



Bristol JSNA Chapter 2018

Healthy Life Expectancy in Bristol

Chapter information	
Chapter title	Healthy Life Expectancy in Bristol 2018
Chapter reference group	N/a
Chapter author(s)	Katie Porter, Senior Public Health Principal
Quality reviewed by who/date	Leonie Roberts, Consultant in Public Health September 2018
Chapter approved by	Leonie Roberts, Consultant in Public Health September 2018
Linked JSNA chapters	Adult Healthy Weight, Adult Respiratory Disease, Alcohol Misuse, Cancer, Children & Young People – Healthy Weight, Children & Young People – Mental Health, Sexual Health, Women's Health, Work and Health

Summary

Healthy life expectancy at birth describes the average number of years a person living in a specific area would expect to live in good health based on contemporary mortality rates and prevalence of self-reported good health. It is an extremely important summary measure of mortality and morbidity (ill health). The figures are not the number of years a baby born in the area could actually expect to live in good general health, both because the health prevalence and mortality rates of the area are likely to change in the future and because many of those born in the area will live elsewhere for at least some part of their lives.

A lower healthy life expectancy implies that the people in the area live with ill health earlier than others and that they are less likely to be available for productive employment, and more likely to use health and social care resources than a person living in an area of higher healthy life expectancy.

In Bristol the average Healthy Life Expectancy for males is 58.9 years and for females is 62.9 years. Healthy life expectancy at birth is significantly lower for men in Bristol than the average for England; women on the other hand have better healthy life expectancy at birth in Bristol. The gap in healthy life expectancy between the lowest and highest Healthy Life Expectancy areas in Bristol is 16.3 years for males, and 16.7 years for females. These are large health inequalities gaps.

There are three main ways to identify the factors that influence the differences in healthy life expectancy, these are: place-based and vulnerable groups' analyses and identifying how much unhealthy lifestyle behaviours impact on health outcomes.

Next steps

In order to improve healthy life expectancy and reduce the gap partners across Bristol can take action to address the main causes of illness and early death. Many of the causes of ill health are rooted in non-medical issues such as poverty and stress. Adopting a health in all policies approach would help to address this.

The first approach would be founded on place-based issues that impact on healthy life expectancy. Policies that influence the following issues are particularly important in improving healthy life expectancy:

- Employment: address unemployment, and make improvements to the quality of employment and remuneration paid.

- Old age: address pensioner poverty especially in areas of deprivation, address fuel poverty and social isolation caused by poverty, and ensure carers are supported.
- Reduce ill health caused by occupational risks
- Education: raise educational achievements of disadvantaged children.
- Support disadvantaged children to reach a good level of development at age five years.
- Housing: improve the quality of homes in the rental sector

The second policy approach would address lifestyles. People need to be encouraged to address their behaviours to enable themselves and their families to live long happy lives. These are the main issues:

- Smoking
- Binge drinking
- Excess weight
- Maintain health blood pressure

Policies that promote helping people to help themselves, such as the roll-out the Making Every Contact Count can contribute to this.

The third area of policy that can support improving healthy life expectancy is supporting vulnerable people through the life course. This means appropriate policies should take account of all of life's stages and have consideration of vulnerable people built in. For instance, vulnerable children living in disadvantaged families are less likely to live a long healthy life free for disease. Policies that can impact on this might be universal, such as good quality food in schools, or area-based, such as activity schemes aimed at deprived neighbourhoods, or targeted support for individual children, for instance those suffering from adverse childhood experiences. At the other end of the age range it could be development of part-time employment for pensioners in areas of deprivation where pension poverty is more common.

To help policy makers appreciate the health impact that their policies can make it would be helpful if they referred to 'Health Impact Assessments: Key Issues to Consider' in Appendix 1. This document supports good policy making and helps policy makers think in terms of health impact, without having to become health experts.

There is little data on people with complex health conditions. It would be helpful if this could be addressed so that the person-centric data becomes available rather than simply disease-centric data. This could assist the development of integrated care.

1 Introduction

Healthy life expectancy at birth describes the average number of years a person living in a specific area would expect to live in good health based on contemporary mortality rates and prevalence of self-reported good health. It is an extremely important summary measure of mortality and morbidity (ill health). The figures are not the number of years a baby born in the area could actually expect to live in good general health, both because the health prevalence and mortality rates of the area are likely to change in the future and because many of those born in the area will live elsewhere for at least some part of their lives.

A lower healthy life expectancy implies that the people in the area live with ill health earlier than others and that they are less likely to be available for productive employment, and more likely to use health and social care resources than a person living in an area of higher healthy life expectancy.

National Healthy Life Expectancy data is collected from the ONS 'Annual Population Survey' (APS) which contains a section on health. This section is a subjective self-reported health survey of individuals about their mental and physical health where people are asked:

"How is your health in general; would you say it was.... very good, good, fair, bad or very bad?"

Those who describe their health as 'Very Good' or 'Good' are counted as having a healthy life. The population sample filling out the survey does not include residents of communal establishments, for instance care homes. The APS is taken as a reliable source of health life data.

There are three main ways to identify the factors that influence the differences in healthy life expectancy, these are:

- Structural analysis - place-based approaches
- The impact of unhealthy lifestyle behaviours on health outcomes
- Vulnerable groups' analysis.

2 Influences on health

Health is influenced by many factors; our personal family background and lifestyles, the health care and other services we receive, and the wider physical, social and economic environment in which we live, work and play.

Analytical studies into the impact of specific factors on health inequalities, for instance, lifestyles or income, have been undertaken, but there are few studies that look at the multitude of inter-related factors that come into play in real life. Where studies have looked at multiple factors, across time and countries they tend to find that wider determinants and lifestyles are more important than health care services or genetics.

The estimates of the relative contribution of the factors that affect health vary between models. Most models have been developed in North America which has different health care models and welfare systems to those of the countries of the UK.

The University of Wisconsin model in figure 1 shows the contribution of the modifiable factors that impact on health (excluding genetics). This model finds that you when you look at the ill health that is preventable, 40% is affected by social and economic factors, 30% by lifestyles, 20% by clinical care and 10% by the physical environment.

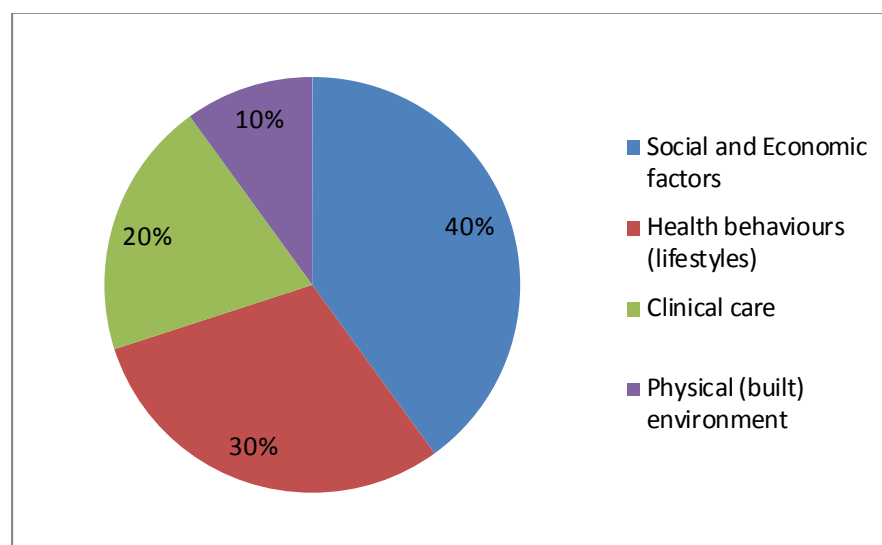


Figure 1: Modifiable factors that influence health. University of Wisconsin 2014.

There are differing views on what the main mechanisms that drive health inequalities are. Buck and Maguire (2013), describe this:

*“What are coined ‘**structural explanations**’ largely assert that it is the socio-economic circumstances of different groups, be that income, wealth or power, that ultimately cause inequalities in health. In contrast, behavioural theories see differences in **lifestyles** as the main cause of inequalities, with various claims for what is the ‘top killer’ or ‘leading cause of inequality in health’. Some argue that there are **cultural reasons** for inequalities in health stemming from ‘dependency cultures’, which are inter-generational. This suggests wider problems linked to health can therefore be perpetuated*

through time in some groups and places, even when wider conditions become more favourable.”

Thus, to discover the evidence of what is associated with life expectancy inequalities and therefore healthy life expectancy, it is necessary to consider three stream of evidence; structural place-based analysis, medical and lifestyle analysis, and ‘dependency cultures’ analysis which describe vulnerable groups that have persistent health issues that are not genetic.

2.1 Structural analysis: place – based approaches

The Marmot Review (Marmot 2010), which used place-based analysis, showed that:

- The lower a person’s social position the worse their health.
- Health inequalities result from social inequalities.
- Life expectancy and disability-free life expectancy are significantly and consistent linked to differences in income deprivation across many small areas in England, and that richer areas have a better level of health at all levels of income.
- Focusing solely on the most disadvantaged will not reduce health inequalities sufficiently.
- Action taken to reduce health inequalities will benefit society in many ways. It will have economic benefits in reducing losses from illness associated with health inequalities.

In addition to the place-based analysis Marmot highlighted the effect of inequalities through the life course and produced a framework for action under two policy goals: to create an enabling society that maximizes individual and community potential; and to ensure social justice, health and sustainability are at the heart of all policies. This is reflected in the six policy objectives with the highest priority being given to the first objective:

1. Giving every child the best start in life.
2. Enabling all children, young people and adults to maximize their capabilities and have control over their lives.
3. Creating fair employment and good work for all.
4. Ensuring a healthy standard of living for all.
5. Creating and developing sustainable places and communities.
6. Strengthening the role and impact of ill-health prevention.

The Marmot Review however made no mention of later life and this is reflected in its omission in the list above.

The Marmot approach was updated by Buck and Maguire in 2015; they carried out a fresh place-based analysis to see if there had been a change in outcomes. They undertook an in-depth analysis of data from over 6,300 areas of England. They identified important factors that explained the difference in life expectancy between areas:

- Unemployment
- Deprivation among older people
- Gender

They stated there were a range of other factors that played a role, including lifestyles (Buck 2015). Buck and Maguire also noted that income itself may not be important to health outcome, but that in areas of high life expectancy it may be that the things found in these areas of higher income are important: better quality services, better lifestyles, better housing, and other wider determinants of health.

The ONS has analysed the causes of inequalities in healthy life expectancy in a place-based review (ONS 2017). The ONS analysis supports both the Buck and Maguire and the Marmot reviews by drilling down into the aspects of financial security and economic activity at a very local level.

2.1.1 Financial security and economic activity

In England economic inactivity on grounds of long-term sickness or disability was much higher in areas of low healthy life expectancy than in area of high healthy life expectancy (see figure 2).

25-64 year old persons in 2015	Lowest Healthy Life Expectancy Areas	Highest Healthy Life Expectancy Areas	England average
Economic Inactivity due to long-term sickness and disability	35.9%	15.2%	27.6%

Fig 2. Economic Inactivity due to long-term sickness and disability in working age persons.

Individuals living in the highest Healthy Life Expectancy areas are twice as likely to be retired or state that they did not need or want to work before the age of 65 years (28.5% compared to 14.3%). The scale of the difference may point to relative affordability of early retirement, as well as differences in health deficits impacting on ability to work. The general picture in England for this measure (23.6%) is clearly more aligned to the highest Healthy Life Expectancy areas than the lowest (ONS 2017).

Among the lowest Healthy Life Expectancy areas, an individual's ability to work or seek work is to some extent constrained by health conditions and illness which may result in them being unfit to work. The Healthy Life Expectancy gap may also be increased by individuals with long term health problems differentially moving to the deprived areas with lower housing costs, and healthier 'upwardly mobile' individuals moving to more affluent areas.

More people are 'limited a lot' in areas of lowest Healthy Life Expectancy (32%) compared to people in the highest Healthy Life Expectancy areas (16%).

There has been some improvement in income-related inequalities in life expectancy between the late 1990s and 2006/2010 when there was a specific national policy focus on reducing health inequalities (Buck and Maguire 2015).

Financial insecurity creates stress. Long periods of stress and anxiety are damaging to health, leaving people in a constant 'fight or flight' state. This diverts the body's energy and resources away from the many physiological processes important to long-term health maintenance. This affects the cardiovascular and immune system. If this goes on for too long or too often they will become vulnerable to a wide range of conditions including: infections, diabetes, high blood pressure, heart attack, stroke, depression and aggression (WHO 2003).

There is strong evidence that people of low income have poorer physical and mental health than more affluent people. For almost any health condition or health indicator, there is a gradient of better health with increasing affluence (Wilkinson 1996).

The stresses of living in poverty are particularly harmful during pregnancy, to babies, children and old people (WHO 2003).

Public Health England found that in 2014 just under one in ten people employed in the UK were underemployed, and that in 2015 over one in five people in elementary jobs like labourers, refuse collectors and bar staff were underemployed. They also identified that there were 1.5 million zero hours contracts, and that 744,000 people were on zero hours contracts for their main job. Workers in insecure jobs see greater numbers of musculoskeletal problems, physical health problems generally, psychological distress and occupational injuries.

There are also life course effects which mean that life circumstances in childhood as a consequence of financial hardship have a lasting impact on health into adulthood.

The effects of childhood poverty are that poor children go on to be poor adults. This process starts at the beginning of life and poor children are four times as likely to become poor adults as other children (DoE 2010).

The Income Deprivation Affecting Older People Index (IDAOPI) numerator counts adults aged 60+ receiving Income Support, Pension Credit (Guarantee) or income-based Jobseekers Allowance. In England an average of 16.2% of people aged over 60 years live in income deprived households.

Older people living in the most deprived areas are at higher risk of poor mental health and cognitive impairment (McCann 2018).

Male healthy life expectancy is lower than females, due in part to the different patterns of lifestyle behaviours like smoking and alcohol misuse, but also to ill health resulting from occupational risks. In England, economic inactivity on grounds of long-term sickness or disability was much higher for males than females both in the highest and lowest Healthy Life Expectancy areas. In the lowest, more than half of the men aged 25 – 64 years (51.2%) who were economically inactive were suffering from long term sickness or disability, while it was just over a quarter (27.5%) in the highest. There is also a clear link between an authority's male unemployment rate and their healthy life expectancy at birth; the more unemployment the worse men's healthy life expectancy (ONS 2017). There is a gap in healthy life expectancy between male and females, on average males report that their health is 'fair', 'bad' or 'very bad' 4.8 years before females.

After retirement age, female's income is about 57% that of men's and 60% of women have pensions compared to 80% of men. Women tend to live longer with more limiting long term illnesses. Single female pensioners are more likely to live in poverty and are; more likely to reduce fuel use which worsens their existing physical and mental health issues; more likely to live in social isolation, have poorer standards of living and have low levels of mental stimulation. In later life women are more likely to have their mental health impacted by being a carer, experience the death of a partner, move into residential care, and have poor health.

2.1.2 Education: the ONS place-based analysis showed that areas with populations that have less high-level academic qualifications had lower healthy life expectancy (see figure 3). They also have a higher proportion of people with no qualifications at all.

25-64 year old persons in 2015	Lowest Healthy Life Expectancy Areas	Highest Healthy Life Expectancy Areas	England average
Qualifications at National Framework level 4 or above (such as a degree or higher professional diploma)	36.5%	56.8%	40.9%.

Figure 3. Prevalence of qualifications in places.

Adults with no qualifications are least likely to report their general health as either 'very good' or 'good', and there is a graded relationship between level of qualifications and health, in all areas, however in areas of the lowest Healthy Life Expectancy, all categories of educational achievement have worse health than their counterparts in areas of longest Healthy Life Expectancy, indicating that place plays a role as well (ONS 2017).

The effects of childhood poverty are that poor children do worse at school than their peers (DfE 2014). In 2016/17 only 52.4% of disadvantaged children reached a good level of development at age five (children in receipt of a free school meal), compared to 67.7% of all children. At GSCE level there was a 27% gap between children receiving free school meals and their peers in terms of the number achieving at least 5 GSCA A* - C grades (2014/15).

2.1.3. Persistent Health inequalities in places: when looking at persistent health inequalities Buck and Maguire identified that where there was; higher deprivation among older people, unemployment, housing deprivation and binge drinking (see 1.3.4), these factors all increased the risk of those areas having persistent low life expectancy over time. In areas of persistent high or low life expectancy place is an abiding factor. Health inequalities are not self-correcting, and need to be tackled in a three-pronged way, addressing the wider determinants of health, lifestyles and services together rather than in isolation from (or in opposition to) each other (Buck and Gregory 2013).

Buck and Gregory's place- based analysis shows that at community level there is evidence that a lack of community and networks has a detrimental effect particularly on older people, and that for this age group this lack has a bigger impact than either moderate tobacco smoking or obesity (Buck and Gregory 2013).

Buck and Gregory called for further and deeper analysis into the impact of 'place' on health as they saw it as a complex and multi-dimensional factor. They acknowledged

that local knowledge, history and experience are essential for interpreting policies that influence health at area and community level.

Public Health England have identified that one in three homes in the private residential market are not a decent standard.

Conditions like TB, meningitis, respiratory illness and psychological distress are more common in overcrowded homes. Overcrowded homes are associated with tobacco smoke, accidents, disturbed sleep and slow growth, all of which increase the risk of coronary heart disease in later life.

95% of homes in the UK are not visitable by disabled people including wheelchair users.

In children poor housing lowers educational attainment and increases the likelihood of unemployment and poverty in later life. The affordability and availability of high quality appropriate housing can decrease the demand for health and social care.

