on appropriate interventions for pupils with different types of need, and associated training which schools can complete to ensure they have the necessary knowledge and expertise to use them. Further to this, SEN support may involve seeking specialist external advice and support from local authority advisory teams, educational psychologists, speech and occupational therapists, or support from social services.

If a school has taken relevant and purposeful action to identify, assess, and meet the SEN of a child yet the child has not made expected progress, the school or parents should consider requesting an Education, Health, and Care (EHC) needs assessment.

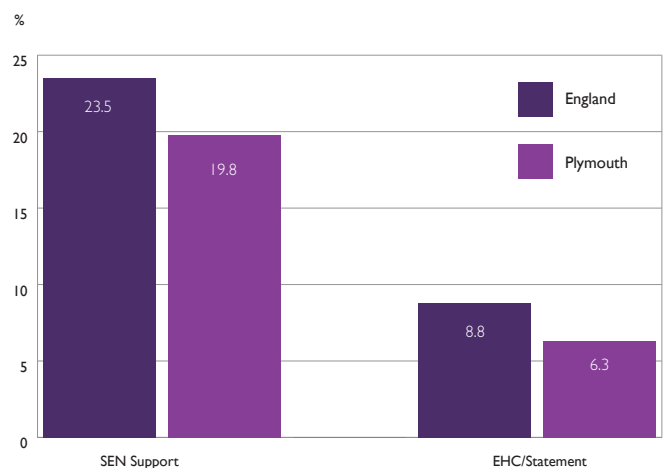
The purpose of an EHC plan is to make additional educational provision to meet the special educational needs of a child or young person, to secure the best possible outcomes for them across education, health and social care and, as they get older, prepare them for adulthood. Local authorities are responsible for ensuring that there is effective co-ordination of the assessment and development process for an EHC plan. Joint working between local authorities and Clinical Commissioning Groups (CCGs) in the development of an EHC plan supports the provision of effective services for children and young people with SEN.

In Plymouth, alongside the national SEND reform, a comprehensive review of specialist provision across the city is being undertaken. To provide an idea of how complex the educational needs of pupils in Plymouth are compared to nationally, the percentage of children taking GCSEs in Plymouth who are in SEN support or have an EHC plan can be determined. In Plymouth, a lower percentage of pupils taking their GCSEs in 2015/16 were receiving SEN support, but a higher percentage had an EHC plan (Figure 13).

The grades achieved by SEN pupils taking GCSEs can provide an indication of how well their educational needs are being met. It can be seen from Figure 14 that the percentage of SEN pupils in Plymouth achieving five A\*-C grades is lower for both SEN supported and EHC plan students compared to England.



**Figure 13: Percentage of SEN pupils taking GCSEs**



**Figure 14: Percentage of SEN pupils taking GCSEs in 2014/15 achieving five grades A\*-C**

### **Workstream 3: Improving health outcomes**

Recent work related to Thrive Plymouth year two focus in schools and educational settings has highlighted the significant amount of innovative work schools are doing to support the health and wellbeing of children and young people, recognising in turn that this will support educational attainment. To support this work Plymouth has developed the Healthy Child Quality Mark (HCQM). The HCQM is an accreditation scheme that operates at three levels; bronze, silver, and gold. Gold schools become beacons of practice for others to follow. Uptake of the scheme is good; 71 schools are actively engaged in the scheme of which 37 have achieved bronze status, six have achieved silver status, and four have achieved gold status. The HCQM scheme is also being used in partnership with Plymouth City Council's early years and public health teams to address health in early years settings, with six settings expected to pass the early years pilot later this year. In addition to the HCQM, a range of other activities and support are offered to schools and other educational settings to enable them to positively contribute towards improving public health outcomes.

#### **School absence**

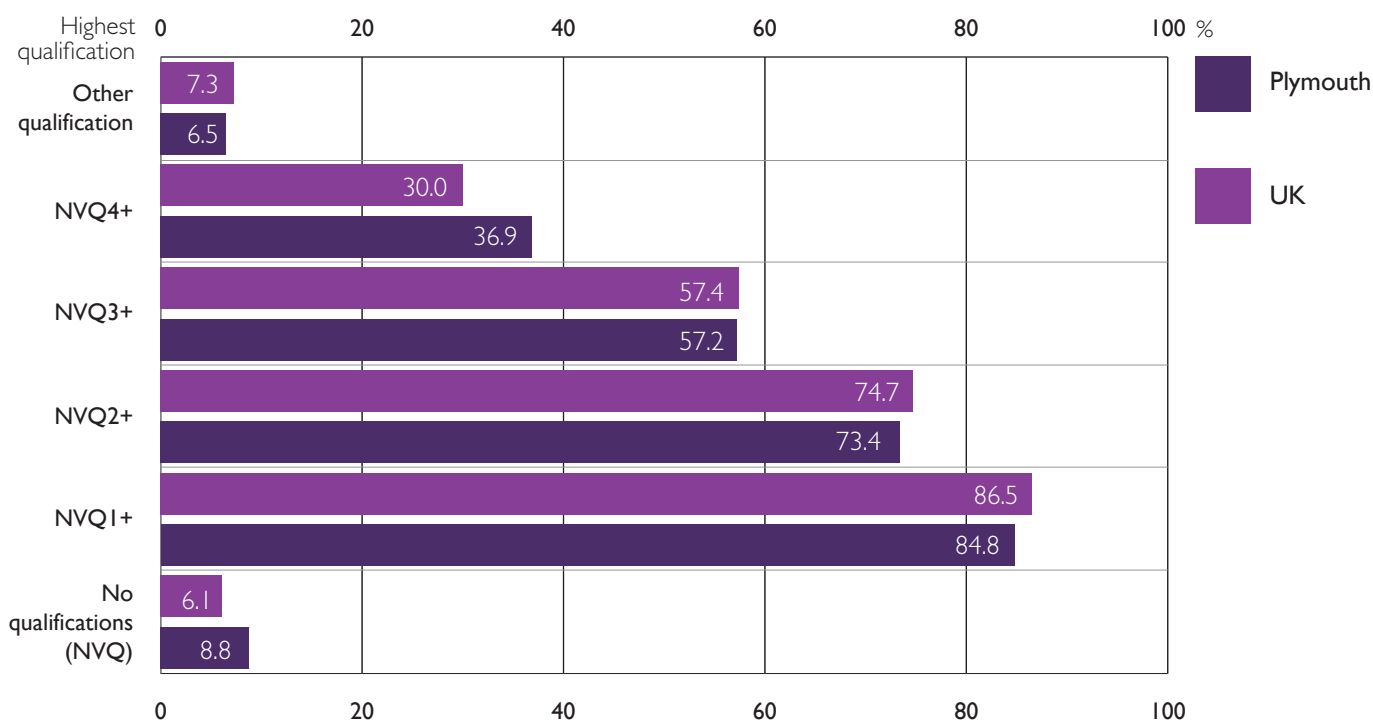
Pupil attendance rates are linked to attainment; those who are absent more often tending to perform less well. There are many reasons why a child may be absent, but low attendance rates are often linked to issues in either the home or school environment such as lack of childcare support or bullying.

