

Healthy places, healthy futures growing great communities



Director of Public Health Annual Report 2018





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Foreword

It is a statutory requirement for the Director of Public Health to produce an annual report on the health of their local population. This year, my report focuses on the importance of the places we live, work and play and the communities we belong to for our health and wellbeing. It highlights how well designed places and socially connected communities offer solutions to our current and future health challenges.

This is particularly relevant as Buckinghamshire is changing, along with the world around us. Our population is growing and ageing and we will see significant new housing and infrastructure developments in the short and medium term. This can bring opportunities for Buckinghamshire residents but must be managed effectively to mitigate any potential adverse effects. These changes are a great opportunity to involve residents in designing healthy places for people to live, learning the lessons from the past and ensuring design supports health and wellbeing, and makes healthy choices the easy choices. We need to ensure that new developments reflect the needs of all sections of society and our growing older population. When we look around the places we live through the eyes of a three year old, or an older

person, or someone with disabilities, what would we see? Would the places we live work for us then? We also need to future proof our developments as far as possible, anticipating and mitigating the impact of climate change for example.

Whilst we plan the physical environment we must recognise that the social environment and the social connections in our communities are equally important. Having supportive social networks, being able to participate in community life and having a voice in local decisions makes a vital contribution to our health and wellbeing. Policies that involve people in decisions that affects them whether in planning, local authority services or health care or other sectors strengthens independence and enables people to feel more in control. This is not only good for their health but also often results in better decisions. Planning neighbourhoods with welcoming places to meet and interact is a vital component but the heart and spirit of the community depends on the people who live there and participate in community life and make it a great place to live.

Certain groups in society are more vulnerable to the effects of adverse living conditions such as

poor quality housing or exposure to air and noise pollution, including the very young, older people and people with long term health conditions. Key groups are also more likely to experience poorer living conditions such as those living on low incomes or in more deprived areas. It is important to take the particular needs of these groups into account to ensure that the health of the most vulnerable is protected.

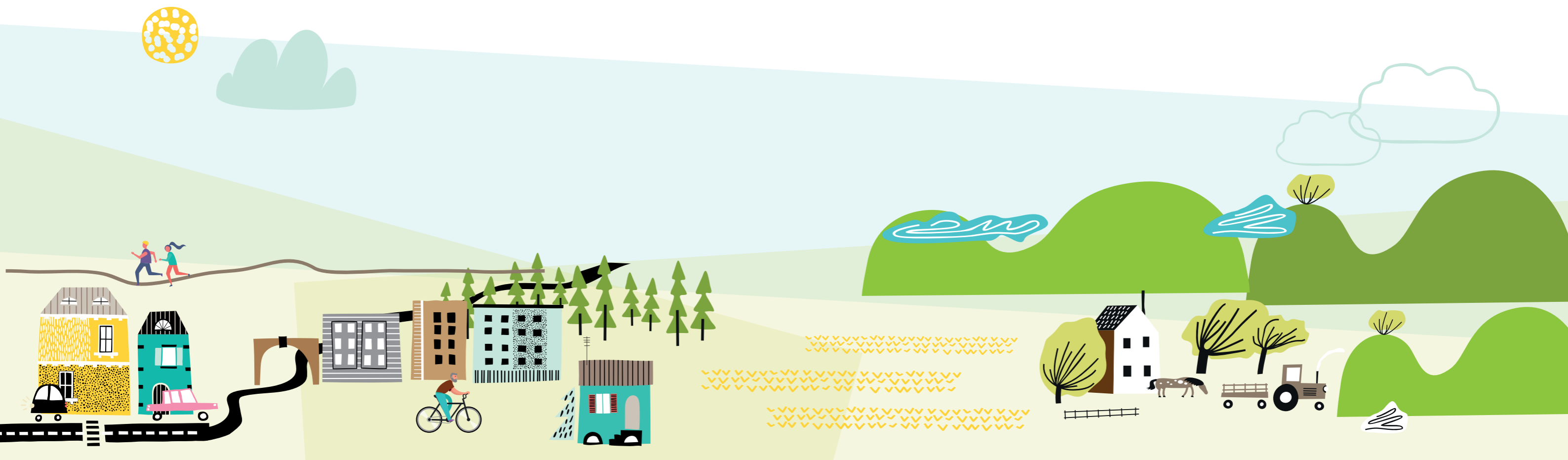
There is much good work already underway in Buckinghamshire by the District Councils and County Council to keep Buckinghamshire thriving and attractive and many active communities making their neighbourhoods a great place to live. This report aims to highlight some of the most important environmental determinants of health in Buckinghamshire and the importance of strong communities. My report is for the public and private sector in Buckinghamshire – local authorities, developers, the NHS, schools, universities and businesses who can influence our physical and social environment in a wide variety of ways as well as the residents and communities. This report can be used to inform plans for new large-scale developments but also to prompt ideas from communities, community groups, town and parish

councils, the voluntary and faith sector about the small social or environmental changes they might make to improve the places they live and the health of their community. Finally, I recognise that planning the places we live often involves managing conflicting demands and aspirations e.g. for transport, green space and affordable housing but I strongly believe that building health and wellbeing into the fabric of our communities will benefit everyone in Buckinghamshire.

Dr Jane O'Grady
Director of Public Health
June 2018

Acknowledgements

Thanks to Sam Williamson, Emily Youngman, Ravikumar Balakrishnan, Shakiba Habibula, Tracey Ironmonger, Angie Blackmore, April Brett, Tom Burton, Sarah Preston, Lucie Smith, Wayne Thompson, Karen Bulmer, Nicola Higgins, Sonia Storey, Joan Hancox, Sally Sharp, Ruth Page, Angie Sarchet and the Buckinghamshire Communications team.