The association between living in bad housing and health problems is particularly acute among those above retirement age (Natcen 2013). 11% of people in England are estimated to experience Fuel poverty (source: Public Health Outcome Framework 1.17). Public Health England and University College London estimate that 21.5% of excess winter deaths are attributable to the coldest 25% of homes and 10% are directly attributable to fuel poverty (PHE 2014). Most deaths are due to circulatory and respiratory diseases, and the majority occur amongst people over 75 years. For every one degree Celsius drop in temperature below minus five degrees Celsius there is a 19 % increase in GP consultations about respiratory problems in the elderly.

NICE guidelines (NICE 2015) list the following groups of people as vulnerable to fuel poverty and the impacts of cold, damp homes:

- People with cardiovascular conditions
- People with respiratory conditions (in particular, chronic obstructive pulmonary disease (COPD) and childhood asthma)
- People with mental health conditions
- People with disabilities
- Older people (65 years +)
- Young children (under 5)
- Pregnant women
- People on a low income

- People who move in and out of homelessness
- People with addictions
- People who have attended hospital due to a fall
- Recent immigrants and asylum seekers

Isolated and lonely people are at increased risk of death. Isolation and loneliness are markers of many risk factors. Health policies addressing risk factors such as adverse socioeconomic conditions, unhealthy lifestyle, and lower mental wellbeing might reduce excess mortality among the isolated and the lonely (Elovainio M 2017). Nationally 45.4% of adult social care users have as much social contact as they would like (source: Public Health Outcome Framework 1.18i).

2.2 Lifestyle approach to healthy life expectancy:

The Global Burdens of Disease study of the United Kingdom which takes a medical approach to health and includes lifestyle behaviour, shows that the leading causes of years lived in disability are tobacco, high blood pressure and high body mass index. These account for around 30 percent of all disability-adjusted life years lost (DALYs) (Murray et al 2012).

2.2.1 Smoking: prevalence has been declining since the 1970's, and the England average is now 14.9%. Long-term persistent smoking has a harmful effect on health and about half of long-term smokers will die as a result of their habit. Smoking is the largest cause of preventable ill health and mortality in England with around one in every six deaths attributable to smoking (Statistics on Smoking NHSD 2016).

People living in the areas with the lowest Healthy Life Expectancy are 1.7 times more likely to smoke than those living in the highest Healthy Life Expectancy areas in 2015 (ONS 2017).

2.2.2 High blood pressure: 24.7% of the English population is estimated to have high blood pressure. If untreated, high blood pressure increases the risk of serious problems such as heart attacks and strokes.

2.2.3 High body mass index: is taken as a proxy for being overweight, being overweight can raise the risk of heart disease, type 2 diabetes and stroke, gall bladder disease, some cancers, mental ill health and osteoarthritis. Nationally one in five children are overweight or obese when they start primary school, and one in three children are overweight or obese by the time they leave primary school.

Obesity disproportionately affects families that are more deprived, older age groups, some black and minority ethnic groups and disabled people.

Obesity is linked to an unhealthy diet and inactivity. An inactive person is estimated to spend 31% more time in hospital and visit a GP 5.5% times more often than an active person.

2.2.4 Binge drinking (identified as a lifestyle factor by Buck and Maguire in their place-based analysis 2013, see 1.2.3): Nationally, those who drank more than 8/6 units on their heaviest day in the last week fell from 19 per cent to 15 per cent over the period 2006 to 2016. Binge drinking is associated with falls and fights, and if people often drink heavily, with liver diseases and cancers (Statistics on Alcohol, England, 2017. Available at: <http://digital.nhs.uk/catalogue/PUB23940>).

Even though affluent people drink more alcohol than those living in deprivation an alcohol paradox exists as the harmful health effects of consumption are felt more by people in lower socioeconomic positions; this is illustrated by higher rates of hospital admissions and alcohol-related mortality. The research identified the differences as stemming from binge-drinking, the beverage choice, and patterns of heavy drinking (Jones et al 2015).

2.3 Cultural reasons/vulnerable groups approach to healthy life expectancy

There are vulnerable groups that have lower healthy life expectancy (and lower life expectancy) than average and this passes down through the generations. This is thought to be mainly due to intergenerational cultural issues. Robert Chambers describes vulnerability as:

“..not a lack or want, but defencelessness, insecurity and exposure to risks, shocks and stress.” (Deloitte 2017)

Research has identified common health issues that affect vulnerable families across the lifecycle which result in poor healthy life expectancy. As people progress through life they accumulate the impact of factors that affect health, so a poor start in life impacts throughout life. The main factors are described below.

2.3.1 Maternal health and infancy:

- Low birth weight, which has a strong association with socioeconomic deprivation, can result in health and social disadvantage in both childhood and adult life. Low birth weight is associated with maternal behaviour in early pregnancy including nutrition, smoking and drinking.

- Reduced cognitive stimulation in the first three years of life puts at risk the development of the child's brain, affecting vision, hearing and emotional control in later life.
- Emotional attention given in the first days of life is linked to a child's response to stress, memory and attention function. As maternal mental ill-health is more prevalent in lower socio- economic groups this is a risk factor for later-life mental health problems in the child.

2.3.2 Childhood and adolescence:

- Living in disadvantaged families results in greater physical challenges to health status and health-promoting behaviours. There are more emotional and psychological stresses, for instance family conflict, and inadequate resources. The effects of deprivation and related cumulative stress in childhood affect the person through their whole life impacting on educational success, and behaviour as they grow into adulthood. Children growing up in workless households have particularly poor outcomes in socio-emotional behaviour and cognitive development.
- Obesity: children living in vulnerable families in stressful environments get less access or encouragement to be physically active or eat healthy food and as a result are more likely to be obese, which can lead to poor self-esteem and health problems in later life.
- Adverse Childhood Experiences: there is a strong relationship between the breadth of exposure to abuse and household dysfunction during childhood and leading causes of ill health and death in adults.

2.3.3 Working Age:

- Employment: there are strong links between unemployment and poor mental health.
- Poor working conditions: low paid and low quality jobs are strongly associated with poor working conditions and higher exposure to health risks.
- The built environment and its impact on physical activity and thus obesity. Deprived communities have less access to green space compared to the most affluent. The built environment also impacts on the prevalence of violence as harsh urban environments promote a 'survival pattern of high risk' and aggressive behaviours.

2.3.4 Elderhood:

- Lower socioeconomic disadvantage is associated with increased risk of disability, chronic disease and co-morbidity, depression and decline in cognitive function across all age groups; with older people in the lower

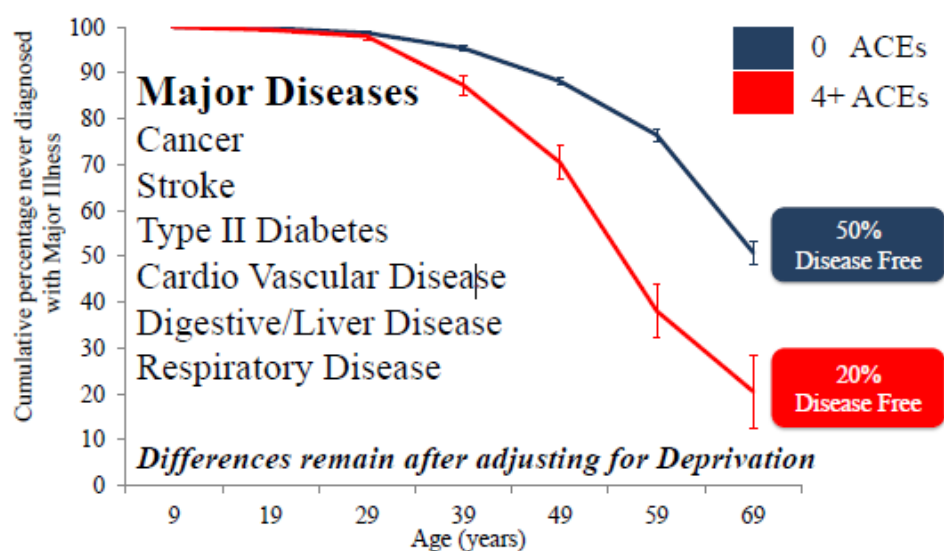
socioeconomic groups having a much higher risk of almost all chronic diseases than affluent older people.

- Ageing can negatively impact on people's activity levels and, as people from lower socio economic groups are more likely to have ill health, the effect of ageing on activity is compounded resulting in new or worsening pre-existing conditions like diabetes, cardiovascular disease, and chronic obstructive pulmonary disorder and depression.
- Depression is more prevalent in older people from lower socio economic groups than in older affluent people.
- According to Age UK more than two million people in England over the age of 75 years live alone, and more than a million older people say they go for over a month without speaking to a friend, neighbour or family member. This social isolation can lead to depression.
- To remain as healthy and independent as possible an older person must be living in suitable accommodation. However in 2015, one in five homes in the UK did not meet the decent housing standards, rising to one in three in the private rented sector. Living in a cold home makes people sick, particularly older people, due to the increased risk of heart and lung disease, and the worsening of conditions like arthritis and rheumatism.
- There is a movement towards technology-enabled healthcare solutions to improve health and reduce costs. However much of this relies on broadband skills and access. The older people with the lowest incomes are five times less likely to be using the internet than those with the highest monthly incomes.

The longer people live in disadvantaged circumstances the more likely they are to suffer a range of health problems, particularly heart disease. This means that they are likely to develop complex health problems and that heart disease may well be an aspect of this (NHS Health Scotland 2015).

A study of children in England, who experience Adverse Childhood Experiences, such as their parents being involved in domestic violence, divorce etc, found that they are much more likely to develop a major disease; only 20% of people who experience four or more ACES as children surviving into their late sixties as disease free (see Figure 4).

Individuals **Never Diagnosed** with a Major Disease by Age (%)



Bellis 2016

Aged 18 to 69 years; (n = 3,885) Bellis et al, Journal of Public Health, 2014

Figure 4: Individuals never diagnosed with a major disease by age (%)

The Government Office of Science (2015) also raised the point that there is growing evidence that events around the time of retirement might have a bearing on health inequalities later in life. Some of this relates to pension wealth, to whether a retirement is forced or voluntary, and the health of a partner. This can be described as impacting on the economic, social and cultural resources that the older person has access to and how that relates to their socio-economic group. The Government Office of Science found that there was a very limited evidence-base about what could impact on health inequalities later in life.

2.3.5 There are also vulnerable groups with specific issues that greatly reduce healthy life expectancy, these include:

- the homeless
- people with severe and enduring mental health conditions
- people with learning difficulties
- older carers
- Gypsy, Romany & Travellers (GRT).
- People with disabilities
- Black, Asian and Minority Ethnic groups (BAME)

Analysis of the Bristol population using the Health Survey of England data to work out the percentage of people from different ethnic category who reported their health as 'bad' or 'very bad' rather than 'fair', 'good' or 'excellent' is illustrated in Figure 5. It shows that BAME people over the age of 65 years chose worst descriptions of their

health and that (All) White people aged 65 and over describe their health as much better than do people of other ethnicities.

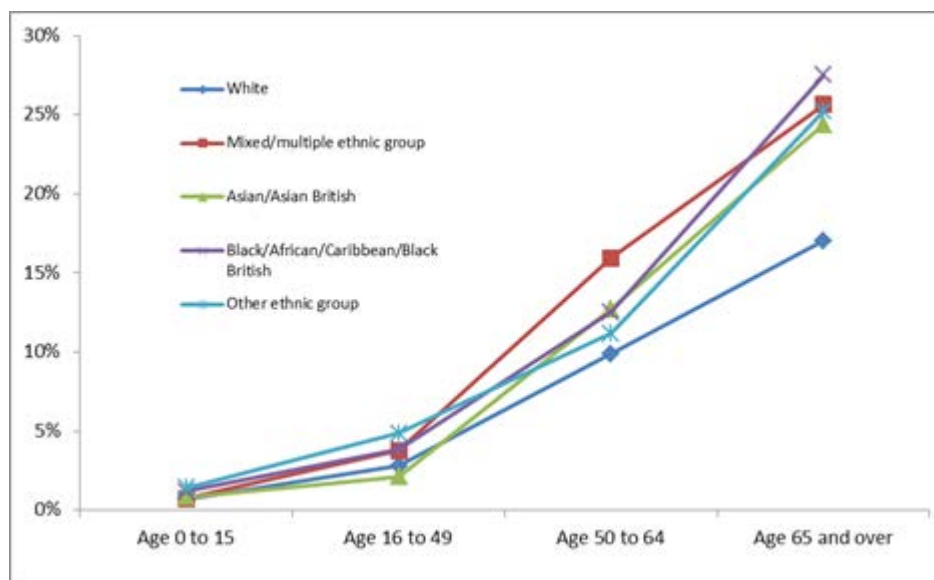


Figure 5: Percentage of self-reported 'bad' or 'very bad' health by broad ethnic group and broad age group in Bristol. Source: 2011 Census

The Government Office of Science (2015) states that given that ethnic minority people tend to concentrate within particular areas, which are often more deprived than average, have varying family forms and gender roles, and have lower average incomes, lower and more insecure occupational positions and lower levels of pension wealth, there is a need to consider intersecting drivers of inequalities in research and policy work.

3 What is the size of the issue in Bristol?

In Bristol the average healthy life expectancy at birth is 58.9 years for males and 62.9 years for females.

Based on the Census information, the healthy life expectancy at birth in Bristol can be broken down to smaller areas. Male healthy life expectancy is mapped in Figure 6. The areas of lowest healthy life expectancy are in the areas of: Hartcliffe, Whitchurch Park, Filwood, Lawrence Hill, and Easton. The gap in healthy life expectancy for males between the lowest and highest healthy life expectancy areas in Bristol is 16.3 years.

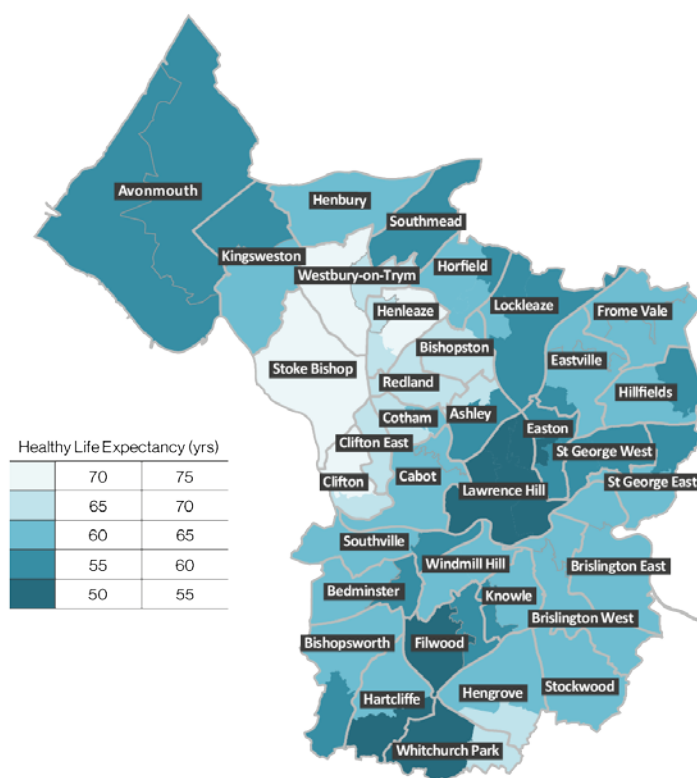


Figure 6: Healthy Life Expectancy for males, 2009 – 2013 in Middle Super Output Areas with Bristol ward boundaries overlaid. *Source: Office of National Statistics.*

Female Healthy Life expectancy is mapped in Figure 7. It shows that parts of Whitchurch Park and Lawrence Hill have the lowest healthy life expectancy for females in Bristol. The gap in healthy life expectancy for females between the lowest and highest healthy life expectancy in Bristol is 16.7 years.

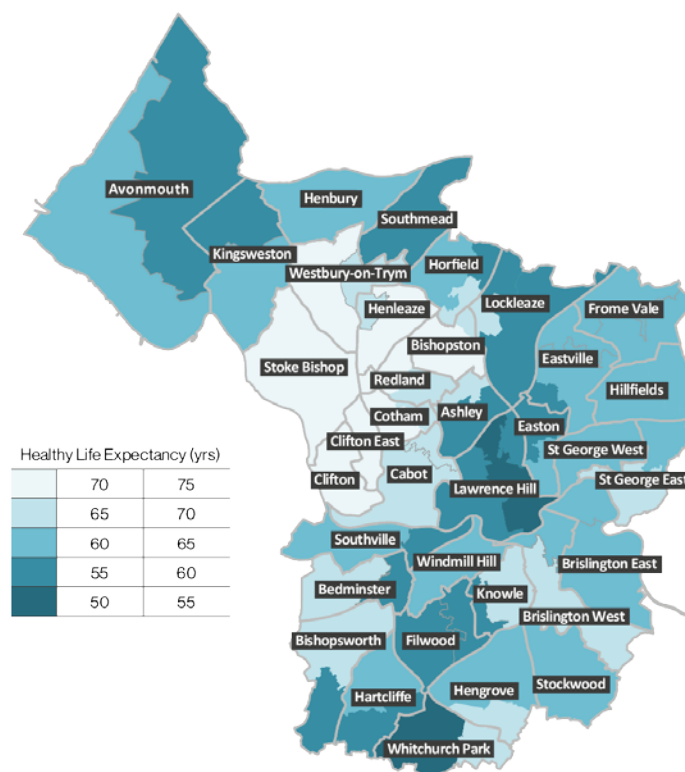


Figure 7: Healthy Life Expectancy for females, 2009 – 2013 in Middle Super Output Areas with Bristol ward boundaries overlaid. *Source: Office of National Statistics.*

In England Healthy life expectancy for males at 65 years (2012 and 2014) was a further 18.8 years with 10.6 of these years spent in “Good” health. On the other hand, women could expect to live a further 21.2 years of which 11.5 years could be spent in “Good” health. As a result, men and women at age 65 could expect to live over half of their remaining lives at age 65 in “Good” health (56.3% and 54.2% respectively).