Data collected from state funded primary and secondary schools during 2013/14<sup>15</sup> shows that in Plymouth pupils missed 4.7% of sessions, which is similar to the national percentage of 4.6%. The percentage of these sessions that were unauthorised was slightly lower in Plymouth; 0.8% compared to 1.1%. The percentage of pupils who were persistent absentees (those missing 38 or more sessions) was also lower in Plymouth; 3.4% compared to 3.7%.

## Level of qualifications in the adult population

Based on May 2016 figures from the Annual Population Survey, around 6.1% of working age people (16-64 years) in Plymouth have no NVQ qualification (Figure 14). This is lower than the 8.8% seen nationally. However, a smaller percentage of people in Plymouth achieve a qualification at NVQ level 4 or above compared to nationally (30.0% compared to 36.9%).

**Figure 15: Highest qualification, percentage of working age people (16-64 years) (Annual Population Survey, May 2016)**



## Education and qualifications

### Key messages

- Given the strong association educational attainment has with deprivation and poverty, improving educational outcomes for disadvantaged children will help to give them a better start in life and reduce inequalities in the city.
- At present, overall levels of educational attainment in Plymouth are slightly below the national average.
- Several initiatives are taking place locally to improve performance and reduce inequalities in educational outcomes.
- In Plymouth there are more children with Education, Health, and Care plans, who have a greater requirement for educational support.
- Educational outcomes for children with Special Educational Needs in Plymouth are not as good as they are nationally.

### Recommendations

- Investigate whether inequalities in educational outcomes in Plymouth are sustainably reducing and whether any reductions are translating into progress on narrowing overall health and wellbeing inequalities.
- Encourage and support the re-modelling of our children and young people's services to support children's early development, school readiness and subsequent educational outcomes.



# Employment and the economy



## At the time of Beveridge

A snapshot of employment in Plymouth around the time the Beveridge report was released.

## The transition to modern day Plymouth

A summary of the changes to the economy that have taken place since the Beveridge report was released.

## Employment and the economy in modern day Plymouth

Describes employment, unemployment, and economic inactivity in Plymouth.

## Relevance to health

The relationship between employment and health is interdependent and complex, but evidence has shown that people in work tend to enjoy happier and healthier lives than people who are out of work. Unemployment is strongly associated with a wide range of social, economic, and clinical factors, and has been linked to higher mortality rates, shorter life expectancy, and a number of physical and psychological health issues such as chronic back pain, stress, and depression. This is especially true for the more vulnerable members of society. Further to this, people who are out of work tend to be heavier users of healthcare services such as GPs and hospitals, and people who are in poor health find that getting back to work often helps them recover<sup>16</sup>.



# At the time of Beveridge

After experiencing a decade of economic stagnation in the 1920s, the UK economy was further hit by the sharp global economic downturn in the early 1930s. This led to high levels of unemployment and in his report Beveridge stated that “three-quarters to five-sixths” of poverty was due to interruption or loss of earning power.

In the year of the Beveridge report, the annual figures of the Plymouth juvenile employment sub-committee showed that a high percentage of wartime employment was of a temporary and unskilled nature. Almost half of males leaving school went into routine and manual labour, and almost six out of ten women ended up working as shop assistants, clerks and general office workers, or factory workers. Due to the high demand, rates of pay were notably higher than would usually be expected.

A 1930s study of Plymouth working class families<sup>17</sup> showed that unemployment benefit made up 37% of all benefits payments for this group. Beveridge felt whilst unemployment benefits were not sufficient to meet the needs of those who were out of work, they were significantly closer to doing so than sickness and disablement benefits, which he saw as being woefully inadequate. In his report, Beveridge proposed radical changes to the welfare system. The new system was based on two simple principles; universality and comprehensiveness. In other words the scheme applied to everybody, with no ‘means test’, and involved a single payment covering all benefits. The idea was that this would provide a platform on which people would be incentivised to build.

## The transition to modern day Plymouth

During and following on from the Second World War, efforts to rebuild the country resulted in high levels of employment in Plymouth and across Britain. This in part was due to the nationalisation of most of the UK's major strategic heavy industries and public utilities between 1946 and the early 1950s, resulting in rapid growth in the number of public sector jobs. Demand for workforce at Devonport dockyard, a key driver of the Plymouth economy for hundreds of years, was also high. When the dockyard built its last ship, the HMS Scylla, in 1971 approximately half of the workforce in Plymouth worked either directly for, or in the supply chain supporting, it.

Since the 1980s, the fortunes of the dockyard have been variable. Although bolstered by investment during the Falklands war and the development of nuclear submarine facilities, there have been long periods where a shortage of jobs contributed to high long-term unemployment in Plymouth. The challenges faced by Plymouth were recognised by central government, and since the 1990s the city has received a number of funding and support packages, such as £47.8 million through the New Deal for Communities initiative, to help build resilience and diversification into the Plymouth economy.

## Employment and the economy in modern day Plymouth

When considering employment in modern day Plymouth, the population can be broken up into different groups. Firstly it can be divided into those who are economically active, and those who are economically inactive. This is based on whether or not an individual is willing and able to work. For those that are economically active, the population can be broken down further into those that are employed and those that are unemployed. This is important because unemployment figures do not include people who are economically inactive.