The State of Health in Buckinghamshire



How healthy are we and what are the challenges to our health?

Buckinghamshire residents are some of the healthiest in the country. Life expectancy has increased by 3.9 years and 3.0 years for men and women respectively between 2001-03 and 2014-16. Life expectancy now stands at 81.9 years for men and 84.9 years for women. However, not all these extra years are lived in good health. Too many of our residents are living with potentially avoidable ill health and disability and not all residents enjoy the same levels of good health. On average men in Buckinghamshire can expect to live in good health until 69.4 years of age and women until they are 70.3 years - a gap between life expectancy and healthy life expectancy of approximately 12.5 years for men and 14.6 years for women.

Certain groups in Buckinghamshire also have poorer health. The fifth of the population living in the most deprived areas of Buckinghamshire have worse health across a wide range of measures than the rest of Buckinghamshire. Men in the most deprived fifth die 5.2 years earlier and women die 4.7 years earlier than those in the least deprived fifth. The contrast is even greater when average life expectancy within each ward is compared. Life expectancy for men living in Gatehouse ward (74.5 years) is nearly 12 years shorter than men living in Cholesbury, The Lee and Bellingdon ward (86.4 years). Life expectancy for women living in Riverside ward (79.4 years) is 16 years shorter than women living in Greater Marlow ward (95.4yrs).

Early deaths from conditions that are considered preventable* are significantly lower in Buckinghamshire than the national average at 132.5 deaths per 100,000 in 2014-16. However, this still accounts for approximately 670 deaths per year and premature mortality from conditions considered preventable is almost 60% higher for men than for women.

Many of the commonest causes of death, illness and disability in Buckinghamshire are from long term conditions such as heart disease, diabetes, cancer, strokes and dementia. These account for 70% of spending on NHS and social care and affect large numbers of people. However, a significant proportion of these are preventable and are linked to how we live our lives. For example, a poor diet increases the risk of a wide range of conditions

including obesity, diabetes, heart disease, stroke, some cancers and dementia. It is estimated in the South East of England poor diet accounts for nearly 70% of disability and early death from heart disease, contributes to nearly half of disability and early death due to diabetes and more than a third of early death and disability caused by stroke. Low levels of physical activity also contribute to rising levels of obesity and increase the risk of many long term conditions and musculoskeletal problems. Adopting healthy lifestyles reduces the risk of many of these conditions and it has been found that living a healthy life in middle age reduces the likelihood of developing dementia, disability and frailty. The environment and communities in which we live profoundly influence how easy it is to live healthily and the choices we make.

Good mental health is a vital resource for life as well as an important driver of physical health. It is estimated that one in eight men (12.5%) and nearly one in every five women (19.7%) in Buckinghamshire have a common mental health disorder such as anxiety or depression. Across the South East, nearly one in seven adults surveyed experienced symptoms of a common mental health disorder in the preceding week. People with poor mental health also have poorer physical health. Loneliness and social isolation are increasingly recognised as raising the risk of developing depression, anxiety and dementia, heart disease, stroke and early death. National estimates suggest that 1 in 20 people feel lonely often or all the time but the highest reported rate is found in 16-24 year olds. We do not have local data on loneliness and social isolation for the general population but nearly half of adult social care users in Bucks state that they have as much social contact as they would like (45.1%). This is slightly lower than the proportion across the South East (46.6%) and England (45.4%). The proportion of adult carers in Bucks who have as much social contact as they would like is lower at approximately one in three (30.8%). This is significantly lower than the proportion nationally (35.5%).

The health of children and young people

Children and young people (under 20 years of age) make up a quarter (25.0%) of the Buckinghamshire population, and 23.7% in England. Although children and young people in Bucks tend to be healthier

*These include but are not limited to infectious diseases (such as tuberculosis, measles, whooping cough, viral hepatitis and HIV), many cancers, type II diabetes mellitus, heart disease, stroke and diseases related to alcohol and substance misuse.

than the national average there is no room for complacency as UK children's health outcomes are worse than those in most other wealthy European countries [1]. Low levels of physical activity and unhealthy eating in our children and young people is resulting in overweight and obesity that can lead to poorer physical and mental health. Only 16% of girls and 23% of boys aged 5-15 years, in the South East of England are reported to achieve the recommended levels of physical activity. Levels of overweight and obesity among children in reception year and year six are 18% and 27% respectively. This is equivalent to nearly 1100 children in reception year and nearly 1400 children in year 6 who are overweight or obese. Approximately 1% (0.98%) of reception year and 1.4% children in year 6 are underweight.

There are also rising concerns around children's and young people's mental health and wellbeing. Recent national estimates suggest that one in ten children has a clinically diagnosable mental health disorder [2]. In Buckinghamshire, the estimate is slightly lower at 7.9% (or slightly more than one in 13 children aged 5-16 years). In 2016/17, there were 329 hospital admissions for self-harm per 100,000 children and young people aged 10-24 years. This is significantly lower than the rate nationally (405 per 100,000).

Children and young people are particularly vulnerable to threats to health from before they are born and as they grow up. Adverse environments can result in low birth weight and poorer development and poorer physical and mental health. Children are particularly vulnerable to poor housing conditions, air and noise pollution, extreme temperatures and lack of safe spaces to play and be active. The communities and surroundings in which they live influence whether they will adopt healthy or harmful behaviours and these behaviours will then tend to stay with them throughout life.