3.1 Causes of death

People can start to feel that they are no longer healthy when they develop long term conditions so looking at the causes of premature deaths in Bristol can indicate which major diseases are affecting people, see figure 8. Cardiovascular disease, cancer, respiratory disease and liver disease are the most important long term conditions that cause illness and early death. Many of the deaths are preventable, if the lifestyle behaviours that trigger the diseases are addressed, and if healthcare is optimised.

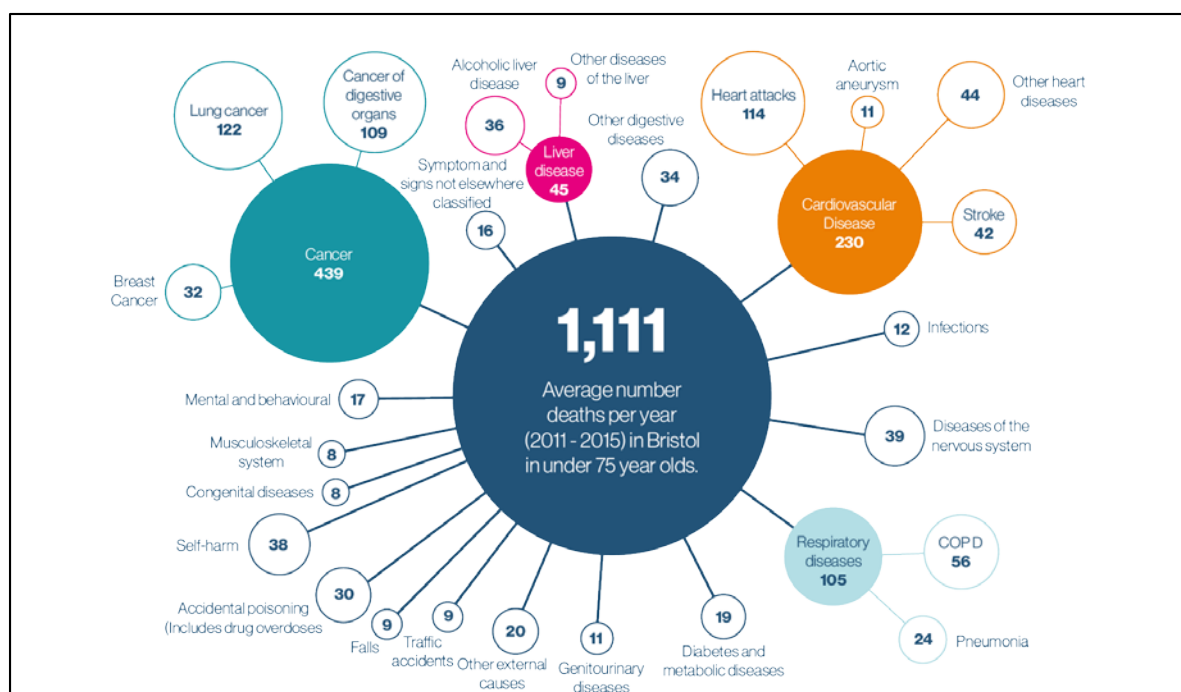


Figure 8: Main causes of premature death in Bristol (average per year 2011-15). *Source: calculated by Bristol Public Health Knowledge Service using ONS mortality data.*

Figure 9 shows the main causes of death for all ages. In England, Dementia (including Dementia and Alzheimer's) is the leading category of death in all ages (ONS 2015), and is much more common later in life (after 75 years), which is why it is not recognised in the causes of early death in figure 8. In this comparison the ONS compared 'Dementia' to ischemic heart disease, cerebrovascular diseases, chronic lower respiratory diseases, and lung cancer. In Bristol the Dementia (Dementia and Alzheimer's) deaths amount to 337 people per year which is less than Ischemic heart disease (heart attack), but more than cerebrovascular diseases (stroke), chronic lower respiratory diseases, and lung cancer. The lower proportion of deaths due to Dementia in Bristol is probably due to the smaller percentage of elderly people in the city compared to the England average.

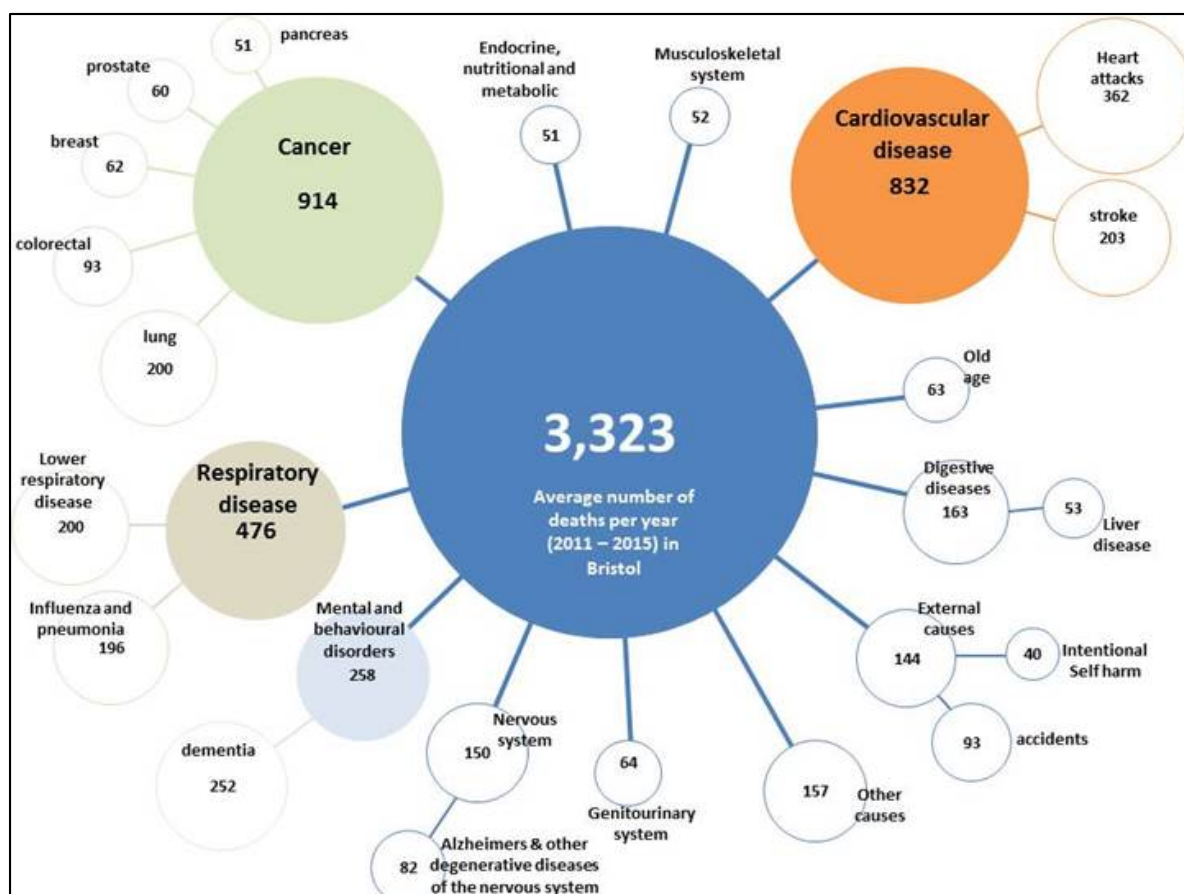


Figure 9: main causes of all deaths in Bristol (average 3,323 per year 2011-15). *Source: calculated by Bristol Public Health Knowledge Service using ONS mortality data.*

It is estimated that there are around 4,100 people over 65 living with dementia in Bristol, with around 69% have a GP diagnosis (England 67%). Prevention of dementia spans the life course and the risks are:

- Early years: less education (8%)
- Middle age: hearing loss (9%), high blood pressure (2%), obesity (1%)
- Late life: smoking (5%), depression (4%), physical inactivity (3%), social isolation (2%), diabetes (1%)

Figure 10 illustrates the percentages of the main diseases that cause early death that are preventable. 94% of liver disease, 61% of cardiovascular disease, 60% of cancers, and 49% of respiratory disease are preventable.

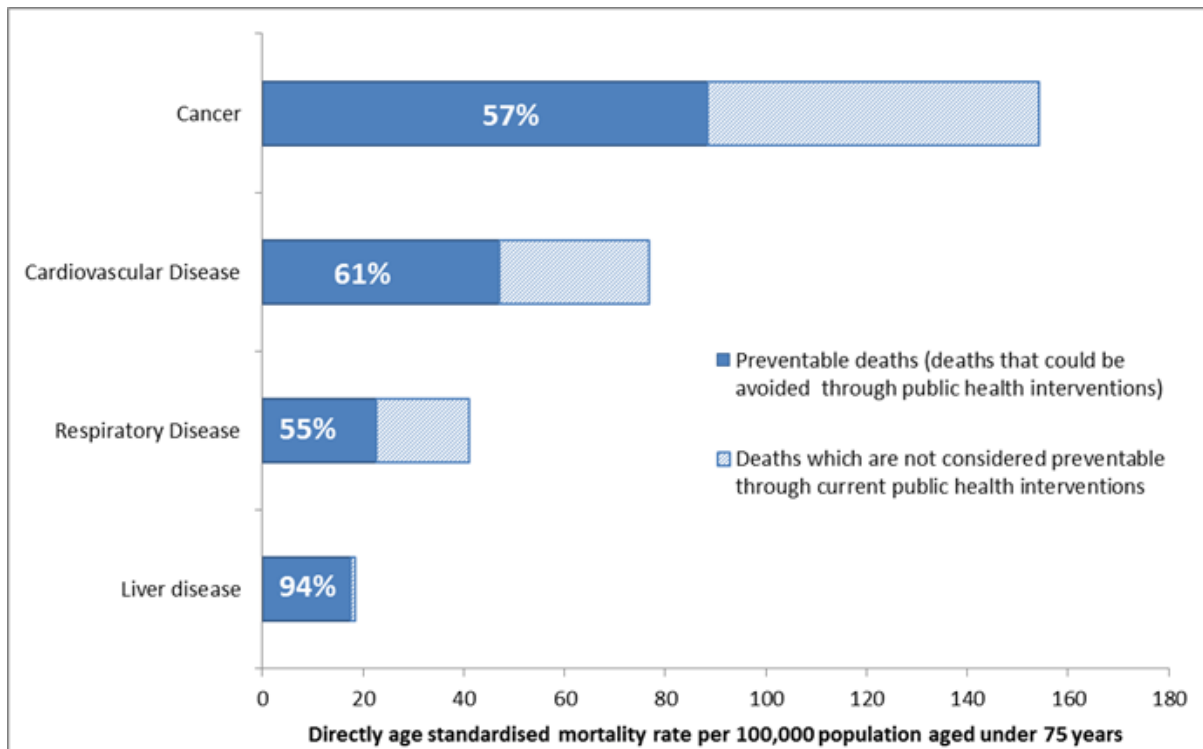


Figure 10: Major diseases causing premature mortality in Bristol, 2014 – 2016. With proportion considered preventable highlighted. *Source: Public Health Outcomes Framework PHE.*

3.2 Disease and Disability.

Disability Adjusted Life Years (DALYs) are a measure that describes the cumulative number of years lost due to ill health, disability or early death. See figure 11.

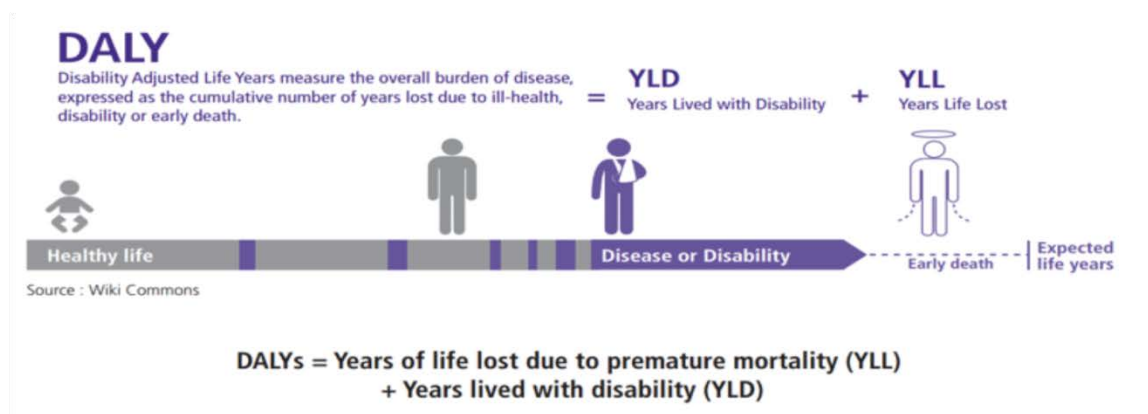


Figure 11: the meaning of disability adjusted life years (DALYs).

By analysing DALYs at a local Bristol level we can see the contribution of each disease and this illustrates why people no longer feel that they are healthy. Figure 12 illustrates that cardiovascular diseases, diabetes, urogenital, blood and endocrinal

disease, cancer, mental health and substance use disorders, and respiratory diseases are major contributors to disability and early death in Bristol.

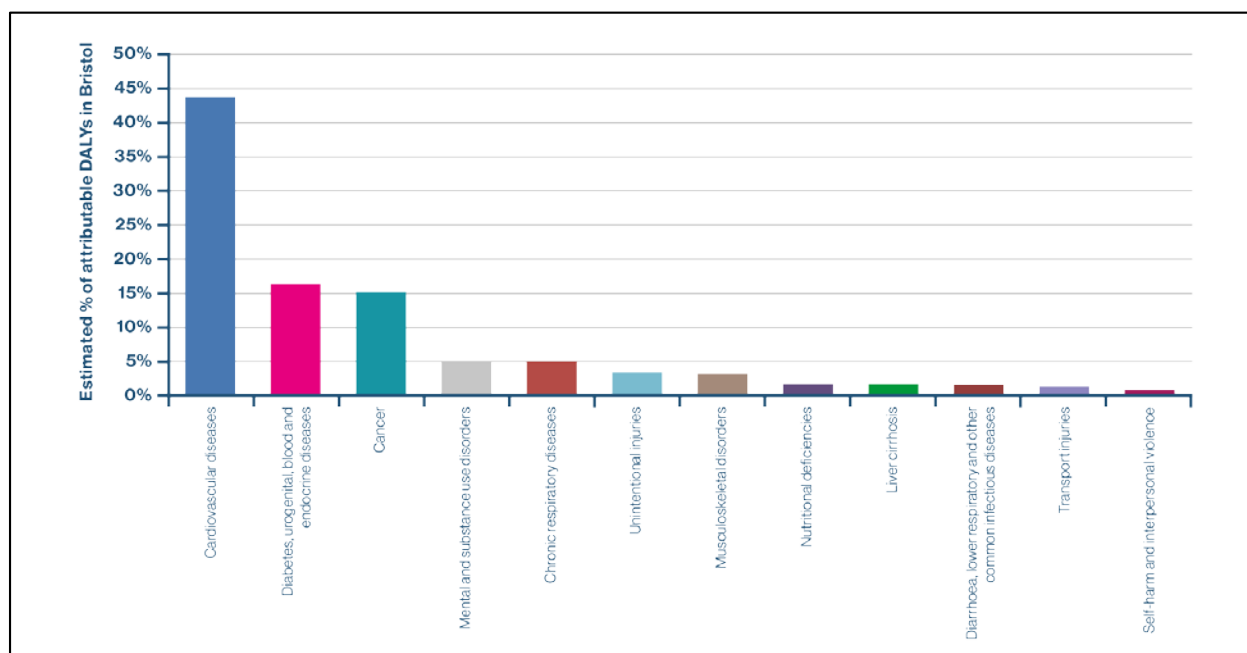


Figure 12: Estimated proportion of disability adjusted life years (DALYs) by disease group for Bristol in 2013. *Source: calculated by Bristol Public Health Knowledge Service by applying global burden of diseases (2013) results for England to Bristol age structure.*

Figure 13 illustrates the breakdown of each DALY by risk and cause in Bristol in 2013. It shows the poor lifestyle behaviours such as poor diet, smoking, inactivity, alcohol and drug use all have a major part to play in triggering major diseases, but so too does air pollution and occupational risks.