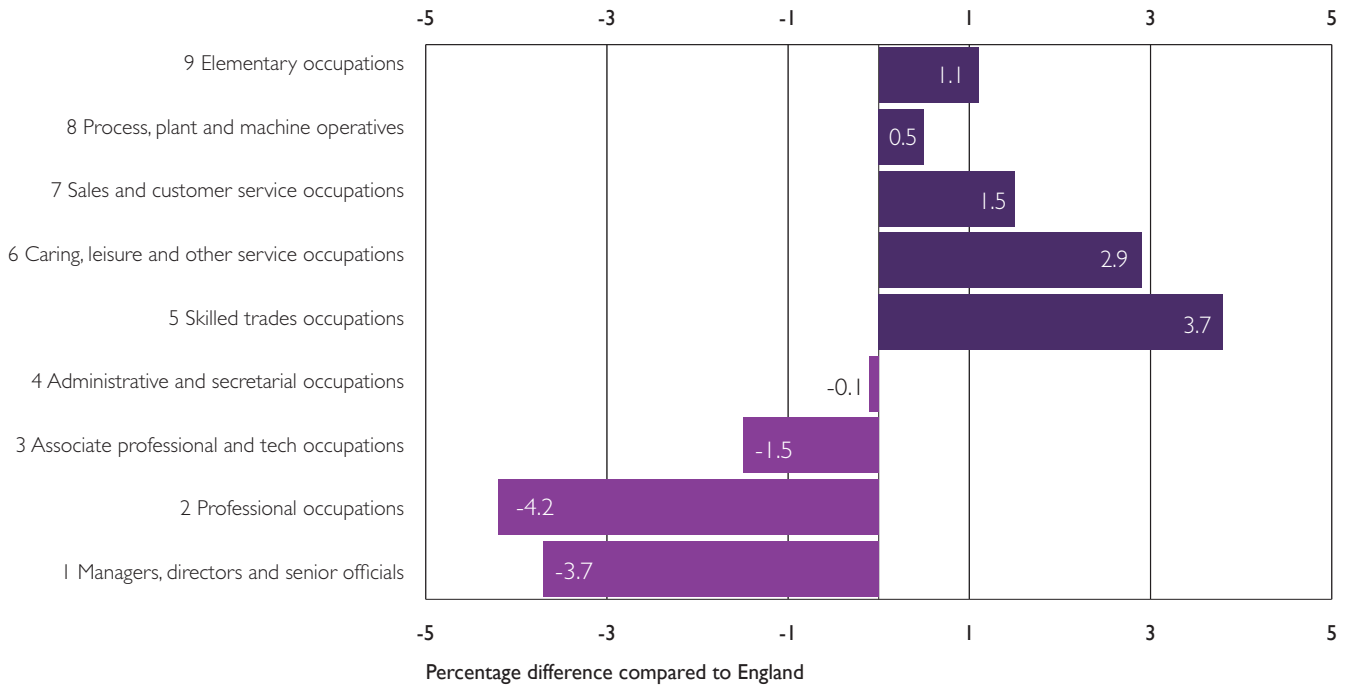
### Employment

Since the 1990s, Plymouth has seen a resurgence in its skilled workforce due to rapidly growing technological and engineering industries and rapid growth of its universities. The current Plymouth Plan sets out an ambitious growth agenda to expand the population to 300,000, build 22,700 new homes, and create 18,600 new jobs by 2031. Despite this, in 2015 the average hourly wage in Plymouth was £12.54; 93p lower than the national average. This gap has however been narrowing, and is the smallest in the past 10 years. There are also a number of industries in Plymouth where average wages in Plymouth are higher than elsewhere in the local area.

Although the average hourly wage of Plymouth residents in 2015 was lower than the national average, the picture is different when considering workplace wages (the wages that organisations based in Plymouth pay). These wages are higher than the majority of places in the Heart of the Southwest (HotSW) Local Enterprise Partnership Area. This mismatch between residential and workplace based wages is caused by people in higher paid jobs often choosing to live in more rural areas outside the city.

Although predominantly dependent on the types of jobs that are available in the city, the commuting of higher earners from outside the city also has an effect on the distribution of the Plymouth workforce across different occupational groups. Figure 16 shows the variation in the percentage of Plymouth's workforce working in each occupational group compared to England. It can be seen that Plymouth has relatively fewer people working in occupations with higher average wages such as 'managers, directors, and senior officials', and more people working in less well paid occupations.

**Figure 16: Difference in the percentage of people in Plymouth working in different occupational groups compared to England**



### Employment challenges in Plymouth

Although Plymouth's economy is growing, and becoming increasingly diverse and resilient, there are still a number of challenges relating to employment in Plymouth.

Limited transport infrastructure around the city means that access by road and rail is more difficult than many parts of the country; the nearest motorway is around 40 miles away and rail access to the city is heavily dependent on a single railway line. This makes travel into, or from, the city for work more difficult. As a result the Plymouth labour market typically experiences low levels of geographical mobility which negatively impacts on trade, wages, and recruitment.

The number of students studying at colleges and universities is increasing; however graduate retention in the city is a problem. This is contributing to a skills shortage in some of the traditional city industries.

Although significant strides have been made in growing and building resilience in the private sector workforce, Plymouth still has a significant dependence on public sector employment, which makes up 24.5% of the workforce compared to 22.4% nationally. As a result, the impact of austerity and public sector cuts are likely to have a greater impact on the Plymouth economy compared to elsewhere.

Both nationally and locally, increasing numbers of people are working on zero hours contracts. Whilst this can offer increased flexibility of working desired by some, when imposed it can cause considerable income insecurity. There is growing evidence that zero hours contracts contribute to in-work poverty<sup>18</sup>.

## Unemployment

Unemployment rates as reported by the government are calculated by looking at the percentage of 'economically active' people who are not in employment.

Over recent years, unemployment rates in Plymouth have reduced significantly, particularly for young people. In 2015, employment figures for Plymouth showed that around 131,800 people, 78.7% of the working age population (16-64 years) were classed as economically active, of which around 8,300 were unemployed, making the unemployment rate 6.3%. Comparatively, a slightly lower percentage of the national working age population were economically active (77.7%), with a slightly lower percentage of these being unemployed (5.4%). In terms of the overall working age population, 5.0% were unemployed in Plymouth compared to 4.2% in England.