Investing in child health reaps impressive economic rewards with each pound spent returning more than £10 to society over a lifetime. Poor health in childhood leads to reduced workforce participation and productivity and lower national wealth.

What does the future hold?

1.1 Population changes

In 2016, the population of Bucks had a similar age profile to that in England except there was a smaller proportion aged 20-34 years in Bucks (16.2%) than in England (20.1%), and a larger proportion aged 40-59 years in Bucks (28.6%) than in England (26.5%).

For older people, Bucks and England have similar age profiles, with 18.3% (Bucks) and 17.9% (England) of the population aged at least 65 years, and 2.5% (Bucks) and 2.4% (England) for those aged at least 85 years.

Buckinghamshire is expecting to see significant growth over the coming years. Based on projections for births, deaths and migration as well as an estimated 45,000 new homes being built between 2015 and 2039, the population of Buckinghamshire is estimated to increase by 100,000 people between 2015 and 2039. This will mean that the population of Buckinghamshire will reach approximately 635,000 by 2039.

The age profile in Buckinghamshire is also set to change over the next 20-25 years. The number of children aged 0-4 years and 5-9 years is estimated to increase by 1368 (4%) and 1165 (3%) respectively between 2016 and 2039. Over the same time period, the number of people aged 65 years and over is estimated to increase by nearly 60,000 people (60%). The largest percentage increase will be seen among the over 85 year old age group, increasing from 13,578 to 33,700 (a 148% increase between 2016 and 2039). The working age population (aged 16-65 years) is estimated to remain relatively stable, increasing by less than 16,000 (6%) between 2016 and 2039.

1.2 Health related behavioural changes

Although some health related behaviours have improved (e.g. levels of smoking over the last decade), others behaviours have not. The UK has the highest prevalence of obesity in Western Europe and obesity levels have increased from 15% in 1993 to 27% in 2015, the fastest rise in any developed nation. More than 7 in 10 millennials (those born between early 80s and mid 90s) are set to be overweight or obese by the age of 35-44 on current trends and are on track to be the most obese generation since records began with consequent adverse impacts on their health and their risk of developing a range of long term

conditions. This compares to 5 in 10 baby boomers (born 1945-55).

The rise in the older population will increase the numbers of people living with long term conditions and disability unless we age more healthily. The number of cases of dementia is expected to increase significantly across the county, doubling by 2050 [2]. However the good news is that living a healthy life in middle age (not smoking, a healthy diet, being physically active, maintaining a healthy weight and not drinking alcohol above recommended limits) can lead to healthier ageing reducing the risk of disability, dementia and frailty. We need to ensure that the environments in which we live make healthy choices the easy choices.

1.3 Other changes

Other factors that can adversely impact on our health could include weakening of social ties in our communities, increased pollution levels and increases in extreme weather.

The living environment

We know that the places and communities in which people grow up, learn, live, work, play and age can influence child development, educational attainment, mental and physical health and how well people age. It also influences the friendliness of neighbourhoods and how included people feel, crime and fear of crime and economic productivity.

This in turn influences demand on health and social care services and other public sector services. This report focuses on the health and wellbeing benefits of living in a good place.

It has long been recognised that the places people live affect their health and wellbeing via the factors shown in the diagram below.

The World Health Organisation defines a 'Healthy City' as one that supports health, recreation and wellbeing, safety, social interaction, easy mobility, a sense of pride and cultural identity and is accessible to the needs of all citizens. The same aspiration could be applied to towns and villages throughout Buckinghamshire.

This report highlights key areas impacting on health and wellbeing:

- Community life
- Housing, land use and inclusive design
- Healthy travel
- Air and noise pollution
- Natural environment and green spaces
- Access to healthy food.