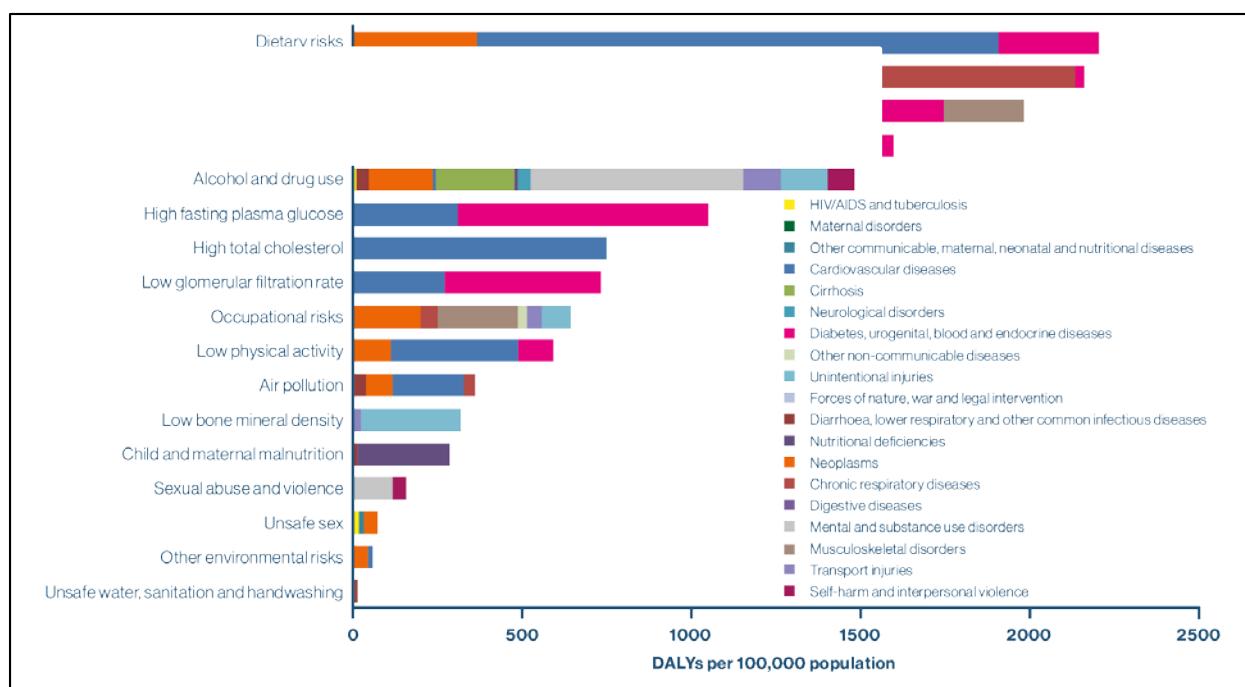


Figure 13: Estimated breakdown of disability adjusted life years (DALYs) by risk and cause in Bristol, 2013. *Source: calculated by Bristol Public Health Knowledge Service using results from Global Burden of Disease, Institute for health metrics and evaluation.*

14 million people live with chronic pain in England, and this is a common symptom of their primary disease. DALYs analysis does not capture the symptom pain as it looks at primary disease codes. Many sufferers are of working age, however in an ageing population it is anticipated that more elderly people will suffer. Pain impacts on whether people feel healthy or not.

3.3 Deprivation

In Bristol 29.5% of the population live in the 20% most deprived areas in England (BCC 2015).

3.3.1 Employment Deprivation measures the proportion of the working age population in an area involuntarily excluded from the labour market. This includes people who would like to work but are unable to do so due to unemployment, sickness or disability, or caring responsibilities.

In Bristol as a whole almost 36,000 people (ie 13% of the working age population) experience employment deprivation, although the proportion varies greatly across the city from as high as 37% in 'Hareclive' in Whitchurch Park to less than 1% in other areas of the city.

3.3.2 Income Deprivation in working age: the proportion of the working age population experiencing deprivation relating to low income is 16.7% in Bristol compared to 14.7% in England.

3.3.3 Deprivation in older people: In Bristol as a whole, 19.8% of people aged over 60 years live in income deprived households (just over 15,000), compared to the English average of 16.2%. The proportion varies greatly across the city from as high as 69% of older people living in 'St Pauls Grosvenor Road' in Ashley ward to 3% of older people living in 'Whitchurch' in Whitchurch Park ward (see figure 14). This measure counts adults aged 60+ receiving Income Support, Pension Credit (Guarantee) or income-based Jobseekers Allowance.

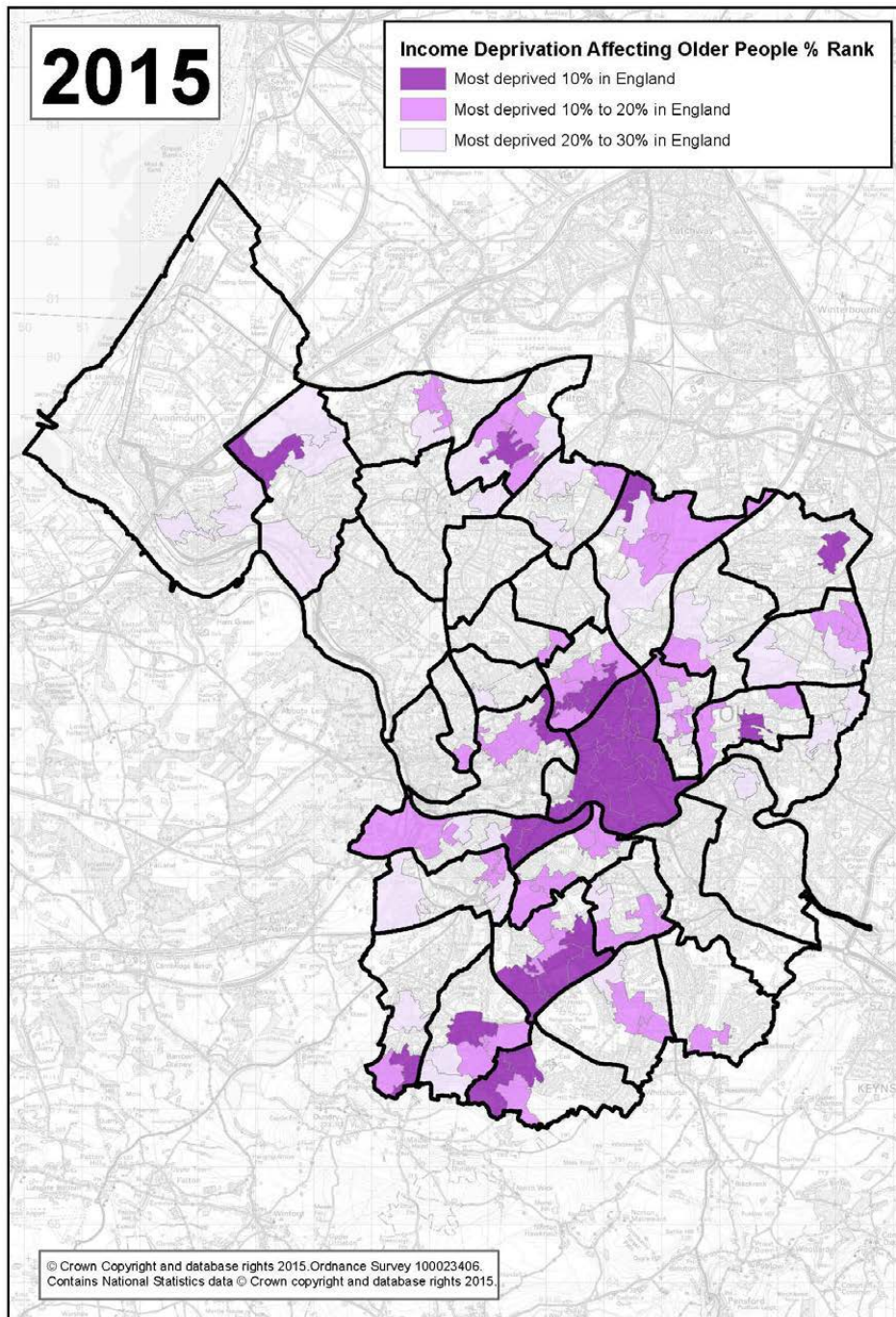


Figure 14: Income Deprivation Affecting Older People 2015. *Source: Department for Communities and Local Government, Indices of Deprivation 2015*

3.3.4 Housing Deprivation: Indoor housing deprivation is a combination of homes that do not reach the Decent Homes Standard and homes that do not have central heating.

27 Lower Layer Super Output Areas (LSOAs) in Bristol are within 10% most indoor housing deprived LSOAs in England, and over 51,880 people live within those areas. The majority of these LSOAs are in the Central, Ashley and Clifton Down wards.

Figure 15 shows that that 5,187 (3%) households in Bristol did not have central heating in 2011; these homes are taken to be the most expensive to heat.

Figure 15: the 2011 Census provides statistics on households without central heating in Bristol.

Tenure	All categories: Type of central heating in household	Does not have central heating	Does have central heating
All categories: Tenure	182,747	5,187	177,560
Owned or shared ownership: Total	100,093	2,423	97,670
Owned: Owned outright	44,928	1,567	43,361
Owned: Owned with a mortgage or loan or shared ownership	55,165	856	54,309
Social rented: Total	37,083	722	36,361
Social rented: Rented from council (Local Authority)	26,494	508	25,986
Social rented: Other social rented	10,589	214	10,375
Private rented or living rent free: Total	45,571	2,042	43,529
Private rented: Private landlord or letting agency	40,401	1,880	38,521
Private rented: Other private rented or living rent free	5,170	162	5,008

24,600 people are estimated to experience fuel poverty in Bristol (12.9% of Bristol households, higher than national average of 11%) (source: Public Health Outcome

Framework 1.17). Between Aug 2015 and July 2016, Bristol had 192 excess winter deaths; applying the PHE 21.5% attributable fraction to them, this works out at an estimated 41 deaths were the result of living in the coldest 25% of housing (PHE 2014), and 19 (10%) were directly attributable to fuel poverty.

3.4 Community Networks.

The Bristol Quality of Life Survey 2015/16 found that 18% of residents did not see friends and family enough or at all.

21% of people living in deprived areas were more likely to be socially isolated; the percentages were highest in Filwood (29%) and Lawrence Hill (28%). Areas where social networks appeared to be stronger, with social isolation reported less, include Stockwood (9%) and Westbury-on-Trym & Henleaze (11%). Using Public Health England estimates, there could be 20,000 people aged 18-64 experiencing social isolation in Bristol as well as between 6,300 and 11,400 people aged 65 & over (Bristol City Council 2013).

Disabled people were most at risk of social isolation, at 31%, and the social life of lesbian, gay, bisexual and transgender people is also less satisfactory than the average, at 26%. The proportion of older people who did not see family and friends enough or at all was below average, at 15%.

The Survey also measured the percentage of respondents who meet friends and family at least every week. 83% of residents meet friends and family at least every week. People living in deprived areas met friends and family less frequently (average of 80%), whilst the best social lives were experienced in Clifton (95%), Stockwood (93%) and Westbury-on-Trym & Henleaze (89%).

The Public Health Outcome Framework indicators (1.18i and 1.18ii) estimate that in Bristol 48.8% of adult social care users have as much social contact as they would like (England 45.4%), and 29.1% of adult carers have as much social contact as they would like (England 35.5%).

3.5 Education.

In Bristol, 67.7% of children achieve a good level of development at the end of reception year, significantly worse than the England average of 70.7% (source: Public Health Outcome Framework 1.02i). Out of the children who receive free school meals (an indicator of poverty) only 52.4% have achieved a good level of readiness which was significantly worse than the England average of 56%.

3.6 Lifestyles and health conditions.

Smoking: the Public Health England Outcome indicators show that in Bristol 16.3% of adults smoke, compared to the England average of 15.5%.

Hypertension: the National General Practice Profiles show that in Bristol 10.8% of the population have been diagnosed with hypertension, compared to the England average of 13.8%. However PHE estimate that 22% of the population of Bristol probably have high blood pressure and many not have been diagnosed.

High BMI: in Bristol 56% of the population aged over 18 years is overweight or obese compared to the England average of 61.3%. Included in this figure, 8.4% in Bristol are obese compared to an England average of 9.7%.

Binge drinking: the Alcohol Profiles for England show that 18.4% of the population of Bristol binge drink, compared to an England average of 16.5%.

4 What are the relevant national outcome frameworks indicators and how do we perform?

Figure 16 shows that healthy life expectancy at birth is significantly lower for men in Bristol than the average for England; women on the other hand have better healthy life expectancy at birth in Bristol.

At the age of 65 years, both men and women in the south west have a better healthy life expectancy than the English average, and women. It is likely that poor healthy life expectancy of men in Bristol identified in the birth statistic is masked by the regional average.

Figure 16: Healthy Life Expectancy (2014-16). *Source: Public Health Outcome Framework 0.1i*

	Bristol	England
Healthy Life Expectancy at birth for men	59.7 years	63.4 years
Healthy life expectancy at birth for females	64.5 years	64.1 years
	South West	England
Healthy Life Expectancy for men aged 65 years	11.6 years	10.6 years
Healthy Life Expectancy for women aged 65 years	12.6 years	11.5 years

In England, men at age 65 could expect to live for a further 18.8 years with 10.6 of these years spent in “Good” health. On the other hand, women could expect to live a further 21.2 years of which 11.5 years could be spent in “Good” health. As a result, men and women at age 65 could expect to live over half of their remaining lives at age 65 in “Good” health (56.3% and 54.2% respectively).

In Bristol, the gap in healthy life expectancy between the most and least deprived areas is 16.3 years for males and 16.7 years for females (using the latest data from 2009 – 2013). The size of the areas used is ‘middle super output areas’; areas that cover on average about 2 % of the population.

5 What is the evidence of what works?

Healthy Life expectancy is an effect of the interplay of many complex factors. National guidance on how to address some of the individual factors is available from organisations such as NICE: <https://www.nice.org.uk/>. The biggest gains can be made by working in partnership across the city to address; place-based inequalities including socioeconomic inequalities, lifestyle behaviour and taking a case-based family approach to vulnerable groups. This work needs to address all stages of the life course.

5.1 Place-based approaches. In areas of deprivation tackle:

- Social inequalities and income deprivation in small areas.
- Reduce unemployment
- Reduce older people deprivation
- Reduce long term sickness and disability
- Reduce financial insecurity
- Reduce child poverty
- Improve the qualifications of people living in areas of deprivation
- Improve housing
- Improve community and networks to reduce social isolation
- Strengthen the resilience of communities

5.2 Health Behaviour approaches: see the Bristol JSNA

https://www.bristol.gov.uk/en_US/policies-plans-strategies/joint-strategic-needs-assessment

- Reduce tobacco use (especially pregnant women, and lower socio economic groups)
- Reduce high blood pressure (early identification and treatment)
- Reduce binge drinking.
- Reduce high body mass index, through increased activity and healthy eating.
- Address social isolation

Five a day: if ten more people in every hundred increase their fruit and vegetables consumption to 5 items a day then the average healthy life expectancy in the city would increase by 3 years 11 months for men, and 4 years 4 months for women (PHE 2018). [Accessed 2/2/2018]

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/articles/whataffectsanareashealthylifeexpectancy/2018-01-18>

Activity: if ten more people in every hundred increase their physical activity to reach the national recommendations (at least 150 minutes of moderate intensity physical activity per week), then the average life expectancy in the city would increase by 4 years 3 months for men, and 4 years 6 months for women (PHE 2018).[Accessed 2/2/2018]

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/articles/whataffectsanareashealthylifeexpectancy/2018-01-18>

5.3 Vulnerable Groups approaches: implement the Police, Health and Social Care Consensus. Available from: <https://news.npcc.police.uk/releases/policing-health-and-social-care-consensus>

The Consensus takes a whole system approach to working together to protect and prevent harm to vulnerable people, from child sexual exploitation, domestic abuse, cybercrime or new threats from serious and organised crime such as human trafficking or terrorism. This illustrates the joint working that needs to happen to address the complexity of factors that impact on health life expectancy.

In addition to this policy makers should:

- Combine policies across the lifespan to harness synergies, and to deliver proportionate universalism, to provide a service to all, but the strongest support to the most vulnerable.
- Provide services at a local level, monitor outcomes for individuals.
- Reduce poverty through strategies that address income inequalities and support equality of opportunity and outcomes.

- Ensure adequate health and social care funding. Provide integrated, citizen-centric funding in relation to planning, commissioning and provision of services to avoid cost-shifting and ensure incentives are aligned across all parts of the system.

Public service providers should:

- Work collaboratively.
- Co-design services with the service users and carers
- Integrate health promotion and prevention into the daily routines of the wider public sector workforce.
- Carry out a standard assessment of the social conditions of individuals and families at the first point of contact with public services.
- Signpost to help and social prescribing where appropriate.
- Agree a key worker approach to ensure that people do not have to keep retelling their story
- Focus relentlessly on improved measureable outcomes for families.

Academic partnerships should:

- Carry out health economics research
- Provide real time data on populations
- Evaluate outcomes

Third sector and private sector should:

- Roll out social prescribing
- Ensure the health of the workforces, improve job security, improve health & safety
- Work in partnership to address the social determinants of health.

Everyone should:

- Consider the use of cost effective digital solutions to delivery
- Share information
- Ensure integrated analytics and IT across all public services.
- Get smart about assessing future trends and risks
- Use behavioural insights (nudge theory)
- Provide training and education to citizens in the use of digital technology

To follow a life course approach to reduce health inequalities among vulnerable groups, partners in Bristol should ensure that evidenced-based interventions are put in place to address the issues below.