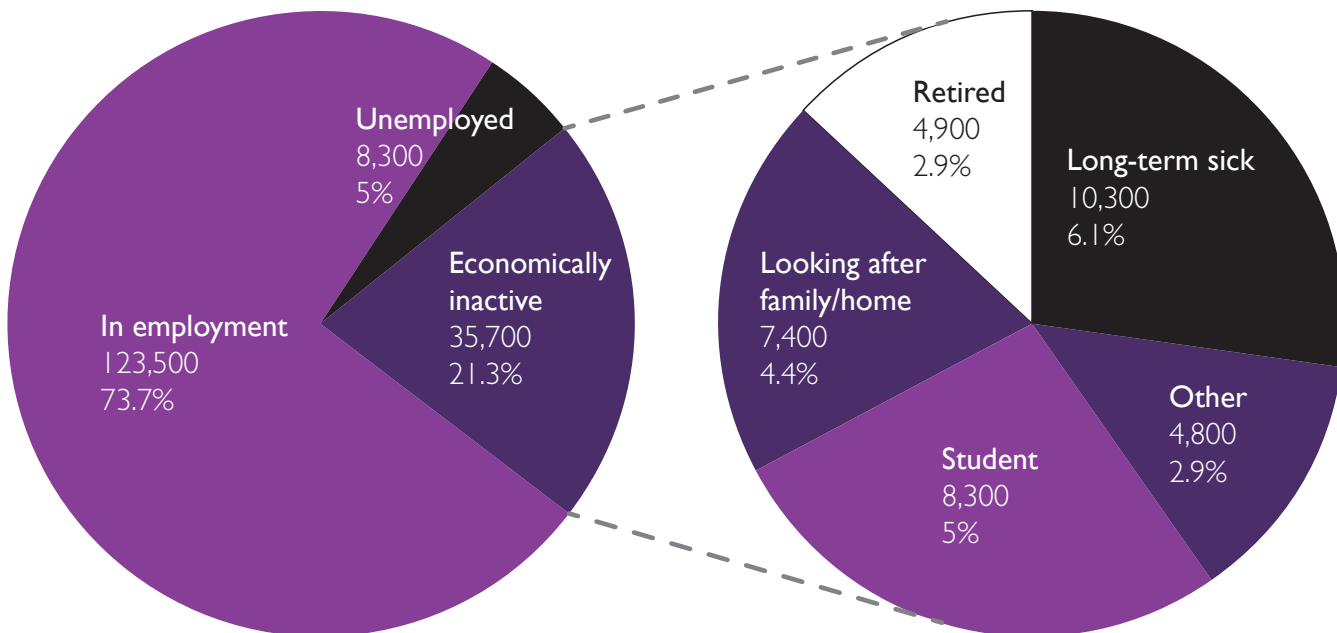
The claimant count measures the number of people claiming benefit principally for the reason of being unemployed<sup>19</sup>. In April 2016, there were 3,730 claimants in Plymouth, equating to 2.2% of the working age population (16-64 years). This is higher than the national claimant count rate of 1.8%, suggesting that a higher percentage of people in Plymouth rely on welfare relating to worklessness.

## Economic inactivity

People who are not willing or able to work, for whatever reason, are considered 'economically inactive' and do not count towards unemployment figures. They are defined as people who are not in employment who have not been seeking work within the last four weeks and/or are unable to start work within the next two weeks.

Based on data from the 2015 Annual Population Survey, the percentage of working age people in Plymouth who are economically inactive is 21.3%, which is slightly lower than the 22.3% seen nationally. There are a number of different reasons why people are economically inactive, and compared to national figures, Plymouth has fewer people who are inactive due to being a student, retirement, or looking after family/home and more due to long term sickness (Figure 17). It is estimated that in Plymouth around 10,300 people are economically inactive due to long term sickness, which makes up 28.9% of economic inactivity (6.1% of the overall working age population). Nationally, long term sickness makes up 22.1% of all economic inactivity and 4.9% of the working age population. This is supported by data from the 2011 census, which shows that compared to nationally, a higher percentage of households in Plymouth include one or more person with a long term (over 12 months) health problem or disability (37% compared to 33%).

**Figure 17: Breakdown of working age (16-64 years) population in Plymouth, including reasons for economic inactivity**



The elevated number of people in Plymouth who are economically inactive due to long term sickness is indicative of one of the key challenges faced by the city. The improving economic prosperity that Plymouth has seen over recent years has not been spread equally amongst its population. The effects of long term unemployment and intergenerational worklessness still affects a small but significant part of the population risking widening of economic, health, and social inequalities in the city. This relatively small but significant proportion of the Plymouth population often have complex needs, are disengaged with the labour market, and are heavily dependent on social welfare.

## Employment & the economy

### Key messages

- The economic history of Plymouth has played a strong role in shaping the character of the city.
- Significant strides have been made to build diversification and resilience into the Plymouth economy. Despite this, compared to nationally there is still an over-dependence on the public sector for employment, lower wages for residents, and a higher proportion of people dependent on benefits.
- Unemployment figures alone do not provide a clear picture of the health of the Plymouth labour force. Compared to England, a significantly higher proportion of Plymouth's economically inactive population are classed as such due to long term illness. There are more people in this group than there are people who are unemployed.
- Economic improvements over recent years have not been distributed evenly. A small but significant part of the Plymouth population is disengaged with the job market, with many facing significant barriers to returning to work. This group may struggle to make the required changes within the short timescales of the welfare reforms, posing the risk of further increasing inequalities for some of Plymouth's most deprived communities.
- Evidence suggests that returning to employment can help to improve health outcomes.
- Hourly wages in Plymouth are 93p lower than national average, though this gap is the smallest in the past ten years. The lower wages are in part due to higher wage earners choosing to live outside the city and a lack of graduate retention.

### Recommendations

- Develop local understanding of the impact of welfare reforms, and ensure measures are in place to protect those facing significant barriers to returning to work during their transition back into employment.
- Further investigate the needs of those classified as economically inactive due to long term illness in order to identify opportunities for improving their health and helping them back to work.
- Encourage and support initiatives designed to make Plymouth a more appealing place to live for higher wage earners and graduates.



# Poverty, deprivation and inequalities



## At the time of Beveridge

A snapshot of poverty in Plymouth around the time the Beveridge report was released.

## Challenges associated with poverty and deprivation

A look at some of the issues relating to poverty in modern day Plymouth including child poverty, payday lending, fuel poverty and welfare reforms.

## Inequalities within Plymouth

An overview of how levels of deprivation vary across the city.

## Impact of deprivation on health

Examples of how unhealthy behaviours, hospital admissions, and mortality rates are related to deprivation.

## Relevance to health

The association between health and deprivation is well documented. In his 2010 report, 'Fair Society, Healthy Lives', Sir Michael Marmot stated health inequalities result from social inequalities, and that action on health inequalities requires action across all the social determinants of health. The size of health inequalities associated with social status are significant. People living in the poorest neighbourhoods in England will not only die an average of seven years earlier than people living in the richest neighbourhoods, but they will also spend an average of 17 fewer years living disability free.

# At the time of Beveridge

Preventing 'want' was the primary focus of the Beveridge report. Material wealth was considerably less than it is today. Very few homes had a television, many were without a telephone or indoor toilet, and some did not have mains electricity or running water.

Beveridge estimated that between three-quarters to five-sixths of 'want' was due to interruption or loss of earning power, with almost the whole of the remaining one-quarter to one-sixth being due to a "failure to relate income during earning to the size of the family". He saw the solution to these problems to be a redistribution of income by family need through a universal social insurance. Whilst not flagged as a large contributor to poverty at the time, Beveridge acknowledged that provision to be made for old age presented "the largest and most growing element in any social insurance scheme".



Communal kitchen in Plymouth, circa May 1941

## Challenges associated with poverty and deprivation

In his report, Beveridge described a ‘Cradle to Grave’ welfare system. Looking at some of the key issues around poverty faced by Plymouth today, it is clear that poverty still has an impact at all stages of life. Below are four examples of these issues: one affecting younger people; one that typically affects working age people; one that has a greater impact on older people; and one that affects people of all ages.