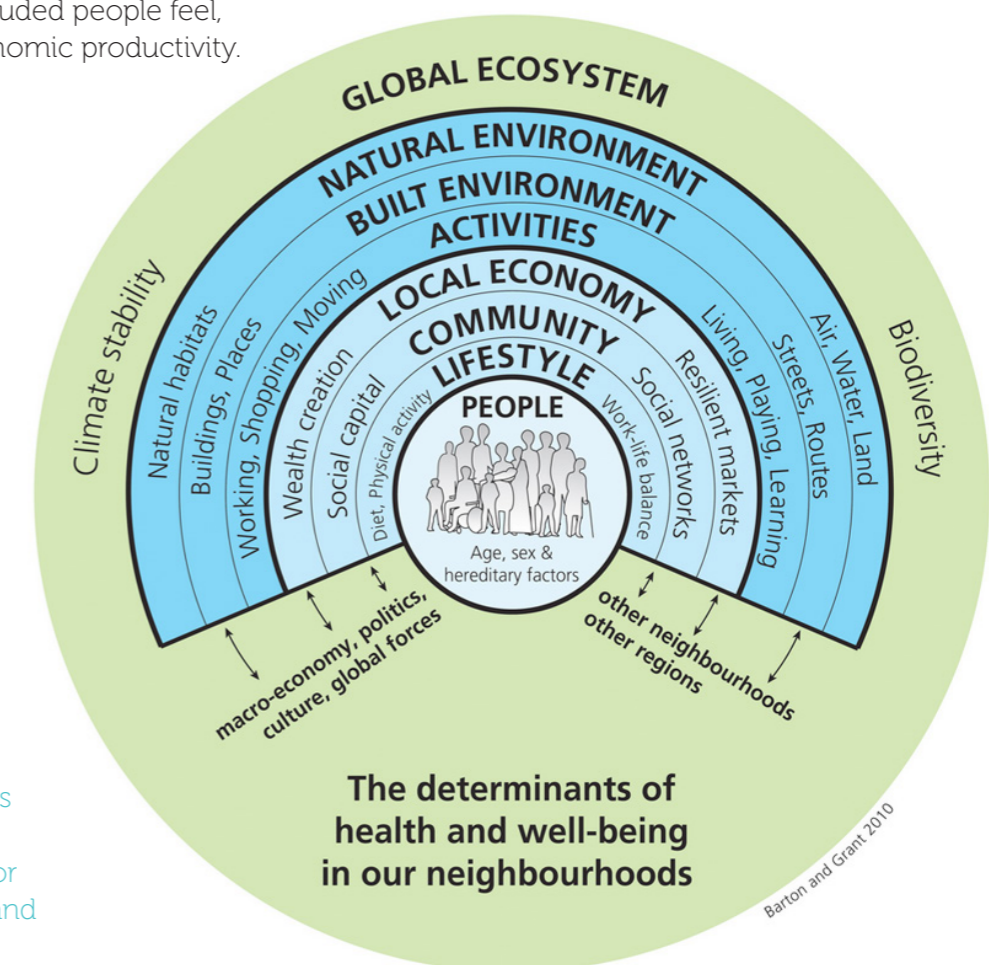


Figure 1 - The wider determinants of health and wellbeing in our neighbourhoods. A health map for the local human habitat. Barton and Grant, 2006. [3]

Community life

Introduction

The communities we grow up, play, work and live in profoundly affect our happiness, physical and mental health and our chances of success in life. People thrive in communities where there are strong social ties, a feeling of community and a sense of belonging and where everyone has the opportunity to participate fully in community life. Having a voice in local decisions also makes a vital contribution to health and wellbeing.

All communities have strengths and assets as well as needs that can contribute to the health and wellbeing of community members. This includes members of the community themselves, local groups and strong social networks, physical assets like buildings and parks and resources and assets brought by the public, private and voluntary sector. Involving and empowering communities is central to health and wellbeing particularly for disadvantaged groups.



Nationally, around two in every three people feel a sense of belonging to their neighbourhood with around a quarter of people (27%) feeling that they could personally influence decisions affecting their local area.

Key facts:

Nationally, more than half of people (51%) said they would like to be more involved in decisions made by their local council.

Around two thirds of people in the South East participated in voluntary work in the last year (67%), though this has fallen since 2013/14 and more than three quarters had given to charity in the last four weeks (77%). [4]

In Buckinghamshire there are over 2,500 registered charities and 175,000 volunteers. It is estimated that volunteers in Bucks contribute an estimated £225m a year to the UK economy.

The importance of social ties

People who have strong social networks tend to live longer and have better mental and physical health than those who don't. Strong well connected communities can benefit everyone throughout life. Children and young people growing up in communities with positive social norms are less likely to participate in health harming behaviours such as smoking and drug taking and more likely to engage in health promoting behaviours such as being more physically active.

The health benefits of social interaction include reduced risks of depression, high blood pressure and cardiovascular problems and faster recovery from episodes of ill health. Older people with strong social connections have better physical health, less fear of crime and lower rates of early death. Social participation has also been associated with a reduction in dementia and cognitive decline. At a community level cohesive communities also have lower levels of depression, loneliness and crime.

**Social isolation is when an individual is lacking in the quantity or quality of their social network and this can be in terms of family, friends or their local community. Loneliness is a personal, subjective feeling. Both are significant factors that influence health, but are distinct. An individual can be socially isolated whilst not being lonely and vice-versa. An individual's level of social isolation and loneliness can fluctuate over time.*

Social isolation and loneliness*

Social isolation and loneliness can affect people at any age through a range of circumstances related to the individual and the local community [4]. Some of the common factors causing social isolation and loneliness include living alone, bereavement, ill-health, reduced mobility, caring responsibilities, job loss, access to local services and amenities, fear of crime and transport issues. These factors affect different groups to different extents. For instance, poor transport can contribute significantly to isolation in rural areas.

Communities play a crucial role in supporting people. Having the right support network can have a large impact on the ability of an individual to cope with adverse events in life including promoting recovery from illness. Conversely, being lonely for long periods of time has also been shown to affect health related behaviours, resulting in higher chances of having unhealthy lifestyles such as smoking cigarettes and drinking in excess [5].

Key facts:

Among adult carers in Bucks, less than a third consider themselves to have as much social contact as they would like (30.8%). This is statistically significantly lower than the proportion nationally (35.5%) and lower than the proportion across the South East (33.2%).

In 2016/17, among Buckinghamshire residents using adult social care services, less than half consider themselves to have as much social contact as they would like (45.1%). This is similar to the proportion nationally (45.4%) and the proportion across the South East (46.6%).

As social isolation and loneliness fluctuate over time and because they are difficult to measure, understanding how many people are isolated or lonely is difficult. However, nationally about one in every six older adults are in contact with family and friends less than once per week and one in nine are in contact with family and friends less than once per month. Estimates of loneliness nationally, show that approximately one in 20 people feels lonely all of the time or often.