Maternal health and infancy

- Improve low birth weight rates (which linked to smoking, drinking and poor nutrition in pregnancy)
- Improve cognitive stimulation in first three years of life
- Parenting support
- Improve maternal mental health

Childhood & adolescence

- Give extra support to children living in poverty
- Early intervention and prevention of ACES
- Address the impact of ACES on children – improve their mental health and resilience
- Reduce childhood obesity
- Increase physical activity

Working age:

- Improve the mental health of people who are unemployed
- Employers to improve working conditions, security of employment, and workplace health
- Employers to eradicate low pay
- Improve the built environment to encourage physical activity and reduce crime

Elderhood:

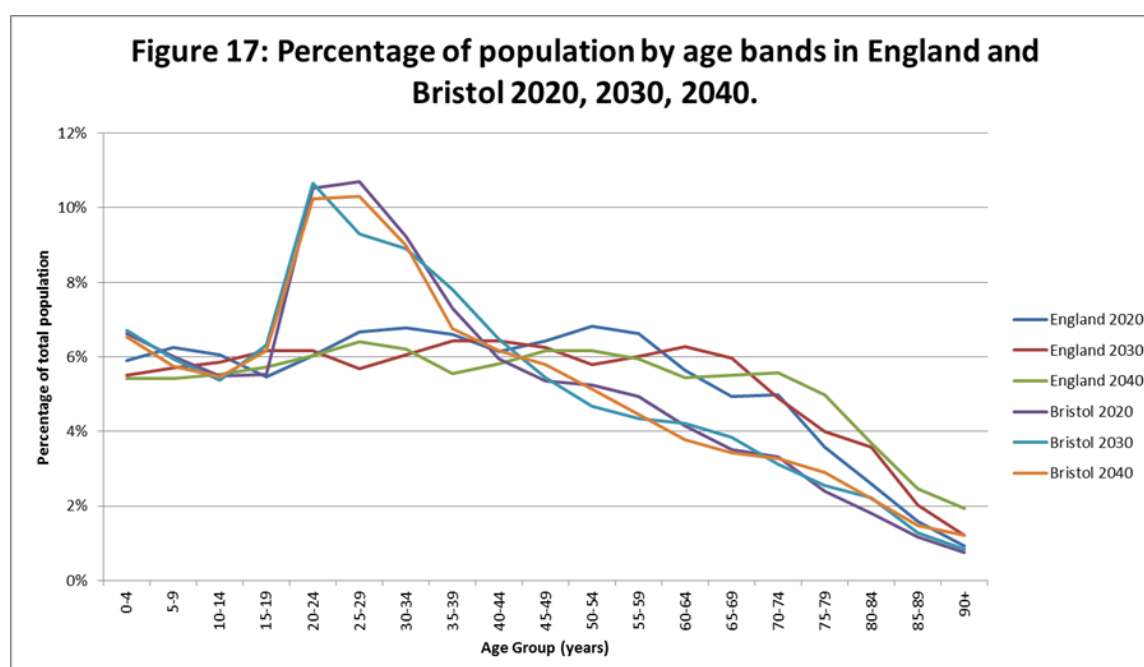
- Keep older people active
- Reduce depression in older people
- Reduce social isolation, and increase social connectivity
- Provide suitable warm housing for the elderly
- Improve the digital connectedness of the elderly
- Employment opportunities

6 What services/ assets do we have to prevent and meet this need?

Many organisations and services currently contribute to supporting the citizen's healthy life expectancy. However, to increase healthy life expectancy we need a whole-city approach, ensuring system-wide prevention of ill health; this would include the community and voluntary sector, businesses, the public services and the citizens themselves. By better orchestrating efforts and integrating when appropriate healthy life expectancy might be improved. There needs to be a consideration of what a system-wide approach would look like, and what cultural change is needed at an individual citizen level so that each citizen and each family engages with tending and nurturing their health as an asset; being active, eating as healthy food as they can, not misusing alcohol and not smoking, and seeking timely and appropriate help.

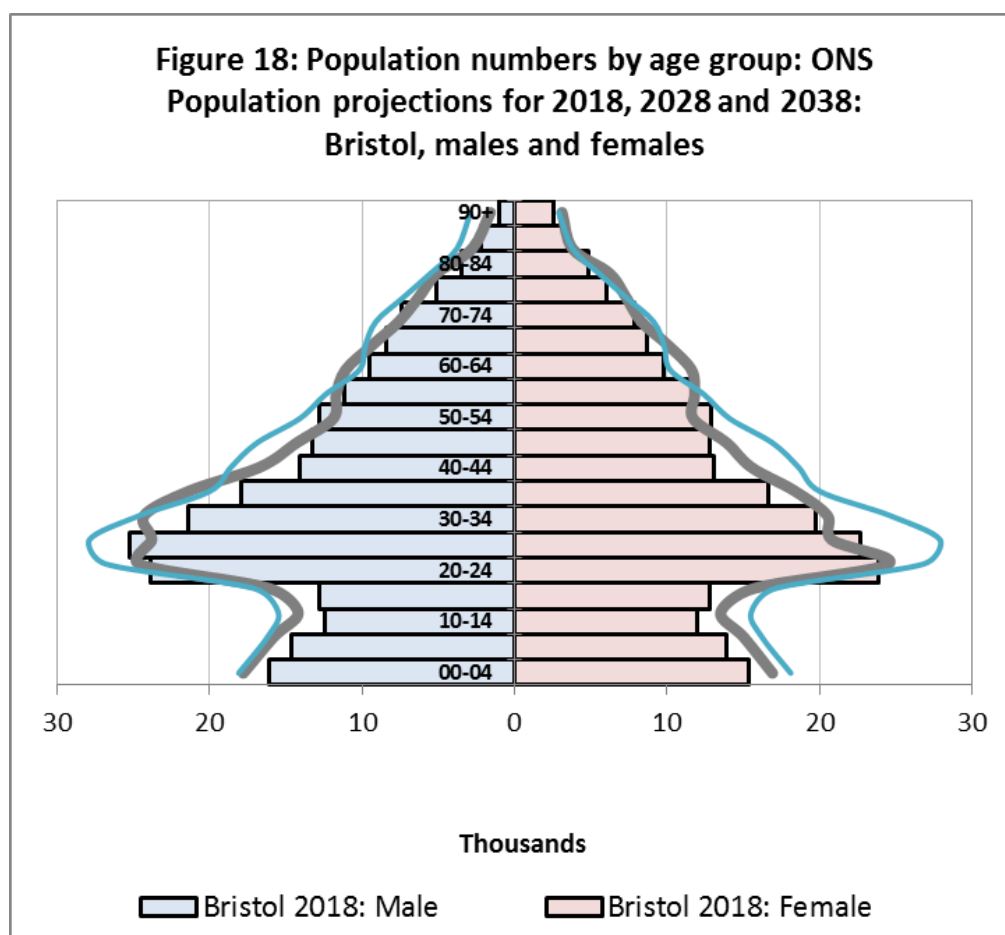
7 What is on the horizon?

The ONS population projections for Bristol and England for ten years and twenty years' time (see figure 17) show that the population of Bristol will stay markedly different from England's. The younger population of Bristol is predicted to remain a feature, the population of the very old will grow, and the movement of middle-aged people out of the city will continue.



The ONS projections are based upon local birth, death and migration levels, so it is a reflection of local trends on national ones.

Figure 18 shows the population predictions for 2028 and 2038 for males and females in Bristol. It illustrates the increasing number of very elderly men who are predicted to survive.



The trend in male health life expectancy at birth is worsening in Bristol, and has been significantly worse than the English average since 2013-15 (see figure 19).

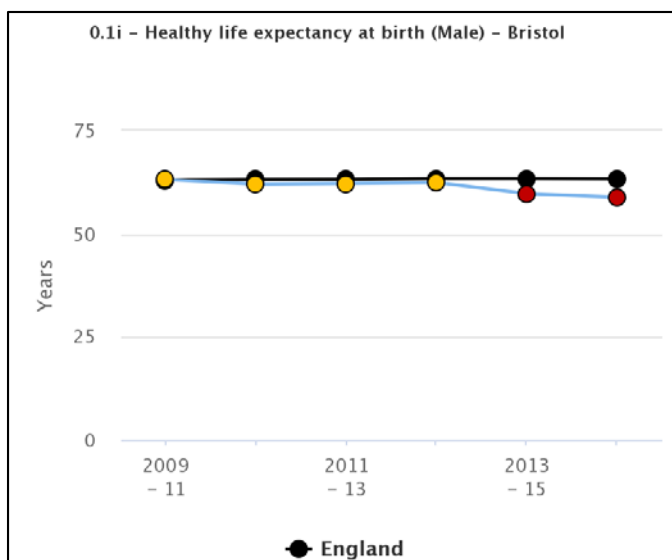


Figure 19: Healthy life expectancy at birth (Male) - Bristol

The trend in female healthy life expectancy at birth in Bristol is staying constant, as it is in England, see figure 20.

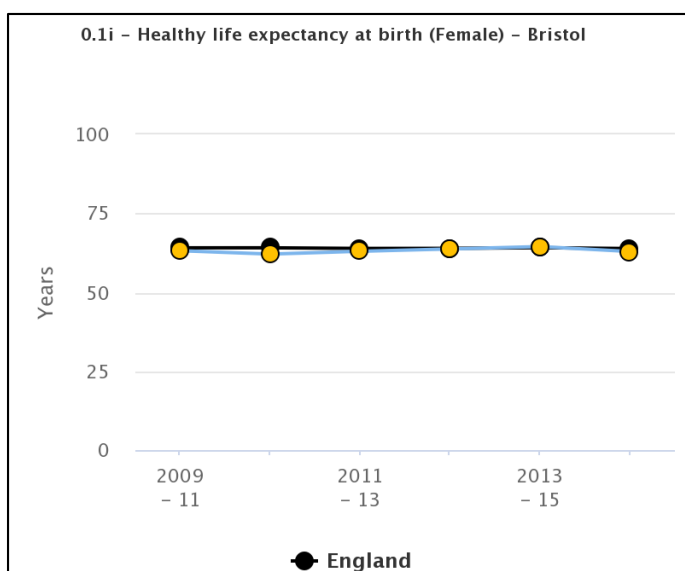


Figure 20: Healthy life expectancy at birth (female) - Bristol

There are demographic pressures in the future as population bulges in particular age groups grow older. Over the next 20 years for instance, these factors will come into play:

- a large number of children aged 0-5 years, who are living in deprivation (many from BAME groups). These children are likely to be less healthy than their counterparts who are growing up in affluence.

- A large number of young people who are very overweight and are predicted to have poor health in midlife and to live shorter lives than their parents.
- A large population of young adults who come to Bristol as students who may settle in the city and this would probably affect employment opportunities for local residents and the availability and affordability of accommodation.
- Changes in people's working patterns and types of employment as IT and robotics change the types of work available.
- Ageing baby boomers (people born between the early to mid-1940s and the early to mid-1960s) who will place large demands on health and social care in the coming decades, as the elderly have more complex health needs. This can be mitigated to an extent by encouraging them to maintain their healthy life expectancy for as long as possible.
- The number of people with dementia (65+) is projected to rise by 14% by 2024, and by 66% by 2039 (due to the high projected rise in the number of people aged 85+).
- Welfare (including Universal credit and housing reforms) and pension reform, the effects of which may impact on people's incomes and health. Pension reform (later retirement rising to age 70 in the future) may mean that people will reach the end of their healthy life expectancy before retirement age.

How well the city deals with these issues and adapts services will influence how healthy people think they actually are and what modifiable health issues they develop and this will affect the health life expectancy estimates.

8 Key issues and gaps

The area analysis of healthy life expectancy is based on the National Census and this is updated once every ten years, in between times the Healthy Life Expectancy data is only available at city wide or regional levels.

Healthy life expectancy is a result of complex interrelationships between multiple factors, so evaluating the impact of an individual change made to improve healthy life expectancy is unlikely to be possible. The National Census will track the cumulative impact of changes over time.

The key issue is the inequality gap in Healthy Life Expectancy at birth across the city. The gap in healthy life expectancy for males between the lowest and highest Healthy Life Expectancy areas in Bristol is 16.3 years, and for females is 16.7 years. The trend for males in Bristol is for healthy life expectancy to shorten and to be significantly less than the England average. The female trend is constant and not significantly different from the England average.

The trend in healthy life expectancy at age 65 years for men is improving but still significantly worse than the England average.

Healthy Life Expectancy impacts on the use of Health and Social Care services, as the longer a person stays in good health the longer they do not use the services.

9 Knowledge gaps

There is little data on people with complex health conditions. There are two main groups: middle-aged and young adults with mental health and substance misuse issues and resulting illnesses, and older people with two or more long term conditions.

10 Next Steps

In order to improve healthy life expectancy and reduce the gap partners across Bristol can take action to address the main causes of illness and early death. Many of the causes of ill health are rooted in non-medical issues such as poverty and stress. Adopting a health in all policies approach would help to address this.

The first approach would be founded on place-based issues that impact on healthy life expectancy. Policies that influence the following issues are particularly important in improving healthy life expectancy:

- Employment: address unemployment, and make improvements to the quality of employment and remuneration paid.
- Old age: address pensioner poverty especially in areas of deprivation, address fuel poverty and social isolation caused by poverty, and ensure carers are supported.
- Reduce ill health caused by occupational risks
- Education: raise educational achievements of disadvantaged children.
- Support disadvantaged children to reach a good level of development at age five years.
- Housing: improve the quality of homes in the rental sector

The second policy approach would address lifestyles. People need to be encouraged to address their behaviours to enable themselves and their families to live long happy lives. These are the main issues:

- Smoking
- Binge drinking
- Excess weight

- Maintain health blood pressure

Policies that promote helping people to help themselves, such as the roll-out the Making Every Contact Count can contribute to this.

The third area of policy that can support improving healthy life expectancy is supporting vulnerable people through the life course. This means appropriate policies should take account of all of life's stages and have consideration of vulnerable people built in. For instance, vulnerable children living in disadvantaged families are less likely to live a long healthy life free for disease. Policies that can impact on this might be universal, such as good quality food in schools, or area-based, such as activity schemes aimed at deprived neighbourhoods, or targeted support for individual children, for instance those suffering from adverse childhood experiences. At the other end of the age range it could be development of part-time employment for pensioners in areas of deprivation where pension poverty is more common.

To help policy makers appreciate the health impact that their policies can make it would be helpful if they referred to 'Health Impact Assessments: Key Issues to Consider' in Appendix 1. This document supports good policy making and helps policy makers think in terms of health impact, without having to become health experts.

There is little data on people with complex health conditions. It would be helpful if this could be addressed so that the person-centric data becomes available rather than simply disease-centric data. This could assist the development of integrated care.

11 Key contacts:

Katie Porter: Katie.Porter@bristol.gov.uk

Leonie Roberts: Leonie.Roberts@bristol.gov.uk

John Twigger: John.Twigger@bristol.gov.uk

Date: 2/9/2018

References

- Bellis, MA, et al. Measuring mortality and the burden of adult disease associated with adverse childhood experiences in England: a national survey. *Journal of Public Health*, Volume 37, Issue 3, 1 September 2015, Pages 445–454. [online] Available at: <https://doi.org/10.1093/pubmed/fdu065> accessed 22/3/2018
- Bristol City Council (2013). Social Isolation in Bristol: Initial Findings Report. [online] Available at: www.bristol.gov.uk/socialisolation accessed 20/2/2018
- Bristol City Council 2015. Deprivation in Bristol 2015: The mapping of deprivation within Bristol Local Authority Area. November 2015. [online] Available at: <https://www.bristol.gov.uk/documents/20182/32951/Deprivation+in+Bristol+2015/429b2004-eeff-44c5-8044-9e7dcd002faf> accessed 27/3/2018
- Buck D and Gregory S (2013) Improving the public's health: a resource for local authorities. London: the King's Fund. [online] Available at: https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/improving-the-publics-health-kingsfund-dec13.pdf accessed 15/1/2018
- Buck D and Maguire D. August 2015. Inequalities in life expectancy, changes over time and implications for policy. London: The King's Fund. [online] Available at: https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/inequalities-in-life-expectancy-kings-fund-aug15.pdf accessed 15/1/2018
- Deloitte Centre for Health Solutions (2017). Breaking the dependency cycle: Tackling Health inequalities in vulnerable families. Deloitte Centre of Health Solutions June 2017. [Online] available at: <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/life-sciences-health-care/deloitte-uk-breaking-the-dependency-cycle-final.pdf> accessed 1/3/2018
- Department of Education (2010) Child Poverty Act 2010. [online] available at: <https://www.gov.uk/government/publications/child-poverty-strategy-2014-to-2017> accessed 27/2/2018
- Department of Education (2014) GCSE and equivalent attainment by pupil characteristics in England: 2012 to 2013. SFR 05/14.
- Department of Health (2011). Healthy Lives, Healthy People: A Tobacco Control Plan for England Statistics on Smoking. HSCIC (2016). [online] Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213757/dh_124960.pdf accessed 1/3/2018

Elovainio, M et al. Contribution of risk factors to excess mortality in isolated and lonely individuals: an analysis of data from the UK Biobank cohort study. *The Lancet. Public Health* Volume 2, Issue 6, June 2017, Pages e260-e266. [online] Available at: <https://www.sciencedirect.com/science/article/pii/S2468266717300750> accessed 8/3/2018

Government Office for Science (2015). Addressing inequalities in healthy life expectancy. London

Jones et al (2015). Understanding the alcohol harm paradox. Centre for Public Health, Faculty of Education, Health & Community, Liverpool John Moors University.

Marmot M et al. 2010. Fair Society, healthy lives. London: Institute for Health Equity, University College London. [online] Available at: <http://www.parliament.uk/documents/fair-society-healthy-lives-full-report.pdf> accessed 12/3/2018

McCann A et al. *Effect of Area-Level Socioeconomic Deprivation on Risk of Cognitive Dysfunction in Older Adults*. *Journal of the American Geriatrics Society*. 12.02.2018. available at: <http://onlinelibrary.wiley.com/doi/10.1111/jgs.15258/full>

Murray CJL and others (2013). 'UK health performance: findings of the Global Burden on Diseases Study 2010'. *The Lancet*, Volume 381, No. 9871, p997–1020, 23 March 2013.

Natcen (2013) People living in bad housing – numbers and health impacts. Natcen Social Research. August 2013. London

New Policy Institute (2016) Disability and Poverty [online] Available at: http://www.npi.org.uk/files/3414/7087/2429/Disability_and_poverty_MAIN_REPORT_FINAL.pdf accessed 27/3/2018

NHS 2017. Statistics on Alcohol, England, 2017. [online] Available at: <http://digital.nhs.uk/catalogue/PUB23940> accessed 7/3/2018

NHS Health Scotland (2015). Key issues to consider during HIA scoping workshops. [online] Available at: <http://www.healthscotland.scot/media/1138/hia-key-issues-to-consider.pdf> accessed 27/3/2018

NICE guideline [NG6]: Excess winter deaths and illness and the health risks associated with cold homes. 2015. [online] Available at: <https://www.nice.org.uk/guidance/ng6> accessed 12/2/2018

ONS 2015. Deaths registered in England and Wales (Series DR): 2015. [online] Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/d>

[eaths/bulletins/deathsregisteredinenglandandwalesseriesdr/2015#dementia-and-alzheimer-disease-was-the-leading-cause-of-death-in-2015](#) accessed 15/3/2018

ONS 2017. Statistical bulletin: Healthy life expectancy at birth and age 65 by upper tier local authority and area deprivation: England, 2012 to 2014. [online] Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/healthylifeexpectancyatbirthandage65byuppertierlocalauthorityandareadeprivation/england2012to2014> accessed 14/3/2018

ONS 2017. An overview of lifestyles and wider characteristics linked to Healthy Life Expectancy in England: June 2017. [online] Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthinequalities/articles/healthrelatedlifestylesandwidercharacteristicsofpeoplelivinginareaswiththehighestorlowesthealthylife/june2017> accessed 4/2/2018

Public Health England (2014). Local Action on Health inequalities: Fuel poverty and cold-home related health problems. Health Equity Evidence Review 7: September 2014

Public Health England (2018). What affects an area's healthy life expectancy? [online] Available at:

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/articles/whataffectsanareashhealthylifeexpectancy/2018-01-18> accessed 2/2/2018

Wilkinson R. (1996) *Putting the picture together: prosperity, redistribution, health, and welfare*. Unhealthy Societies: The Afflictions of Inequality; 1996; p. 256–72.