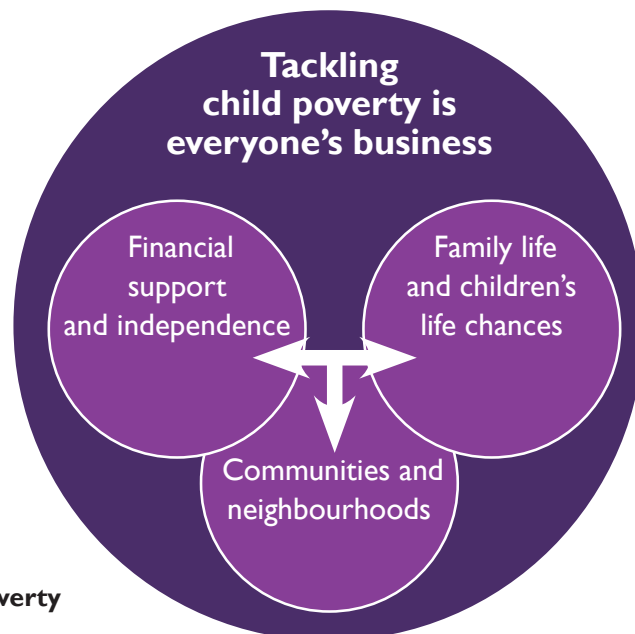
### Young people: child poverty

Child poverty is an outcome of economic, environmental, and social factors that can damage a child’s development and limit or prevent children and young people from having many of the experiences and opportunities that others take for granted<sup>20</sup>. In 1999, the Government made a commitment to end child poverty by 2020. The Child Poverty Act was published in 2010 to deliver on this commitment and placed a number of duties on local authorities and their delivery partners to work together to tackle child poverty.

Overall in Plymouth, a higher proportion of children live in low income families compared to England (20.2% compared to 18.6%). Based on the Income Deprivation Affecting Children Index (IDACI), there are also more children living in areas classed in the most deprived 10% for child poverty; an estimated 7,308. Were the national proportion applied to Plymouth, this number would be 4,589.

There are also a higher proportion of children living in workless households (16% compared to 14%), and a lower proportion accessing higher education at age 19. These indicators suggest that child poverty is a bigger issue in Plymouth than is typically seen elsewhere, and highlights the need for local efforts to tackle this issue. The Child Poverty Strategy for Plymouth 2013-2016 describes a framework that uses four overarching themes to address child poverty, as shown in Figure 18.

One health indicator of child poverty is the number of tooth extractions that are performed on children under general anaesthesia. Although the vast majority of such events are completely avoidable through good dental care, they are still worryingly common in Plymouth, particularly in more deprived areas. In 2015/16 there were a total of 848 children who had tooth extractions performed under general anaesthetic. These extractions place avoidable stress on children and young people, and represent a burden on healthcare resources that essentially need not exist.



**Figure 18: Four overarching themes for tackling child poverty**

### Working age people: payday lending

Payday lending, a form of high cost, short term loan, has grown rapidly in recent years. Loans tend to be used by consumers in difficult and deteriorating financial circumstances, and who are excluded from mainstream credit. Whilst pay day lenders can provide help and support for consumers in very difficult circumstances, there are many issues with payday lending, including the high cost of credit, unfair or multiple charges, and the excessive use of continuous payment authorities to take money from customers' accounts, sometimes leaving them unable to pay for food or their bills<sup>21</sup>.

In Plymouth, over 29% of adults in the city are over indebted which is much higher than any other local authority area in the South West<sup>10</sup>. This has led to payday lending being identified as a priority area for Plymouth City Council. In order to help address this, a four pronged approach is being used (Figure 19). In order to reduce the need for payday lending, Plymouth City Council is promoting a living wage and providing information and advice on money management. Education is also being used to reduce the desirability, through 'Fair Money' campaigning designed to raise awareness of debt, money advice services, banks, credit unions and relevant council services. Accessibility has been restricted by banning payday loan adverts on billboards and bus shelters across the city and preventing access to their websites on council owned computers.

### Older people: fuel poverty

Fuel poverty is caused by a combination of three factors: high cost of fuel; poor energy efficiency; and low household income. Whilst there is a strong correlation between fuel poverty and poverty in general, there are particular groups that are at risk. Elderly, ill, and disabled residents are at greater risk due to an increased requirement for heating during the day. This is especially true for those living in privately rented properties, as these generally have poorer insulation and heating systems than socially owned properties.

There are 15,407 fuel poor households in Plymouth<sup>22</sup> (13.4% of the city); higher than the proportion seen nationally. The reasons for this include comparatively lower wages in Plymouth and a higher percentage of Victorian and post war housing stock which perform poorly in terms of energy efficiency<sup>23</sup>. The new Healthy Homes Scheme run by Plymouth Energy Community seeks to address the impact cold homes have on the health of the occupants by: improving heating, ventilation and insulation; conducting income maximisation checks to increase affordability of energy; in homes where the health conditions of the occupants are exacerbated by cold and/or damp living conditions. The scheme will also be evaluated in order to calculate the cost benefit for health services of improving housing conditions. A number of schemes are in place in Plymouth to help alleviate this, including those run by Plymouth Energy Community (PEC).

### All ages: welfare reforms

Since 2012, fundamental changes have been made to the welfare system, including a cut to the overall welfare budget. The stated intentions of these reforms are to increase social mobility and encourage people to work. This is being done by increasing the income gap between those who are working and those who are on benefits.



**Figure 19: Principles for reducing the use of payday lending and loan sharks**

It is estimated that when fully implemented, these reforms could have a direct adverse impact on 20% of the population<sup>24</sup>.