It is increasingly being recognised that loneliness and isolation can be experienced earlier in life and may even be more common among younger age groups [6]. The most recent survey of community life found that a higher proportion of 16 to 24 year olds expressed feeling lonely often or always (10%) compared to any other age group and that as age increased the proportion who felt lonely decreased, with the lowest levels among the over 75 year olds [4].

Key facts:

In Bucks the proportion of people living alone increases to 28.4% among people aged 65 years and over. This is statistically significantly lower than the proportion nationally (31.5%)

A higher proportion of homes in Buckinghamshire (5.44%) are lived in by a single adult over the age of 65 years compared to England (5.24%) and the South East (5.33%).

Across all ages, approximately one in 10 residents in Bucks lives alone (10.5%). This is statistically significantly lower than the average across the South East (12.1%) and nationally (12.8%).



Children and young people who are at increased risk of being isolated and lonely include those with a disability, learning difficulty or special educational need, children who are homeless, children who are in care and children who have suffered from abuse or neglect [7].

The health impacts of social isolation and loneliness affect both physical and mental health. Individuals who are socially isolated are more than three times as likely to suffer from depression and anxiety and nearly twice as likely to develop dementia. Social isolation and loneliness have also been shown to make an individual two to three times more likely to be physically inactive [8] and have been linked to higher blood pressure and an increased risk of heart disease and stroke [9].

People experiencing social isolation are more likely to visit their GP and Accident and Emergency Departments, more likely to be admitted to hospital as an emergency and three and a half times more likely to enter local authority funded residential care

[8]. Loneliness increases the likelihood of death by a quarter and the likelihood of premature death among people without strong social ties is between 2 and 5 times higher compared to people with strong social ties [10].

Key facts:

Across the South East, nearly three quarters of people (72%) say that they chat to their neighbours regularly, with a higher proportion (84%) saying that people from different backgrounds in their neighbourhood get on well.

Nationally, two in every five people feel that they can trust the majority of their neighbours, with three quarters feeling that they could at least trust some of their neighbours.

Communities that promote connections and a community spirit can reduce levels of social isolation and loneliness and consequently improve the health and wellbeing of residents. Neighbourhoods lacking positive social connections have higher rates of social disorder, anxiety, depression and crime.

Planning for vibrant socially connected communities

Planning, policies and design alone cannot create strong, well-connected communities but they can make it easier for people to come together, make friends and get involved in their communities. Good design can help by creating safe, attractive multi-use indoor and outdoor public spaces that are accessible and welcoming for all and make it easy for people to interact with each other on a daily basis.

Well-designed public spaces should be incorporated into all new developments and there is much that can be done in existing towns and neighbourhoods too. In existing neighbourhoods this can range from significant redesign and regeneration to trialling temporary features to improve public spaces which if successful and popular could lead to more permanent changes of use. Interventions that improve public spaces have included pocket parks, reclaiming derelict land for community gardens and temporary street closures for play or events.

Involving a wide range of residents in the design of public spaces can improve wellbeing, helps foster a sense of community and place and is more likely to result in spaces that people will use and care for. Joint decision making and co-production, involving communities and stakeholders in the design, governance or delivery of local infrastructure in lower income communities, is associated with improvements in depression, sense of community, social capital, partnership working, adult skill development, learning and training, sense of empowerment and self-esteem. However in a minority of cases there were adverse impacts related to consultation fatigue, distress and frustration and stress from accessing and participating in the decision making processes.

Good design features

People who live in environments that encourage people to walk or cycle rather than use the car have a stronger sense of community, are more positive about the places they live and engage more in community life. People are more likely to walk or cycle where housing, shops, amenities and workplaces are all close together and there are safe and attractive routes between them. Conversely areas where there is high car use and busy roads reduce interaction between neighbours and people have fewer friends locally. A pedestrian environment enables the development of art and culture in the public realm, encouraging more visits and contributing to the vibrancy of the area.

Crime and the fear of crime impacts on people's mental health and can make people reluctant to leave their homes to socialise and access vital facilities. Good design can help reduce the level of crime in an area and make people feel safer. Crime can be reduced by making places more attractive, and by promoting a mix of land uses, dwelling sizes and types of dwelling. This makes it more likely that there are people around throughout the day and evening leading to reduced crime and increasing feelings of safety. Good design has been shown to reduce likelihood of graffiti, litter, vandalism and broken windows by up to 60%. 'Secured by Design' is a national police initiative to incorporate prevention of crime into the design and build of new homes.

Inclusive public places

The quality of the built environment is key to maintaining mobility and independence for older people and people with disabilities and also works for families with children and parents with pushchairs. Wide, clearly defined and obstacle free

pedestrian routes, crossings with dropped kerbs, tactile paving and adequate signals and wayfinding aids may improve comfort and safety for a wide range of residents. Adequate road crossings, toilets, regular public seating, shade and shelter and the attractiveness of the environment are important factors in encouraging people to get out of their homes and to use a public space. People are also more likely to socialise in areas with interesting features and with natural landscaping and this is covered more in the section on green spaces. Children need safe child friendly environments that are easy to get around, free from pollution with green spaces and places to play.

Throughout this report we have highlighted that children and young people, older adults and people with long term conditions or poorer health are more susceptible to and often more likely to experience the adverse effects of poorer environments. There are helpful guides and initiatives such as the UNICEF child friendly cities and communities and the WHO guide to creating Age Friendly environments that can support communities, towns and local areas to help make communities that work for everyone.