WHO Centre for Urban Health (2003) The Solid Facts. WHO; 2003. [online] Available at: www.euro.who.int/_data/assets/pdf_file/0005/98438/e81384.pdf accessed 2/2/2018

Appendix 1:

HEALTH IMPACT ASSESSMENTS: KEY ISSUES TO CONSIDER

Checklist 1: Differential impacts

These are some of the issues to think about when considering the ways in which a proposal could have differential impacts on different population groups. This is not an exhaustive list, and is provided simply as initial pointers to stimulate thinking.

Equality and human rights issues: all groups

Prejudice, discrimination and exclusion are harmful for all groups.

Ensure language and images in any communications are inclusive and appropriate.

Communications should use the national standards for community engagement to ensure meaningful engagement with all populations affected by the policy.¹

Consider potential to promote positive attitudes and equal opportunities for all groups.

Consider potential to promote good relations between different groups and encourage participation in public life for all groups.

Consider potential to address discrimination (direct, indirect and victimisation), harassment and personal harm against any population group.

Consider the potential to better understand and address assumptions, prejudice and stereotyping of different population groups.

Consider how to address confidentiality, privacy and data protection issues.

Consider how to collect demographic information on each of the groups for profiling of access to/outcomes of services and initiatives.

Age

- Children, young people, adults and older adults may have different needs, expectations and styles of communication.

- Younger people are more likely to live in deprivation than people from older age groups. In Bristol, 19.8% of people live in areas of the most deprivation, of these 26.5% of the Bristol population of people aged 0-17 years and 16.8% of the 65 years and older live in these areas.²

- Intolerance towards children and young people³ may limit their opportunities, for example, by excluding them from public places.⁴

- Older people are more likely to have mobility and sensory impairments.
- Older people are more likely to require care, and to be carers.
- Women substantially outnumber men in older age groups.

Disability

- Disabled people may have a physical or mental impairment that affects their ability to carry out normal day-to-day activities, including mobility, continence, speech, hearing, eyesight (including colour blindness), memory, ability to learn/understand, and ability to lift objects. As a result disabled people may require wheelchair access, or communication support such as induction loops, large print text, switches at accessible heights, interpreters etc.
- People with a long-term mental or physical impairment may find it more difficult to access services via public transport or walking, and to retain employment.
- Younger disabled people (aged 10-15) in England are much more likely than their non-disabled counterparts to have been the victims of crime (22.4 per cent compared with 12.0 per cent).⁵

Gender

- Men have lower healthy life expectancy and total life expectancy than women.⁶
- In England, **women are more likely than men** to have a common mental health problem and are almost twice as likely to be diagnosed with anxiety disorders.⁷
- Cultural norms and expectations may impact on behaviour and health outcomes: for example, young men are more likely to be involved in violence or accidents and the suicide rate is three times higher in men than women.
- Carers are disproportionately female.⁸
- Transgender people typically report poor experiences with services, primarily related to attitudes of and assumptions made by staff. They experience high levels of discrimination with direct impacts on mental health, and have high levels of substance use and self-harm. They may also have needs in relation to modesty such as privacy in changing areas, provision of single gender accommodation, appropriate uniforms/dress code.⁹

Sexual orientation

- Lesbian, gay and bisexual (LGB) people often experience significant mental and physical health problems related to homophobia, heterosexism and social exclusion.
- High rates of self-harm, attempted suicide as well as high levels of alcohol, drug and tobacco use have been reported across the LGB population.

- Gay and bisexual men may be less likely to be registered with a GP.
- Men who have sex with men (MSM) represent the group most at risk from HIV transmission.¹⁰
- Partner abuse may occur in same sex as well as heterosexual couples.

Race and ethnicity

- People from some ethnic groups may require communication/information support, such as interpreters and translated materials.
- People from some ethnic groups may have different experiences, expressions of and ways of dealing with mental health problems that may not be picked up by mainstream services.
- People from some ethnic groups may have cultural needs in relation to diet (e.g. halal or kosher meat), modesty (e.g. privacy in changing areas, provision of single gender accommodation, appropriate uniforms/dress code), organ/tissue donation, blood sharing, certain drugs/treatments, burial and death rites, etc.
- Coronary heart disease, diabetes and stroke incidence and mortality are higher in South Asian men and women when compared to the rest of the UK population. African people in the UK are diagnosed with HIV at a higher rate than other ethnic groups.¹¹

Religion or belief

- People who follow a religion or have religious or philosophical beliefs may have particular needs in relation to diet, modesty (e.g. halal or kosher meat, privacy in changing areas, provision of single gender accommodation, appropriate uniforms/dress code), organ/tissue donation, blood sharing, certain drugs/treatments, burial and death rites, quiet room facilities etc.
- There are established links between sectarianism and violence including partner abuse (e.g. rates of partner abuse are significantly higher after football matches).

Socio-economic disadvantage

- People who are socio-economically deprived have greater health needs and often complex health and social problems.
- Poverty often clusters in certain geographical neighbourhoods, but most people who are income deprived do not live in the most deprived neighbourhoods.
- People of low income may face barriers arising from the costs of accessing services, e.g. transport costs or costs of time off work.
- People who are less articulate, have low education levels or poorer literacy skills may experience barriers to services and employment.
- Homeless people often have complex health and social problems that make it harder for them to access services.

Carers

Carers UK reports that there were about 5.4 million unpaid carers in England.¹² Caring responsibilities, including childcare and care for other family members, may limit people's participation in employment, education and other aspects of life. This may impact on the carer's social status, income, mental and physical health, and ability to access services.

Checklist 2: Areas of impact

Listed are some areas of potential impact. The notes below highlight the importance of these issues for health and suggest some ways in which they might be impacted. Again, this is not an exhaustive list and is provided as initial pointers for discussion. Consider how each potential area of impact would impact differentially on the affected population groups.

What impact will the policy have on lifestyles?

Diet and nutrition

Importance for health	Issues to consider
<p>Eating a healthy diet can reduce the risk of cardiovascular disease, cancers, obesity and several other conditions.</p> <p>The Public Health England Dietary Recommendations¹³ set targets for energy and nutrients consumption and the Eatwell Guide¹⁴ illustrates what healthy eating looks like. WHO recommendations for babies and infants include promoting breastfeeding¹⁵. A recent review for Parliament¹⁶ found that none of the dietary targets had been met and diets were poorer in the most deprived populations.</p> <p>Over half of the adult population is now overweight or obese, partly because of over consumption of foods high in fat and sugar. Obesity is more common among people with learning disabilities and some black and minority ethnic (BME) groups.</p>	<p>Dietary intake is influenced strongly by:</p> <ul style="list-style-type: none">• availability and affordability of both 'healthy' foods (especially fresh fruit and vegetables) and 'unhealthy' foods containing high levels of fat, sugar and salt• individuals' cooking skills and literacy• ability to eat and drink unaided• culture, traditions and food habits between and within population groups• provision of food, for example, for people living in state-provided accommodation.

Exercise and physical activity

Importance for health	Issues to consider
<p>Physical activity improves mental health and reduces the risk of cardiovascular disease, colon cancer, osteoporosis, obesity, diabetes and injuries. Inactivity accounts for over a third of deaths from heart disease.</p> <p>In Bristol, an estimated 74% of people aged 18 years and over are achieving the recommended level of physical activity, and 18% are inactive.¹⁷ The recommended target is for adults to achieve 150 minutes of moderate physical activity (such as brisk walking) per week. Children should achieve 60 minutes of moderate activity each day.¹⁸ Some people gain this through purposive leisure activity such as sport.</p> <p>For many people the most sustainable way to achieve it is to build physical activity into their daily life, for example, by walking or cycling to work.</p> <p>Inactivity is associated with deprivation, and is more common in women.¹⁹</p>	<p>Physical activity levels are influenced by:</p> <ul style="list-style-type: none"> • the nature of work (sedentary work has become more common) • availability and accessibility of play facilities • availability, accessibility and promotion of leisure services and where appropriate support to use these • available transport choices • whether the environment is designed to promote walking and cycling.

Substance use: tobacco, alcohol or drugs

Importance for health	Issues to consider
<p>An estimated 16% of Bristol adults smoke. In England more people on low incomes smoke than on high incomes; 11% of those earning £40,000 or more were smokers, compared to 19% of those earning less than £10,000.²⁰</p> <p>Two thirds of smokers started before the age of 18 years.</p> <p>Someone who starts smoking before age 15 doubles the risk of lung cancer compared to starting at the age of 20 or later, after taking into account the amount smoked.²¹</p> <p>Smoking increases the risk of cancers,</p>	<p>Tobacco is highly addictive and consumption is strongly associated with:</p> <ul style="list-style-type: none"> • availability • affordability • attractiveness/cultural norms

<p>coronary heart disease, respiratory disease and other conditions.</p> <p>In England, 79,000 people died from conditions related to smoking in 2015. This was around 16% of all deaths.²⁰</p>	
<p>In 2016, 176 people were estimated to have died from alcohol-related conditions in Bristol, a rate of 50.7 per 100,000 of the population. This estimate includes appropriate proportions of deaths from causes such as road accidents and certain forms of cancer.²²</p> <p>In 2016, there were 2729 hospital admissions per 100,000 of the population attributable to alcohol consumption.</p> <p>Socio-economic deprivation is associated with increasing alcohol harm, but the harm it causes people in more deprived circumstances cannot be attributed solely to the quantity of alcohol consumed. The alcohol paradox is that more harm is caused in deprived communities even when levels of consumption are taken into account. ²³</p>	<p>Alcohol consumption is strongly associated with:</p> <ul style="list-style-type: none"> • availability • affordability • cultural norms
<p>There were 3,744 drug-related deaths in England and Wales in 2016.²⁴</p>	<p>There are strong links between problematic substance misuse and:</p> <ul style="list-style-type: none"> • poverty and social exclusion • communities where drug misuse is normalised • low educational attainment • truancy or exclusion from school • involvement in criminal activity or anti-social behaviour • abuse and neglect.

Sexual health

Importance for health	Issues to consider
<p>In Bristol, the teenage pregnancy rate is 17.3 pregnancies per 1,000 woman aged 15-17, and 3.5 per 1,000 in the under 16</p>	<p>Poorer sexual health outcomes are associated with:</p>

<p>years in 2015.²⁵</p> <p>In Bristol, 1,030 per 100,000 people were diagnosed with a new sexually transmitted disease (excluding chlamydia in under 25 years) in the 15 – 64 year olds in 2016.</p> <p>In Bristol between 2014 and 2016, 44.1% of HIV diagnoses were late ones.</p>	<ul style="list-style-type: none"> • lower socio-economic status • lower education level • gender and sexual orientation • cultural beliefs, especially about gender roles • family attitudes, values and communication • physical and financial barriers to sexual health services • country of origin.
---	---

Learning and skills

Importance for health	Issues to consider
<p>People with higher levels of education have higher life expectancy and lower risk of poor health.²⁶</p> <p>Skills that may enhance physical and mental health outcomes include social skills,²⁷ self-efficacy (belief in your own abilities), resilience and coping mechanisms.²⁸</p> <p>Support for parents to improve parenting skills can improve outcomes for both children and parents.²⁹</p>	<p>Skills may be enhanced by:</p> <ul style="list-style-type: none"> • formal and informal educational and training opportunities • educational approaches that value diversity and foster social skills as well as academic achievement • encouragement and opportunities for success, which boost self-efficacy • parenting support • cultural norms and values that support learning.

What impact will the proposals have on the social environment?

Social status

Importance for health	Issues to consider
<p>There is a close association between relative social status and health. For example, workplace studies show that people at higher grades have better physical and mental health than lower grade staff.^{30 31 32 33 34}</p> <p>It is thought that increasing status differences and status competition cause</p>	<p>Will the proposal affect the relative social status of different groups of people?</p>

chronic stress that affects the cardiovascular and immune systems and leads to more rapid aging. ³⁵	
--	--

Employment (paid or unpaid) and working conditions

Importance for health	Issues to consider
<p>There is strong evidence that for most people, being unemployed brings poorer health outcomes than being in work.</p> <p>The benefits of employment include provision of structured time, social contact and satisfaction arising from involvement in a collective effort.</p> <p>Being unemployed is associated with increased mortality, poorer physical and mental health, and higher GP consultation and hospital admission rates.</p> <p>Unemployment also leads to poorer socio-economic status, relative poverty and financial anxiety.</p> <p>People who are long-term unemployed are more likely to have low qualification levels, have a disability, be lone parents, be from an ethnic minority, or be older workers.</p> <p>People with a criminal record often face particular difficulties accessing employment.</p> <p>Unemployment in young people can have long-term impacts on their productivity, income and employment outcomes.</p> <p>There is also strong evidence that job insecurity and low quality work have adverse effects on health, particularly mental health. Work with poor psychosocial quality can be worse for mental health than having no job.³⁶</p> <p>Conversely, people who have varied jobs and control over what they do experience</p>	<p>Will the proposal impact on employment (including unpaid employment such as volunteering)?</p> <p>How secure will any new employment be?</p> <p>What will the quality of employment be – for example, in relation to job control and job strain?</p> <p>Will it impact on workers' level of control over their work?</p> <p>Will the proposal impact on exposure to occupational hazards?</p> <p>Will the employment provide opportunities for social interaction, learning and a sense of being valued?</p> <p>Will local people benefit?</p> <p>Do local people have the right skills to access the new employment?</p> <p>Will local businesses benefit (e.g. SME's, social enterprises)?</p> <p>Will the proposal target employment at people who experience barriers in accessing the labour market?</p> <p>Will contractors be asked to apply and demonstrate agreed equality, ethical and sustainability standards?</p> <p>Who will benefit from any volunteering opportunities?</p> <p>How will volunteers be supported?</p>

<p>lower levels of illness.³⁷ People who work in work environments that provide higher levels of control have better health than those with low levels of control.</p> <p>Exposure to physical hazards and intimidation in the workplace can impair physical and mental health.³⁸</p>	
---	--

Income

Importance for health	Issues to consider
<p>There is strong evidence that people of low income have poorer physical and mental health than more affluent people. For almost any health condition or health indicator, there is a gradient of better health with increasing affluence.^{39 40}</p> <p>People living in the most income- deprived areas have healthy life expectancy on average 10 years lower than those living in the most affluent communities,⁴¹ higher mortality and morbidity, poorer mental health, are more likely to smoke, have poorer diets, babies are more likely to be low birth weight and less likely to be breastfed.</p> <p>Countries with higher levels of income inequality have poorer health. Both absolute and relative poverty have an impact on health.⁴² The reasons include poorer access to material resources and chronic psychosocial stress caused by poverty.</p> <p>Financial hardship may lead to wider consequences including debt, fuel poverty and homelessness, all of which have adverse impacts on health.</p> <p>There are also life course effects, which means that life circumstances in childhood have a lasting impact on health into adulthood.^{43 44 45 46}</p>	<p>Will the proposal impact on incomes?</p> <p>Whose income will be affected?</p> <p>How will the proposal affect relative incomes, and income differentials?</p>

Crime and fear of crime

Importance for health	Issues to consider
<p>Crime and fear of crime have a significant impact on quality of life. Crime can directly damage health, for example, by physical injuries arising from violent attack and can have long-term impacts on mental health.</p> <p>Crime can increase stress, smoking, drinking or drug use. Perpetrators of violent crime are often reported as drunk or on drugs at the time of the offence. Alcohol is increasingly identified as being a common factor in a range of crime types including domestic abuse, violent incidents, anti-social behaviour and sexual assault.</p> <p>Fear of crime may limit people's lifestyles in a way that is detrimental to their health, for example, it may restrict physical activity and social participation because people are fearful of walking in their neighbourhoods. Fear of crime has been shown to undermine local social networks and trust (social capital).</p> <p>Around a fifth of adults reported they had been the victim of at least one crime in the Crime Survey for England And Wales 2018.⁴⁷</p> <p>Men aged 16–24 have the highest risk of being a victim of both property and violent crime. Harm caused by crime is concentrated in people who are socio-economically disadvantaged.</p> <p>Prisoners are drawn in disproportionately large numbers from deprived areas. Of prisoners, 95% are men. ⁴⁸</p> <p>6% of the population experienced either mental or physical partner abuse.⁴⁹ The majority of reported physical partner abuse is perpetrated by men against women and children of both sexes but</p>	<p>Will the proposal impact on:</p> <ul style="list-style-type: none"> • safe, stable and nurturing relationships between children and their parents and caretakers • availability and misuse of alcohol • access to lethal means • life skills and opportunities for children and youth • gender equality and empowerment of women • cultural norms that support violence • criminal justice systems • social welfare systems • social distance between conflicting groups • economic inequality and concentrated poverty? <p>Will the proposal affect aspects of the physical environment associated with crime such as:</p> <ul style="list-style-type: none"> • poor physical security • low levels of surveillance • insecure access to and from buildings and public areas • territorialism • poor management and maintenance • low pedestrian density?