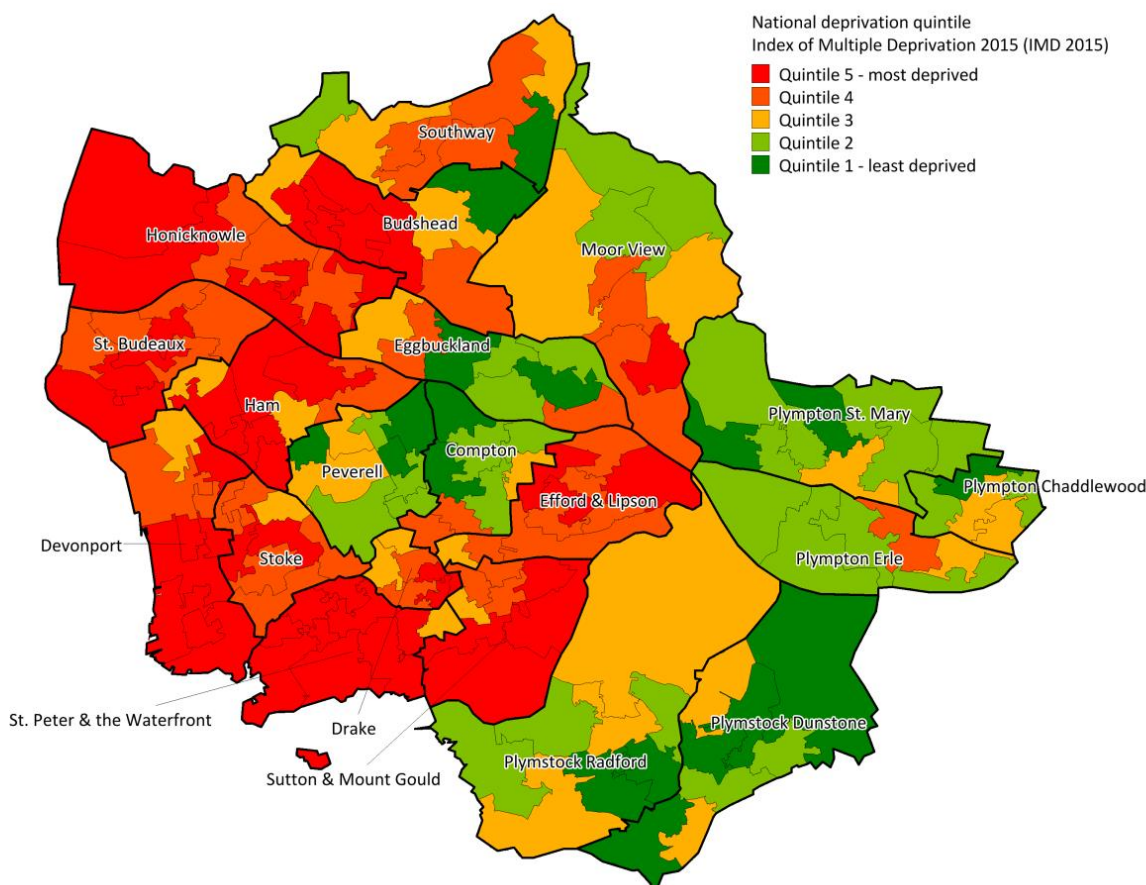
Those who will be most heavily impacted by the reforms: people with no qualifications; with long term illnesses and disabilities; and in long term unemployment, face significant barriers to

returning to work; a process likely to be a gradual one. Locally, concerns have been raised that if reforms are introduced too quickly and without appropriate fail safes in place, this could further increase the inequalities in income, social capital, and health (physical and mental) that exist in the city. This poses the risk of further increasing barriers to returning to work, increasing demands on already stretched services, and has been identified in Plymouth as a key strategic risk.

### Inequalities within Plymouth

Although general improvements in living standards, rapidly developing technologies and a growing economy means that fewer people are short of food, clothing, and shelter, many people still live in poverty. Levels of inequality are significantly higher than they were around the time of the Second World War<sup>25</sup>. This is especially true for Plymouth where, as is highlighted throughout this report, inequalities are

generally greater than those seen nationally. Figure 20 shows Lower Super Output Areas (LSOAs) mapped onto Plymouth wards. LSOAs are the smallest geography for which deprivation data is available, and they paint the clearest picture of which areas of Plymouth are more deprived. The LSOAs have been coloured by national quintile group, based on IMD 2015. The LSOAs that are in the most deprived fifth of all LSOAs nationally are coloured in red, those that are in the least deprived fifth are coloured dark green. It can be seen that there are far more areas that are red than dark green indicating the high levels of deprivation seen across the city. When comparing the number of people in Plymouth that live in the most and least deprived areas, there are almost three times as many people living in the most deprived areas, around 78,000, compared to 28,000 in the least deprived areas (Figure 21). If deprivation was distributed as it is nationally, these numbers should be almost exactly the same.



**Figure 20: LSOAs in Plymouth coloured by national deprivation quintiles (IMD 2015)**

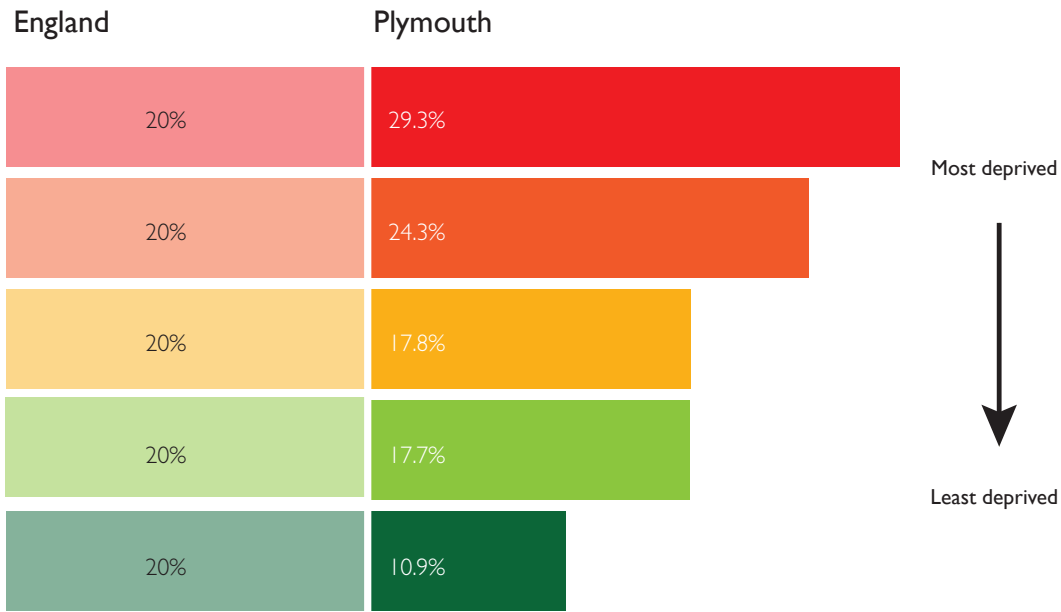


Figure 21: Percentage of Plymouth’s population living in each national deprivation quintile area