Cultural and social life

A strong programme of cultural and social activities co-designed with residents also helps develop cohesive communities and foster a sense of place and pride in an area. Regular engagement with social, art and cultural activities can benefit health and wellbeing at all ages. Engagement in structured art and cultural opportunities improves the cognitive abilities of children and young people.

Older people attending art, music or other types of educational classes have better mood and life satisfaction than those who don't. Older people say art and culture is important in making them feel happy, helping them meet other people and encouraging them to get out and about. Specially-designed art activities have also been found to have a positive impact on health conditions like dementia, depression and Parkinson's disease.

Many people contribute to community life through volunteering which also benefits their health. Volunteering is associated with better health and life satisfaction and less depression. However sometimes volunteers may experience burnout and stress from responsibilities so a balanced approach helps to ensure that both volunteers and their community can benefit.

Healthy homes

Introduction

The ability to stay healthy, access and maintain education, training and employment and contribute to community life is reliant on having a safe and stable place to live.

Living in an affordable good quality home is fundamental to people's physical and mental health, helps them maintain independence for as long as possible, recover from illness and reduces demand on the NHS and social care. A sufficient supply of good quality affordable housing is also vital to the economic and social success of an area.



The evidence

High quality, warm and energy efficient housing improves physical and mental health and reduces deaths. Conversely poor housing conditions are linked to poor health, accidents and excess winter deaths. A home is considered decent if it: meets the current statutory minimum standard for housing; is in a reasonable state of repair; has reasonably modern facilities and services; and provides a reasonable degree of thermal comfort [11]. Across England in 2016, one in five owner occupied homes (19.7%) is considered to be 'non-decent'. A higher proportion of privately rented homes (26.8%) are considered non-decent whilst a lower proportion of socially rented homes are considered non-decent (12.6%).

Poor quality homes cost the NHS in England at least £1.4bn per year and wider society over £18.6bn. Children and older people or those with long term conditions are particularly vulnerable to poor housing conditions.

Cold homes

Excess cold experienced in the winter months can exacerbate a range of health problems, including respiratory and circulatory conditions, mental health problems and accidental injury for all age groups. A major factor contributing to living in a cold home is fuel poverty, where the required fuel cost is above average and if a household were to spend that amount to heat the home, the amount of money they would be left with would put them below the poverty line [12]. Factors making households susceptible to living in fuel poverty are low household income, the energy efficiency of a home and the cost of heating.

Children and young people living in cold homes are more than twice as likely to have a respiratory condition and five times more likely to suffer from mental health problems [13]. Hospital admissions are also higher among children living in colder homes. The long term impact of living in cold homes includes poorer educational attainment and lower emotional resilience [14]. Adults living in cold homes have increased risk of respiratory disease, rheumatism and arthritis, mental health problems and increased risk of winter deaths from cardiovascular and respiratory disease [15].

It is estimated that 10% of excess winter deaths are due to fuel poverty. In addition, households living in fuel poverty are not only more likely to live in a cold

home, but also more likely to have less disposable income, meaning household members may be less able to eat healthily, afford other essentials and take part in social activities.

Key facts:

In Buckinghamshire, it is estimated that there were 17,551 households living in fuel poverty (8.4%) in 2016. This is slightly lower than the proportion nationally (11.0%) and across the South East (9.4%).

Buckinghamshire experiences 18% more deaths during winter months compared to the non-winter period. This is comparable to England (17.9%) and the South East (17.4%). This equates to approximately 230 additional deaths during winter months

Indoor Air Quality

Poor indoor air quality from materials used in the home has been linked to a range of problems including cardiovascular and respiratory disease and some cancers. Damp and mould are more likely in colder homes and can trigger exacerbations of asthma and make people more prone to respiratory infections. Children living in damp homes with mould are between 1.5 and 3 times more likely to have coughing and wheezing symptoms compared to children living in damp-free housing [14]. Across England, it is estimated that more than one in 25 homes has a damp problem. Damp is more common in privately rented accommodation (8.2%) and lowest in owner occupied accommodation (2.7%) [16].

Injuries in the home

There are more injuries sustained in the home than anywhere else, resulting in approximately 6000 deaths per year nationally. Children under five and older people aged over 65 years are most likely to sustain an injury in their home. Injuries sustained in and around the home are the leading cause of avoidable death in children aged under 5 years [17]. Each year, the cost of injuries sustained in the home is estimated to cost society over £45bn [18].

Falls are the most common accident in the home in all ages [18]. The majority of these are due to trip hazards resulting from factors such as poor design or disrepair. Older people are most at risk of suffering a fall and within this age group, a fall is

more likely to result in a fracture and subsequent loss of independence. In England, it is estimated that there are 1.3m households with people aged 55 and over who live in a home with a serious hazard [19].

Key facts:

There were 2036 emergency admissions due to falls in people aged 65 years and over in Bucks in 2016/17. However, it is not possible to determine the proportion of these falls that arose in the home.

There were 580 hip fractures in older residents in Buckinghamshire during 2016/17. After adjusting for age, there are 573 hip fractures per 100,000 people aged 65 years and over, which is similar to the rate nationally (575 per 100,000).

Home Improvements

Home improvements have been shown to improve health outcomes particularly for older people and those living with long term conditions on lower incomes. Housing refurbishment including damp-proofing, reroofing and new window installation is associated with improvements in general health outcomes. Home improvements have also been shown to reduce risk of falls and improve social outcomes.

Affordable Housing

The affordability of housing is increasingly becoming a problem as house price increases are consistently higher than wage increases. Housing affordability has worsened in the last two decades, with working people now expecting to pay around 7.6 times their annual earnings on average to purchase a home in England and Wales in 2016. This is up from 3.6 times earnings in 1997.