<p>may also occur in same sex relationships. Discrimination in relation to ethnicity, disability, sexual orientation, poverty, age, migrant or refugee status etc. can increase and intensify vulnerability to abuse.</p> <p>Health consequences of abuse include injury, anxiety, depression, poor self-perception, poor education and employment history, addictions, self-harm, eating disorders and suicide. Abuse will also affect a person's capacity and confidence to approach and make use of public services. Children who either witness or suffer domestic violence are more likely to become victims or perpetrators.</p>	
--	--

Family support and social networks

Importance for health	Issues to consider
<p>There is an association between social support, social capital and health.⁵⁰</p> <p>Social capital includes:</p> <p>Bonding: strong supportive ties within a group, e.g. in a family, which can increase confidence and self-esteem.</p> <p>Bridging: weaker ties that connect people, for example, between acquaintances, which give access to new ideas, resources, communities and cultures.</p> <p>Linking: connections between people with different backgrounds and circumstances. These increase the ability of individuals and communities to influence change.</p> <p>All of the above have been shown to be protective factors for mental and physical health.</p>	<p>Will the proposal enhance potential for social or family support?</p> <p>Will the proposal increase positive connections between people in different groups?</p> <p>Will the proposal develop a sense of belonging for all communities to appreciate?</p> <p>Will the proposal value the diversity of people's different backgrounds and circumstances?</p>

Stress, resilience and community assets

Importance for health	Issues to consider
<p>Resilience of both individuals and communities is seen as relevant and significant in supporting a sense of positive mental health.⁵¹</p> <p>Resilience in individuals is influenced by elements such as parenting, social networks, educational opportunities, and physical activity and diet – these elements have been shown to have a lasting impact both on maintaining good mental health, and on recovering from adverse circumstances.</p> <p>Resilience in communities (also related to social cohesion) is related to identity,</p>	<p>How will the proposal influence physical health and lifestyle choices?</p> <p>Will the proposal impact on substance use of individuals/community or the services that work to tackle these issues?</p> <p>Will the proposal impact on educational opportunities?</p> <p>How will the proposal affect the community?</p> <p>Will the proposal or plan impact on</p>

<p>and is often focused on links between groups within a community, financial security and opportunity, or about positive feelings about place.</p> <p>Fractured communities often face higher rates of violence and disorder, and people experience more mental health problems and higher levels of stress in these places.</p> <p>Making use of people's own strengths and assets, and building on these, can help to combat negative social and economic determinants of health and wellbeing.⁵² However, this should not mean that people are left to manage deprivation or inequality, but that resilience and assets should be strengthened.</p>	<p>opportunities for volunteering, cooperative sharing, exchange and social engagement?</p> <p>Will the proposal create more opportunities for green space, for safe outside areas, and places to meet?</p> <p>Will the proposal or plan impact on pollution, noise, transport or access to services?</p> <p>What will the impact be on housing and a sense of crowding or neighbourhood noise?</p>
--	---

Participation and inclusion

Importance for health	Issues to consider
<p>Participation and inclusion are two key concepts in promoting mental wellbeing.</p> <p>Participation is the extent to which people are involved and engaged in their immediate household, and includes cultural and leisure activities as well as volunteering, membership of clubs, involvement in local decision making.</p> <p>Strong social networks, social support and social inclusion play a significant role in both enhancing mental wellbeing and preventing mental health problems.</p> <p>Social isolation is a risk factor for both deteriorating mental health and suicide. Social support and social participation do not mediate the effects of material deprivation, which in itself is a significant cause of social exclusion.</p>	<p>Will proposal ensure that people are connected to each other?</p> <p>Will it enable access to cultural, leisure, volunteering activities?</p> <p>Will it promote people coming together at an individual and or community level?</p> <p>Will it provide opportunities for people to have a meaningful role, e.g. volunteer, carer?</p> <p>Will the proposal impact on paid employment opportunities?</p> <p>Will the proposal impact on people's levels of trust, feeling listened to and or feelings of safety?</p> <p>Will the proposal impact on challenging stigma and discrimination, e.g. stigma of mental ill-health, racism?</p>

	Will the proposal target those most vulnerable to feelings of isolation?
--	--

Control

Importance for health	Issues to consider
<p>A sense of control over one's choices and environment/situation has been shown to be effective in maintaining good mental health, and in changing to a more healthy lifestyle.⁵³</p> <p>Control includes: a sense of agency (believing in your ability to pursue goals); mastery (over environment and circumstances); autonomy (having self-determination); and self-efficacy (believing in your own abilities). All are key influences to supporting mental health and wellbeing.</p> <p>A lack of these elements has been shown to increase stress and damage mental wellbeing.</p>	<p>Will the proposal allow people to have more or less control of their everyday lives?</p> <p>Will the proposal impact on people's sense of control in the workplace?</p> <p>Will the proposal, policy or plan impact negatively on employment for the area/population?</p> <p>What impact will changes have on financial security and confidence?</p> <p>Will the proposal result in people having insecure employment?</p> <p>What impact will the proposal have on access to education and support services?</p> <p>Will the proposal impact on cultural norms and expectations?</p>

What impact will the proposal have on the physical environment?

Living conditions

Importance for health	Issues to consider
	<p>Will the proposal improve the quality of the wider environment or housing quality?</p> <p>Will it improve the overall appearance of the neighbourhood or add to the local community?</p> <p>Will the proposal improve general living conditions and overall neighbourhood satisfaction?</p>

<p>Our physical environment can have a significant impact on both our physical and mental health and, research is showing, that it also impacts on both the level of our achievements and our life span. This applies to our total physical environment though housing is obviously a key factor.⁵⁴ The World Health Organization (WHO) suggests a quarter of the total global burden of disease is caused by environmental hazards.⁵⁵</p> <p>Poor quality housing is associated with poor health outcomes. In particular, housing that is damp and/or mouldy is associated with mental ill-health. Improvements to the energy efficiency of homes can reduce the risk of cardio-respiratory disease and reduce fuel poverty.</p> <p>Living in high-rise flats and overcrowding are associated with poorer mental health, particularly for families.</p> <p>‘Greenspace’ means any vegetated land or water. Experiencing greenspace is associated with improved mental health and reduced stress.</p> <p>Access to high quality, well- connected greenspace is also associated with increased levels of physical activity.</p> <p>Greenspace can also enhance social interactions.</p>	<p>Will the proposal impact on access to or quality of public space and greenspace?</p> <p>Will the proposal impact on rents or other housing costs?</p> <p>Will the proposal impact on housing design in terms of provision of space for families to eat together, and for children to play?</p> <p>Will the proposal impact on people in travelling communities?</p> <p>How will residents be involved in the process from start to finish?</p>
--	---

Pollution or climate change

Importance for health	Issues to consider
<p>Air pollution, both indoor and outdoor, is associated with cardio-respiratory disease.⁵⁴</p> <p>Water contamination can cause gastrointestinal (GI) infections.</p>	<p>Will the proposal cause or minimise air, water, soil or noise pollution?</p> <p>Will the proposal affect the risk of flooding?</p> <p>Will the proposal enhance or damage greenspace?</p>

<p>Extreme changes in weather or temperature can cause significant impact on health, especially in vulnerable people, e.g. children, the elderly and the immuno-compromised.</p> <p>Flooding causes significant adverse impacts particularly on mental health.</p> <p>WHO estimates that climate change will cause 250,000 deaths per year between 2030 and 2050, mostly in developing countries.⁵⁶</p> <p>90% of carbon emissions are from power stations, transport and buildings.</p> <p>Greenspace, particularly trees and large shrubs, can protect people from flooding, air pollution, noise and extremes of temperature in urban environments.</p>	<p>Will the proposal impact on carbon emissions?</p> <p>Will the proposal make efficient use of natural resources?</p> <p>Will the proposal minimise waste and dispose of it in accordance with current good practice?</p> <p>Will the proposal create cleaner, safer and greener neighbourhoods (e.g. by reducing litter and graffiti, and maintaining pleasant public spaces)?</p> <p>Will the proposal protect and improve biodiversity (e.g. wildlife habitats)?</p>
---	--

Unintentional injuries and public safety

Importance for health	Issues to consider
<p>Unintentional injury is one of the main causes of death and is a common cause of emergency hospital admissions in children. It is also a common cause of emergency hospital admissions and deaths among adults. In the South West in the three years between 2012 and 2014, unintentional injury caused 42 childhood deaths (under 15 years old) – approximately.⁵⁷ There were 1,693 adult deaths (under 75 years) from unintentional injuries in 2014.</p> <p>Unintentional injuries may occur at home, at work, in sport and recreation, on the roads and at school. The main types of unintentional injuries include road traffic crashes, poisoning, falls, burns and scalds, drowning, choking, exposure to animate/inanimate mechanical forces, assault, over exertion and accidental exposure to unspecified factors. The most common reason for hospital admission is</p>	<p>Will the proposal increase activities commonly associated with injury? If so, what actions have been taken to mitigate the risks? What is the evidence that these actions will be effective?</p> <p>Has specific consideration been given to the risks to children?</p> <p>Will the proposal involve large public gatherings? If so, has a risk assessment been done?</p> <p>Will the proposal impact on people's ability to install or maintain safety devices?</p> <p>Will the proposal affect traffic speeds, or exposure of vulnerable road users to traffic?</p> <p>Will the proposal provide people with skills to reduce their risk of injury? What is the evidence that this will be effective?</p>

falls but the most common reason for deaths is road crashes.

Vulnerable groups such as children and frail older people are most at risk. The risk increases with socio- economic deprivation, and in most age groups males are more likely to suffer than females.

Unintentional injury in the home may be reduced by safety devices like smoke alarms, stair gates, removal of tripping hazards, hand rails and child resistant packaging on poisonous substances. Safety devices need to be properly installed and maintained.⁵⁸

Transmission of infectious disease

Importance for health	Issues to consider
<p>Infectious diseases range from minor self-limiting conditions like 'colds' to life-threatening conditions like influenza and legionella that can affect many people. Bloodborne viruses like hepatitis or HIV can also significantly affect an individual's life and choices.</p> <p>Infectious diseases that are notifiable under public health legislation can lead to exclusion from the workplace and exclusion of children from school or nursery.</p> <p>Where a worldwide outbreak of disease takes place, e.g. SARS or H1N1, the consequences for large sectors of the population can be serious causing high levels of illness and death.</p> <p>People who are frail or have poor immune systems are more vulnerable to infections. This might apply to the elderly and children but this will depend on the disease. People who are residents in institutions such as prisons or care homes may be at greater risk.</p>	<p>Will the proposal impact on the likelihood of transmission by:</p> <ul style="list-style-type: none"> • contaminated food or water • direct contact with or droplets from infected people or animals • contact with blood or other body fluids. <p>Will the proposal impact on travel of people, foods or disease vectors?</p> <p>Will the proposal impact on agricultural controls or other controls on food and food products?</p> <p>Will the proposal impact on provision of clean water, sanitation systems or water pollution?</p>

How will the proposal impact on access to and quality of services?

Health care

Importance for health	Issues to consider
<p>Appropriate delivery of high quality healthcare should improve health outcomes.</p> <p>There is evidence that the people most in need may find it most difficult to access healthcare.⁵⁹</p>	<p>Will the proposal impact on access to or quality of health services?</p> <p>How will it impact on access and quality for those people who are most in need?</p>

Transport

Importance for health ⁵⁴	Issues to consider
<p>Access to jobs, education, shops, leisure and other essential services is of central importance to an individual's socio-economic status and therefore health. People may be excluded from these because they lack accessible, affordable transport.</p> <p>Road traffic contributes to air pollution; it accounts for 30% of PM_{2.5}, which are small airborne particles that have been associated with cardio-respiratory disease. It is estimated that overall there is a 6% change in mortality per 10 µg m⁻³ change in annual average PM_{2.5}.⁶⁰</p> <p>In 2014 there were 17 deaths due to road traffic accidents in Bristol. Road users at highest risk of being killed or seriously injured are cyclists and pedestrians. The most commonly cited cause of a road crash is speed.</p> <p>Active travel modes like walking and cycling increase physical activity levels.</p> <p>Major road or rail infrastructure or large traffic volumes can lead to community severance.</p> <p>Transport noise may cause annoyance and sleep disturbance. Greenhouse gas emissions from road transport constituted around a quarter of all greenhouse gas emissions.⁶¹ A range of detrimental health impacts are predicted to arise from continued climate change.</p> <p>One in 20 journeys in the UK is associated with the NHS.</p>	<p>Will the proposal lead to a change in levels of motorised transport?</p> <p>Will it encourage or discourage people to use active modes of transport?</p> <p>Will it impact on access to services and amenities by active travel or public transport?</p> <p>Will it involve development of major infrastructure?</p>

Social Services

Importance for health	Issues to consider
Social services provide support to people and may help them fulfil basic needs, gain skills and access other services and employment.	<p>Will the proposal impact on access to or quality of social services?</p> <p>If so, which groups and which services will this affect?</p>

Housing services

Importance for health	Issues to consider
<p>Poor quality housing is associated with poor health and wellbeing outcomes.⁶²</p> <p>Homelessness is associated with particularly poor health outcomes.</p> <p>Housing and area improvement can improve perceived safety, community involvement and area satisfaction; however, may also increase housing costs and cause disruption, uncertainty, lack of control, displacement or relocation to new housing, social exclusion and community division.</p> <p>Home ownership is associated with better health, but mortgage arrears are associated with poor health, particularly mental health.</p> <p>Sustainable communities will offer sufficient range, diversity, affordability and accessibility of housing within a balanced housing market.</p>	<p>Will the proposal affect the risk of homelessness, or provision of support for people who are homeless or are at risk of homelessness?</p> <p>Will the proposal improve housing conditions?</p> <p>How will residents and others affected be consulted and involved in decision making?</p> <p>Will people be displaced?</p> <p>How will the proposal affect housing or other related costs?</p> <p>Will there be disruption to residents? Will there be changes to the social mix of the area?</p> <p>Will the proposal encourage active travel, physical activity and play?</p> <p>How will homes and public spaces be maintained?</p>

Education provision

Importance for health	Issues to consider
People with higher levels of education have higher life expectancy and lower risk of poor health. ⁶³	Will the proposal enhance educational attainment for children or adults?

<p>This is partly because they are more likely to be employed and increases in education are associated with higher paid, higher status employment.</p> <p>People with higher education levels are also likely to work in a safer environment and report more fulfilling, subjectively rewarding jobs.</p> <p>Education may also embed habits, skills and values that support social skills and participation in society.</p> <p>Education may enhance self-efficacy (belief in your own ability) and increase psychological resilience and coping mechanisms.</p> <p>The greatest benefits are observed from early years education and support. But benefits of education apply not only to school education but also adult learning courses.⁶⁴</p>	<p>Will the proposal provide educational opportunities likely to lead to high quality employment?</p> <p>Will the education include opportunities to develop social skills, personal resilience and other life skills such as coping or parenting skills?</p> <p>Will the proposal increase health literacy or knowledge of health and health-related behaviour?</p> <p>How will people be selected for these opportunities?</p> <p>Is priority given to people who disproportionately have poorer educational outcomes?</p> <p>Will any groups face barriers to accessing education?</p>
---	---

Culture and leisure services

Importance for health	Issues to consider
<p>Leisure services may:</p> <ul style="list-style-type: none"> • provide opportunities for physical activity • enhance social capital by supporting connections between people from different backgrounds and circumstances.⁶⁵ • provide opportunities to gain skills. <p>The use of arts in healthcare settings can improve clinical outcomes related to mental and physical health.</p> <p>Culture-led regeneration initiatives, which encourage the re-use of redundant buildings, greater public use of open spaces and the mixed use of urban space, can reduce traffic and fear of crime, increase sense of safety and instil a sense of pride of place.⁶⁶</p>	<p>Will the proposal impact on leisure services?</p> <p>If so, which services and how could they enhance health?</p> <p>Which people are likely to make use of these services?</p> <p>Will the proposal target people who are disproportionately affected by poor access to and quality of culture and leisure services?</p>

Communicating information

Importance for health	Issues to consider
<p>A good communication strategy should aim to embed the views of the local community in the planning, development and monitoring of services.¹</p> <p>Good communication and engagement should also empower people to live healthier lives, manage their own health and promote equal access to services while enhancing public aspiration and wellbeing.</p>	<p>Reaching all members of the community.</p> <p>Using inclusive imagery and plain language.</p> <p>Translating information into community language.</p> <p>Communicating with those with sensory disabilities.</p> <p>Evaluating communication strategies.</p>

Checklist 3: Human rights

Human rights are the basic rights and freedoms that everyone is entitled to. We are all entitled to human rights in order to live with dignity. Human rights demand recognition and respect for the inherent dignity and value of every human being, and provide the shared values and the legal basis to ensure that everyone is protected against abuses that undermine their dignity, and give the opportunities they need to realise their full potential, free from discrimination.^{67,68,69,70}

Human rights belong to everyone, everywhere, regardless of nationality, sexuality, gender, race, religion or age. The foundation of modern human rights is the Universal Declaration of Human Rights (UDHR), adopted by the United Nations in 1948.

Human rights may be:

Absolute: cannot be limited or interfered with in any way.

Limited: can be limited in specific and finite circumstances.

Qualified: can be interfered with when a number of conditions are met.

The UK has incorporated into UK law most of the rights in the European Convention through the Human Rights Act 1998, which came into force in October 2000. The Human Rights Act 1998 contains 15 rights, six of which are particularly relevant to health and are set out in the following table.

Please note that the Human Rights Act uses slightly different titles for rights from the European Convention of Human Rights (ECHR).

This section provides some detail on the Articles that may help in teasing out how these apply to health and your area of work.