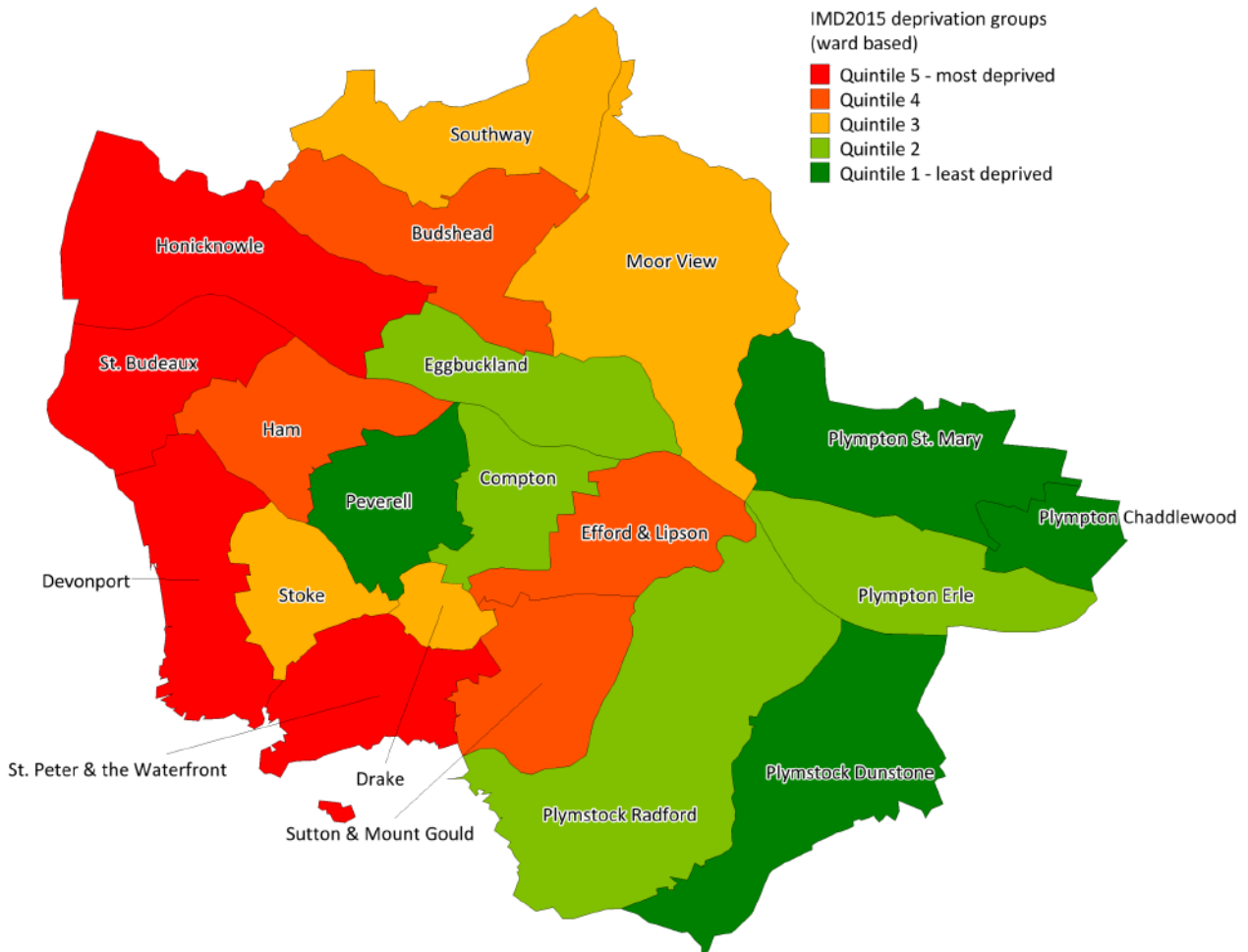


Figure 22: Plymouth ward deprivation quintiles (based on aggregation of IMD 2015 LSOAs)

As not many people are able to identify an area based on an LSOA code, it is common for them to be aggregated up to more familiar areas. When the values of each of the LSOAs are added up and assigned to the ward in which they sit, it is possible to create a local quintile map showing the relative deprivation of the wards. As this has been done locally, and there are twenty wards in total, each of the quintile groups contains four wards. This is shown in Figure 22. These quintiles are used in the following sections to compare health behaviours, use of healthcare services, and mortality rates between the most and least deprived wards.

## Impact of deprivation on health

Whereas the health section of this report discusses current major diseases and their causes, it does not delve into how these vary in relation to deprivation. As health now forms part of the definition of deprivation, it is not surprising that behaviours that lead to disease, use of health care services, and rates of mortality are all linked to people's experience of deprivation.

## Unhealthy behaviours

The Thrive Plymouth programme, which is discussed in more detail in the health and wellbeing section of the report, seeks to address four unhealthy behaviours; smoking, excessive alcohol consumption, poor diet, and physical inactivity. Four measures of these behaviours can be seen in Figure 23, which shows the percentage of people in the most and least deprived wards that exhibit them. It can be seen that the largest difference is

for smoking, where over one in four people in the most deprived wards smoke, compared to less than one in ten in the least deprived. A total of 18% more people smoke in the most deprived wards. In the most deprived wards, there is also a significantly higher percentage of people not eating five fruit and vegetables a day (an indication of an unhealthy diet) and fewer people participating in two or more sessions of moderate physical activity per week (an indication of physical inactivity).

The only unhealthy behaviour that appears to be more common in the least deprived wards is excessive alcohol consumption. This is in part due to the differing ways that people in different socio-economic circumstances consume alcohol. People in less deprived groups, particularly those who are of middle age or older, tend to drink quite frequently, but in smaller amounts. People from more deprived backgrounds, particularly those that are younger, tend to drink less frequently, but consume larger amounts when they do (binge drinking).

These two behaviours can have differing impacts on health services and the wider community. Binge drinking is typically associated with more acute requirements of healthcare and other services. Estimates for the proportion of emergency department attendances attributable to alcohol vary, but figures of up to 40% have been reported, and it could be as high as 70% at peak times<sup>26</sup>. Whilst more frequent, lighter drinking is not as strongly associated with use of accident and emergency services, it does still contribute to longer term chronic conditions such as liver disease.