A lack of affordable housing can lead to financial hardship and stress, overcrowding and in the most severe cases homelessness. Families living in overcrowded conditions experienced a range of health related problems such as poor and irregular sleep patterns, depression and anxiety, strained family relationships and break-ups [20]. Children and young people living in overcrowded conditions experience particular difficulties including health problems such as respiratory and infectious diseases, difficulties studying, emotional problems

and developmental delays. More than 80% of families living in overcrowded homes identified lack of space as a major contribution to anxiety, stress and depression.

One impact caused by difficulty finding affordable housing is that people may turn to Houses in Multiple Occupation (HMO) in order to find somewhere to live. Poorly managed HMOs can pose a risk to physical and mental health with increased risks associated with sharing facilities with others (e.g. personal hygiene, food preparation, fire safety). Lack of affordable homes is also linked to increase levels of homelessness. Someone is homeless if they have no access to accommodation either through a legal agreement (such as a tenancy) or an implied agreement (such as living with family or friends). This can potentially include people who are facing eviction, living in temporary accommodation, squatters, rough sleepers, people at risk of violence, those housed in poor quality accommodation that is a risk to their health and those who cannot afford their current accommodation. However while all these groups will be entitled to advice and assistance, currently local authorities do not have a duty to house everyone. All persons who approach the local authority for assistance are assessed on a case by case basis.

Homelessness can cause ill health, but in addition ill health can also result in loss of income or challenging behaviour and put some households at greater risk of becoming homeless. Approximately three quarters of homeless people report a physical health problem, with 41% reporting a long term condition (compared to 25% in the general population) [21]. The longer a person experiences homelessness the more likely their health and wellbeing will be at risk. The average age of death of a single homeless person who is rough sleeping is 30 years lower than the general population [22].

Only households assessed as being a priority need for housing, under the Housing Act, will potentially be given accommodation on an emergency and longer term basis. Groups deemed to be priority for housing generally include households with dependent children and/or households with a vulnerable member (e.g. due to medical reasons). Eligible individuals or families may be housed in temporary accommodation while their application for housing is considered or until suitable and secure accommodation is available. Temporary accommodation can include bed and breakfast,

hostel, private sector or local authority/housing association stock and can be outside of the local authority where the housing application has been made.

Providing affordable housing for vulnerable people such as adults with learning disability and adult with substance misuse problems can lead to better social, behavioural and health related outcomes. Provision of affordable housing for homeless people increases ability to engage with health care services, improves quality of life, mental health and employment.

Key facts:

Average house prices are highest in South Bucks (£616,000) and Chiltern (£552,000), followed by Wycombe (£401,000) and Aylesbury Vale (£334,000).

The ratio of average house prices to earnings in Buckinghamshire (10.7) is higher compared to the national average (7.6) as well as the South East (9.4).

In 2016, median house prices in South Bucks were more than 14 time average earnings of residents living in the district and in Chiltern the ratio was 13.9. Wycombe and Aylesbury Vale have slightly lower ratios at 10.9 and 9.4 respectively. However, these are all higher than the ratio for England.

Buckinghamshire also has higher rents than the England average with rents across the four Districts ranging from 9% to 24% higher than the national average.



House prices in Buckinghamshire in July 2017 were among the highest in the country with average house prices in all four districts significantly higher than the national average of £243,000.



Less than one in every 1000 households in Buckinghamshire (0.9 per 1000) is classified as being statutory homeless (living in temporary accommodation provided under the homelessness legislation). This is significantly lower than the rate nationally (3.3 per 1000 households) and across the South East (2.2 per 1000 households).

Homes for all ages and abilities

The right home environment for people with additional needs protects and improves health and wellbeing, and enables people to live safely and independently in their own home. It also helps delay and reduce the need for health and social care, prevents hospital admissions, enables timely discharge from hospital and enables rapid recovery from periods of ill health. Good design and building quality should ensure homes can be adapted to people's changing needs throughout life and enable people to stay in their own homes.

Older people spend a greater proportion of time in their homes and local neighbourhoods compared to other age groups. However, it is estimated that 2 million people aged 55 and over in England are not living in homes that meet their needs, and a high proportion of homes with older residents are not specifically designed for people as they get older (96%). This increases the risk of accidents and injuries as well as poorer physical and mental health. Developing age-friendly homes, neighbourhoods and towns is one of the most effective policy responses to our ageing population.

There is a shortage of well-designed, high-quality, appropriate and attractive housing in the right place for older people. More than three in every four adults aged 65 years and over in Bucks live in their own homes. However, nationally more than one in five older adults lives in a home that does not meet the decent standard [19]. Nearly half the cost of poor housing to the NHS arises from poor housing among older people and is estimated at £624 million per year nationally.

Eight out of 10 older people say they would like to downsize, but only three out of 10 do so. Many people who do downsize move only at a time of crisis, when they are not necessarily making good decisions. Housing for older people needs to be close to shops, services and cultural facilities, and connect well to the public realm with good public transport links. The quality of the surrounding environment is also important, including access to shared, open, green spaces with well-placed benches and public toilets.

The majority of people living with a disability live in housing that is not designed to meet their needs. Home modifications for people with disabilities can help sustain independence, prevent hospital admissions and support earlier discharge from

hospital as well as reduce care costs [19]. Ensuring homes meet the needs of people with disabilities is also important for supporting people to remain safe and independent. It is estimated that 93% of homes lack access features for people with limited mobility.