Right	Type of Right	Summary
Life (Article 2, ECHR)	Absolute (cannot be limited or interfered with in any way)	The right to life is an absolute right, which means that there is a duty on the state/public authorities not to take away anyone's life and a duty to take reasonable steps to protect life.
Freedom from ill-treatment (Article 3, ECHR)	Absolute (cannot be limited or interfered with in any way)	Inhuman treatment is prohibited under this article, which means that treatment that causes severe mental or physical harm must never occur. Degrading treatment means treatment that is grossly humiliating and undignified. Whether treatment reaches this threshold depends on various factors including the age, physical and mental health of the person who experiences harm and the power relationship involved. Duties under this right not only include refraining from an action or an omission that results in inhuman or degrading treatment, but also taking reasonable positive steps to prevent ill-treatment, to protect those at immediate risk of ill-treatment and to provide effective remedies where ill-treatment occurs.
Liberty (Article 5, ECHR)	Limited (Can be limited in specific and finite circumstances)	Unless identified in one of a range of narrow exceptions, such as preventing harm to yourself or others through lawful arrest or detention, no one should be unnecessarily detained against their will.
Fair hearing (Article 6, ECHR)	Limited (Can be limited in specific and finite circumstances)	This right is about a fair and public hearing and due process. In certain situations, not only in criminal cases, but also in processes that determine civil rights (such as employment, property disputes and benefits claims) the right to a fair trial will apply. It is not always easy to determine whether Article 6 applies, but applying the principles can demonstrate good practice in decision making in many instances.
Private and family life (Article 8, ECHR)	Qualified (can be interfered with when a number of conditions are met)	<p>This right is very broad in scope and covers many different situations.</p> <p>This right relates to the following main areas:</p> <p>Privacy – this is defined broadly and relates to all aspects of privacy both in and outside of an individual's private home.</p> <p>Family life – this covers all close and personal ties of a family kind, not only those of a blood or formalised nature.</p>

		<p>Physical, psychological and moral wellbeing – this covers the right to wellbeing through retaining autonomy, choice and dignity. It requires that there is access to information and participation in decisions that affect an individual's life</p> <p>Home – this is not about a right to a house but rather a right to respect the home life of an individual.</p> <p>Correspondence – this covers all forms of communication with others such as phone calls, letters, emails etc.</p>
Freedom of thought, conscience and religion (Article 9, ECHR)	Qualified (can be interfered with when a number of conditions are met)	<p>Everyone is free to hold a broad range of views, beliefs and thoughts and to follow a religious faith. The right to manifest – to practice through (e.g. prayer or diet) or to show (e.g. through dress or adornments). Those beliefs may be limited only in special circumstances.</p>

References

- ¹ NICE 2016. NG44. Community engagement: improving health and wellbeing and reducing health inequalities. [Online] available from: <https://www.nice.org.uk/guidance/ng44> accessed 18/4/18
- ² Calculated by Bristol City Council Public Health 2018.
- ³ Beunderman J, Bradwell P, Hannon C. Seen and Heard DEMOS; 2007. [Online] available from: https://www.demos.co.uk/files/070928_DEMOS_S&H_Pamphlet.pdf?1240939425 accessed 18/4/18
- ⁴ Ward-Thompson C, Aspinall P, Montarino A. The Childhood Factor: Adult Visits to Green Places and Significance of Childhood Experience, Environment and Behaviour; 2008 January; 40(1):111–143.
- ⁵ Equality and Human Rights Commission. 2016. Research Report 103. Crime and disabled people: Measures of disability-related harassment 2016 update. [Online] available from: <https://www.equalityhumanrights.com/sites/default/files/research-report-103-crime-and-disabled-people.pdf> accessed 18/4/18
- ⁶ Public Health England. Public Health Outcome Framework. Life Expectancy and Healthy Life Expectancy. [Online] available from: <https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/0> accessed 18/4/18
- ⁷ Mental Health Foundation [Online] available from: <https://www.mentalhealth.org.uk/statistics/mental-health-statistics-men-and-women> accessed 18/4/18
- ⁸ Carers UK [Online] available from: <https://www.carersuk.org/news-and-campaigns/features/10-facts-about-women-and-caring-in-the-uk-on-international-women-s-day> accessed 18/4/18
- ⁹ Transgender Health. The Lancet. 17th June 2018. [Online] available from: <http://www.thelancet.com/series/transgender-health> accessed 18/4/18
- ¹⁰ Public Health England (2016) HIV in the UK: 2016 report [Online] available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/602942/HIV_in_the_UK_report.pdf accessed 18/4/18
- ¹¹ NAT. Living with HIV. [Online] available from: <https://www.nat.org.uk/we-inform/HIV-statistics/UK-statistics> accessed 18/4/18

- 12 ONS 2011 Census Analysis: Unpaid care in England and Wales, 2011 and comparison with 2001 [Online] available from: http://webarchive.nationalarchives.gov.uk/20160109213406/http://www.ons.gov.uk/ons/dcp171766_300039.pdf accessed 18/4/18
- 13 PHE (2016) Government Dietary Recommendations. [Online] available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/618167/government_dietary_recommendations.pdf accessed 18/4/18
- 14 PHE (2016) The Eatwell Guide. [Online] available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/551502/Eatwell_Guide_booklet.pdf accessed 18/4/18
- 15 World Health Organisation [Online] available from: <http://www.who.int/topics/breastfeeding/en/> accessed 18/4/18
- 16 Parliamentary research briefing (April 2016). Barriers to healthy food. Postnote 522. [Online] available from: <http://researchbriefings.files.parliament.uk/documents/POST-PN-0522/POST-PN-0522.pdf> accessed 18/4/18
- 17 Public Health Outcomes Framework. Indicators (2016/17): 2.13i and 2.13ii [Online] available from: <https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/0/gid/1000042/pat/6/par/E12000009/ati/102/are/E06000023> accessed 18/4/18
- 18 Department of Health. Physical Activity Guidelines in the UK: Review and Recommendations; 2011. [Online] available from: <https://www.gov.uk/government/publications/uk-physical-activity-guidelines> accessed 18/4/18
- 19 ONS 2016. Health Survey for England 2016. Physical activity in adults. [Online] available from: <https://digital.nhs.uk/catalogue/PUB30169> Accessed 18/4/18
- 20 ONS 2017. Statistics on smoking 2017. [Online] available from: <https://www.gov.uk/government/statistics/statistics-on-smoking-england-2017> accessed 18/4/18
- 21 Peto R et al. Smoking, smoking cessation, and lung cancer in the UK since 1950: combination of national statistics with two case-control studies. The BMJ, 2000; 321: 323-329 [Online] available from: <https://www.bmj.com/content/321/7257/323> accessed 18/4/18
- 22 Public Health Local Alcohol Profiles for England (2016/17): [Online] available from: <https://fingertips.phe.org.uk/profile/local-alcohol-profiles/data#page/0/gid/1938132832/pat/6/par/E12000009/ati/102/are/E06000023> accessed 18/4/18
- 23 Bellis M et al. The alcohol harm paradox: using a national survey to explore how alcohol may disproportionately impact health in deprived individuals. BioMed Central - Journal of Medical Case Reports [Online] available from: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-016-2766-x> accessed 18/4/18
- 24 ONS Deaths relating to drug poisoning in England and Wales. 2017. [Online] available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsrelatedtodrugpoisoninginenglandandwales/previousReleases> accessed 18/4/18
- 25 Public Health England. Sexual and Reproductive Health Profiles. [Online] available from: <https://fingertips.phe.org.uk/profile/SEXUALHEALTH> accessed 18/4/18
- 26 Buck D and Maguire D. Inequalities in life expectancy. The Kings Fund 2015. [Online] available from: <https://www.kingsfund.org.uk/publications/inequalities-life-expectancy> accessed 18/4/18
- 27 Valtorta N et al. Loneliness and social isolation as risk factors for coronary heart disease and stroke: systematic review and meta-analysis of longitudinal observational studies. BMJ Volume 102, Issue 13. [Online] available here: <http://heart.bmj.com/content/102/13/1009> accessed 18/4/2018
- 28 O'Leary A. Self-efficacy and health. Behaviour Research and Therapy; 1985; 23(4):437-51. www.sciencedirect.com/science/article/pii/000579678590172X accessed 18/4/18
- 29 Royal College of Psychiatrists. Good Parenting: information for parents, carers, young people and anyone who works with young people; 2017.[Online] available from: <https://www.rcpsych.ac.uk/healthadvice/parentsandyoungpeople/parentscarers/goodparenting.aspx> accessed 18/4/18
- 30 Vineis P et al. (2017) Socioeconomic status and the 25 × 25 risk factors as determinants of premature mortality: a multicohort study and meta-analysis of 1.7 million men and women. The Lancet. Vol 389, no 10075. P1229-1237. [Online] available from: [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(16\)32380-7/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)32380-7/fulltext) accessed 18/4/18

- 31 Conroy K, Sandel M, Zuckerman B. Poverty grown up: how childhood socioeconomic status impacts adult health. [Review] [89 refs]. *Journal of Developmental & Behavioral Pediatrics* 2010 Feb; 31(2):154–60.
- 32 Marmot M, Rose G, Shipley M, Hamilton P. Employment Grade and Coronary Heart Disease in British Civil Servants. *J Epidemiol Community Health* 1978; 32: 244–9.
- 33 Marmot M et al. 2010. Fair Society Fairer Lives, [Online] available from: <http://www.instituteofhealthequity.org/resources-reports/fair-society-healthy-lives-the-marmot-review/fair-society-healthy-lives-full-report-pdf.pdf> accessed 18/4/18
- 34 van Rossum C, Shipley M, Van de Mheen H, Grobbee D, Marmot M. Employment grade differences in cause specific mortality. A 25 year follow up of civil servants from the first Whitehall study. *Journal of Epidemiology and Community Health*; 2000; 54:178–84.
- 35 Glasgow Centre for Population Health. The Psychological, Social and Biological Determinants of Health: A Review of the Evidence; 2010.
- 36 Butterworth P, Leach LS, Strazdins L, Olesen SC, Rodgers B, Broom DH. The psychosocial quality of work determines whether employment has benefits for mental health: results from a longitudinal national household panel survey. *Occupational and Environmental Medicine*; 2011 Mar 14.
- 37 van de Noordt M et al. (2014) Health effects of employment: a systematic review of prospective studies. *BMJ: Occupational and Environmental Medicine* Volume 71 Issue 10.
- 38 Health and Safety Executive. A to Z of guidance by topic. [Online] available from: <http://www.hse.gov.uk/guidance/index.htm> accessed 18/4/18
- 39 Marmot M et al. 2010. Fair Society Fairer Lives, [Online] available from: <http://www.instituteofhealthequity.org/resources-reports/fair-society-healthy-lives-the-marmot-review/fair-society-healthy-lives-full-report-pdf.pdf> accessed 18/4/18
- 40 WHO Centre for Urban Health. The Solid Facts. WHO; 2003.[Online]available from: <http://www.euro.who.int/en/publications/abstracts/social-determinants-of-health-the-solid-facts> accessed 18/4/18
- 41 Marmot M et al. 2010. Fair Society Fairer Lives, [Online] available from: <http://www.instituteofhealthequity.org/resources-reports/fair-society-healthy-lives-the-marmot-review/fair-society-healthy-lives-full-report-pdf.pdf> accessed 18/4/18
- 42 Kohler L. Why do children feel worse? Importance of relative poverty, social capital and status for children's health. *Lakartidningen*; 2007 Jun 27; 104(26–27):1989–91.
- 43 Benzeval M, Dilnot A, Judge K, Taylor J. Income and health over the lifecourse: evidence and policy implications. In: Graham H, editor. *Understanding Health Inequalities*. Buckingham: Open University Press; 2001. p. 96–111.
- 44 Blane D, Netuveli G, Stone J. The development of life course epidemiology. *Revue d'Epidemiologie et de Sante Publique*; 2007 Feb; 55(1):31–8.
- 45 Holland P, Berney L, Blane D, Smith GD, Gunnell DJ, Montgomery SM. Life course accumulation of disadvantage: childhood health and hazard exposure during adulthood. *Social Science & Medicine* 2000 May; 50(9):1285–95.
- 46 Marmot M et al. 2010. Fair Society Fairer Lives, [Online] available from: <http://www.instituteofhealthequity.org/resources-reports/fair-society-healthy-lives-the-marmot-review/fair-society-healthy-lives-full-report-pdf.pdf> accessed 18/4/18
- 47 ONS (2018). Crime in England and Wales: year ending September 2017.[Online] available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/crimeinenglandandwales/yearendingseptember2017> accessed 18/4/18
- 48 ONS (2017) Annual Offender Equalities Report. [Online] available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/663390/noms-offender-equalities-annual-report-2016-2017.pdf accessed 18/4/18
- 49 ONS (2017) Domestic Abuse in England and Wales: year ending March 2017 [Online] available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/domesticabuseinenlandandwales/yearendingmarch2017> accessed 18/4/18
- 50 Eriksson M (2011) Social capital and health – implications for health promotion. *Global Health Action*. 2011; 4: 10.3402/gha.v4i0.5611. [Online] available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3036711/> accessed 18/4/18
- 51 Friedli L. Mental Health, Resilience and Inequalities. Copenhagen: WHO Europe; 2011. [Online] available from: www.euro.who.int/_data/assets/pdf_file/0012/100821/E92227.pdf accessed 18/4/18

- ⁵² Morgan A, Davies M, Ziglio E. Health assets in a global context: Theory, Methods, Action: Investing in assets of individuals, communities and organizations. London: Springer; 2010.
- ⁵³ Schwartzer R. Self Efficacy. National Cancer Institute. Cancercontrol. [Online] available from: <https://cancercontrol.cancer.gov/brp/research/constructs/self-efficacy.pdf> accessed 18/4/18
- ⁵⁴ Health, Planning and sustainability online resource. [Online] available from: <http://healthsustainabilityplanning.co.uk/health/why-engage-with-planning/evidence-impact-environment-health-health-inequalities/> accessed 18/4/18
- ⁵⁵ World Health Organisation. Health through a better environment. [Online] available from: www.who.int/phe/en/ accessed 18/4/2018
- ⁵⁶ World Health Organisation. Climate Change and Health; 2017. [Online] available from: <http://www.who.int/mediacentre/factsheets/fs266/en/> accessed 18/4/18
- ⁵⁷ NHS digital. Compendium – mortality from all causes. [Online] available from: <https://beta.digital.nhs.uk/data-and-information/publications/clinical-indicators/compendium-of-population-health-indicators/compendium-mortality/current/mortality-from-all-causes> accessed 18/4/18
- ⁵⁸ PHE (2017) Unintentional injuries: prevention in children under 5 years. [Online] available from: <https://www.gov.uk/government/publications/unintentional-injuries-prevention-in-children-under-5-years> accessed 18/4/18
- ⁵⁹ Watt G. The inverse care law today. The Lancet 2002;360:252–4. [Online] available from: [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(02\)09466-7/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(02)09466-7/fulltext) accessed 18/4/18
- ⁶⁰ Committee of the medical effects of air pollutants (2010). The Mortality Effects of Long-Term Exposure to Particulate Air Pollution in the United Kingdom. [Online] available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/304641/COMEAP_mortality_effects_of_long_term_exposure.pdf accessed 18/4/18
- ⁶¹ Department of Transport [Online] available from: <https://www.gov.uk/government/policies/transport-emissions> accessed 18/4/18
- ⁶² Chartered Institute of Environmental Health. [Online] available from: <http://www.cieh-housing-and-health-resource.co.uk/housing-conditions-and-health/key-issues/> accessed 18/4/18
- ⁶³ Buck D and Maguire D. 2015. Inequalities in Life Expectancy. The Kings Fund [Online] available from: <https://www.kingsfund.org.uk/publications/inequalities-life-expectancy> accessed 18/4/18
- ⁶⁴ PHE (2017). Health Profile for England, Chapter 6; social determinants of health. [Online] available from: <https://www.gov.uk/government/publications/health-profile-for-england/chapter-6-social-determinants-of-health#child-development-and-educational-attainment> accessed 18/4/18
- ⁶⁵ ONS 2017. Social Capital in the UK May 2017. [Online] available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/socialcapitalintheuk/may2017> accessed 18/4/18
- ⁶⁶ Galloway S. The evidence base for arts and culture policy. Scottish Arts Council; 2008. [Online] available from: [http://www.scottisharts.org.uk/resources/publications/research/pdf/The%20Evidence%20Base%20for%20Arts%20and%20Culture%20Policy%20\(with%20Appendix\).pdf](http://www.scottisharts.org.uk/resources/publications/research/pdf/The%20Evidence%20Base%20for%20Arts%20and%20Culture%20Policy%20(with%20Appendix).pdf) accessed 18/4/18
- ⁶⁷ Equality and Human Rights Commission. Human Rights: Human Lives. A guide to the Human Rights Act for public authorities. [Online] available from: https://www.equalityhumanrights.com/sites/default/files/human_rights_human_lives_a_guide_for_public_authorities.pdf accessed 18/4/18
- ⁶⁸ Ministry of Justice. Making sense of human rights – a short introduction. [Online] available from: <http://www.ncuh.nhs.uk/about-us/equality-and-diversity/documents/human-rights-making-sense-human-rights.pdf> accessed 18/4/18
- ⁶⁹ Mind. The Human Rights Act 1998 [Online] available from: <https://www.mind.org.uk/media/1823083/human-rights-act.pdf> accessed 18/4/18
- ⁷⁰ A Guide to the Human Rights Act 1998 (3rd Edition), Ministry of Justice; 2006. [Online] available from: <http://webarchive.nationalarchives.gov.uk/+/http://www.dca.gov.uk/peoples-rights/human-rights/pdf/act-studyguide.pdf> accessed 18/4/18

Reproduced with kind permission from Key Issues to consider during HIIA scoping workshops © NHS Health Scotland 2015.