**Figure 23: Percentage of people in the most and least deprived wards that exhibit unhealthy behaviour**

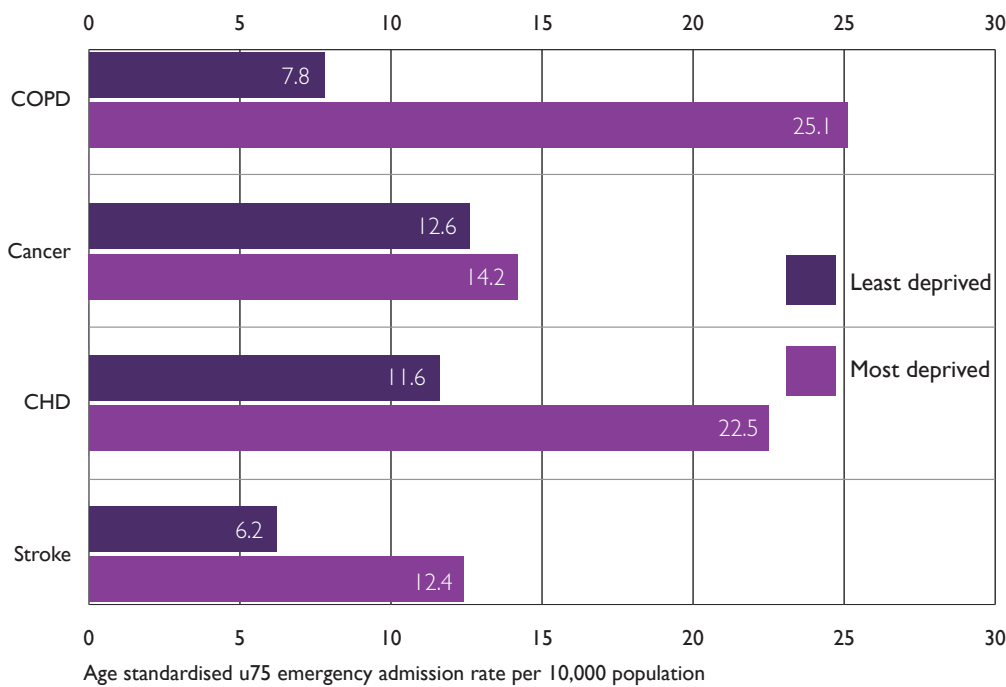
56

### Hospital admissions

In order to highlight differences in health between the most and least deprived wards, emergency hospital admissions for people aged under 75 have been used. Higher rates of emergency admissions are associated with higher rates of disease within a population, but also can provide an indication of conditions not being pro-actively managed in an effective manner. Considering only admissions for people under the age of 75, rather than all admissions, will help to highlight areas where people are suffering ill health at an earlier age.

When looking at emergency admissions for the under 75s in relation to the four diseases targeted by the Thrive Plymouth programme, it can be seen that rates are higher for all types of disease in the most deprived wards compared to the least deprived. Whilst there is only a moderate difference in the rates for cancer, rates for COPD are over three times higher (Figure 24).



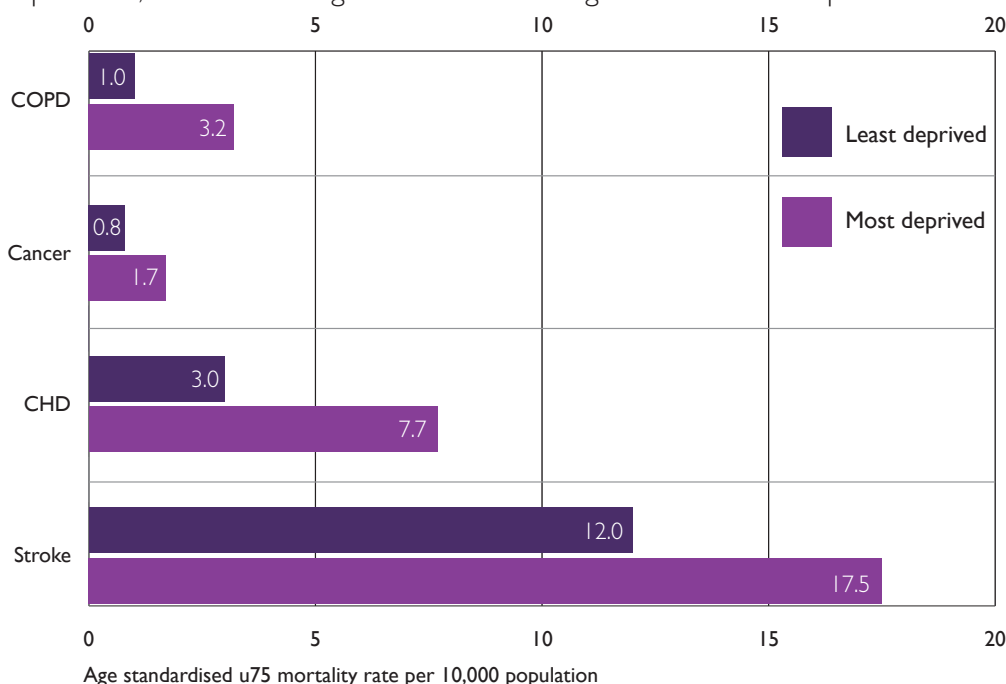


**Figure 24: Under 75 emergency admissions relating to the diseases targeted by the Thrive Plymouth programme (SUS, 2013/14)**

### Premature mortality rates

Everyone eventually dies of one or more causes, and so rather than look at overall mortality rates to investigate inequalities, it is more common for 'premature' mortality rates to be used. For this purpose, a death is considered to be premature if a person is under the age of 75 when they die.

As might be expected given the strong association between behaviours and deprivation, there is also a strong association between deprivation and premature mortality relating to the four diseases targeted by the Thrive Plymouth programme. The increased likelihood of dying from each of these diseases for people in the most deprived wards compared to the least deprived wards is shown in Figure 25. Although in terms of absolute numbers, fewer people aged under 75 die from COPD, it has the strongest association with deprivation, with rates being over three times higher in the most deprived areas.



**Figure 25: Under 75 mortality rates for the four diseases targeted by the Thrive Plymouth programme (PCMD, 2012-14)**

## Poverty, deprivation and inequalities

### Key messages

- Poverty can still be an issue at all stages of life and comes at a cost to both those who are experiencing it and to the rest of society.
- Despite significantly improved living standards and material wealth, levels of inequality are significantly higher than they were around the time of the Second World War.
- Financial hardship still affects many people in Plymouth. Compared to nationally, more people in Plymouth are over-indebted.
- Poverty, deprivation, and inequalities have a significant impact on people's health and wellbeing.
- Inequalities in deprivation have a strong bearing on lifestyle behaviour choices, with people who are less well-off typically leading healthier lives. This has a knock-on effect to the use of healthcare services and mortality rates.
- Bringing people out of poverty and reducing inequalities is an essential component of supporting people to live happy, healthy lives.
- Compared to England, a higher proportion of children in Plymouth live in low income families and in workless households.
- The intense financial pressure local health and social care is now under means addressing these fundamental issues is as important as ever.

### Recommendations

- The strategy to address poverty and break its link with poor health and wellbeing should incorporate enabling individuals to acquire skills and qualifications, access paid employment, and live in housing with acceptable standards of habitability.
- Endeavour to protect the variety of support given to people who cannot flourish in a market economy whenever it is within our capacity to do so.
- Advocate for coherent policies seeking to reduce inequalities in the domains of healthcare, education, housing, and economic development both internally (council) and city-wide.
- Support initiatives seeking to promote financial inclusion (such as credit unions), reduce people's dependence on short term, high cost lending, and provide support to those affected by welfare reform.

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