Different people will have different needs necessitating a range of housing options from mainstream and accessible homes to supported and extra care housing. Extra care housing is accommodation that has been designed to meet the needs of older people who need additional support, often with varying levels of support available. Evidence shows that extra care housing can delay admission to a care home and provide a cost-effective alternative to residential care and can improve quality of life and social contact. There is also some evidence that extra care housing can reduce health costs.

Key facts:

In Bucks, around one in thirty older people live in care homes (residential or nursing homes). The proportion of older people in care homes rises from less than 1% of those aged 65 to 74, to more than 15% of those aged 85 and over.

Lifetime neighbourhoods and age friendly environments

The environments in which people live need to be designed to support their health throughout life. The World Health Organisation (WHO) describes a lifetime neighbourhood as:

"...a place where a person's age doesn't affect their chances of having a good quality of life. The people living there are happy to bring up children and to grow older – because the services, infrastructure, housing, and public spaces are designed to meet everyone's needs, regardless of how old they are." [23]

Lifetime neighbourhoods are those which offer everyone the best possible chance of health, wellbeing, and social, economic and civic engagement regardless of age. They provide the built environment, infrastructure, housing, services and shared social space for all people whether they are old or young, disabled or frail. Most features of lifetime neighbourhoods will benefit all generations.

The WHO has promoted the concepts of age-friendly cities and lifetime neighbourhoods. WHO describes an age-friendly city as one that:

"...is an inclusive and accessible urban environment that promotes active ageing ... adapts its structures and services to be accessible to and inclusive of older people with varying needs and capacities."

Urban and rural areas will present different challenges. For example, urban areas may more frequently suffer poor access to space or low social cohesion. Rural areas may have difficulty in providing access to services over more dispersed residential areas, for example, public transport and shops.

It is clear that designing neighbourhoods that work for all and particularly our growing child and older adult population is vital for the continued success of Buckinghamshire.



Healthy travel

Introduction

We travel for work and play, to get to school, shops and other services, but how we travel, and how far and for how long, has significant implications for our health, the health of others and society as a whole.

The mode of travel we choose matters. Active travel such as walking and cycling improves our health through promoting physical activity but also by reducing air and noise pollution, increasing social connections and making communities safer. It improves our mood, reduces stress and the risk of developing long term conditions or dying early. It is also the lowest carbon, cheapest and most reliable and sustainable form of transport. It reduces congestion, absenteeism and boosts economic productivity.



The evidence

Active Travel

Adults who do regular physical activity are at lower risk of many chronic diseases such as heart disease, diabetes, stroke, some cancers, depression and dementia. Children and young people who are physically active have better cardio-respiratory health, better bone health and muscle strength, improved attention and better educational attainment, lower anxiety and stress and higher self-esteem [24]. However, levels of physical activity are gradually declining and it is conservatively estimated that physical inactivity costs the NHS £1bn per year, with wider societal costs of more than £8bn per year [25].

Active travel can contribute significantly to helping people achieve the recommended levels of physical activity per week and areas that encourage people to walk or cycle to work, school or shops have healthier residents than those that don't.

Walking improves our mood and reduces the risk of anxiety and depression as well as improving our physical health. Walkable neighbourhoods and towns are better for everyone. Areas where more people walk are more sociable, are safer and feel safer. Places that are designed to be more walkable increase the accessibility of public space for people of all ages, different mobility levels and backgrounds and reduces social isolation.

There are an increasing number of studies demonstrating the benefits of cycling. A recent British study found that people who commuted by bike had almost half the risk of developing and dying from heart disease and cancer. In addition, on average, cyclists take 15% fewer sick days compared to non-cyclists. Commuters who shift from private vehicle to public transport or active forms of travel have been shown to have a significant reduction in weight [26].

Key facts:
Compared to commuters travelling by car, cyclists have a 46% lower risk of developing heart disease and 52% lower risk of dying from heart disease and a 45% lower risk of developing cancer and a 40% lower risk of death from cancer [27].

One of the main barriers for people switching to cycling is perceived safety with more people choosing to cycle if routes are physically separated from other traffic. 64% of people say they would cycle more if they had access to separated cycle routes [28]. Areas where separated cycle routes have been introduced have seen an increase of up to 171% in bike lane usage. Increases are particularly seen among less experienced cyclists and those with lower levels of confidence including children, women and less active people. Separated cycle routes are also linked to real benefits to cyclist safety with reduced levels of collisions with motor vehicles. The health benefits of cycling outweigh the risk from injuries by about 20 to 1 and it has been estimated that for an average commute, the health benefits to society and the individual of each person shifting from car to bicycle is more than £1100 per year [29].

There are many opportunities for children to be active as part of their travel, often to and from school. Children who walk or cycle to school on average get about 20 extra minutes of physical activity per day compared to children that are driven and, switching from driving to school to walking has been estimated to save families £642 per year [30]. It is estimated that approximately one in five cars on the road during peak hours in the morning are involved in school travel. For schools in residential areas, this can concentrate traffic in these areas, increasing pollution and the risk of road traffic injuries.

Active travel increases physical activity levels and reduces the number of cars on the road which reduces air pollution from road traffic all of which benefit health. Active travel is also good for the economy and people who walk or cycle to work tend to be more productive and take fewer sick days. The health and economic benefits of active travel have been found to outweigh the cost by up to 11 times with an average of £5.62 in benefits for every £1 spent on active travel in the UK [25].

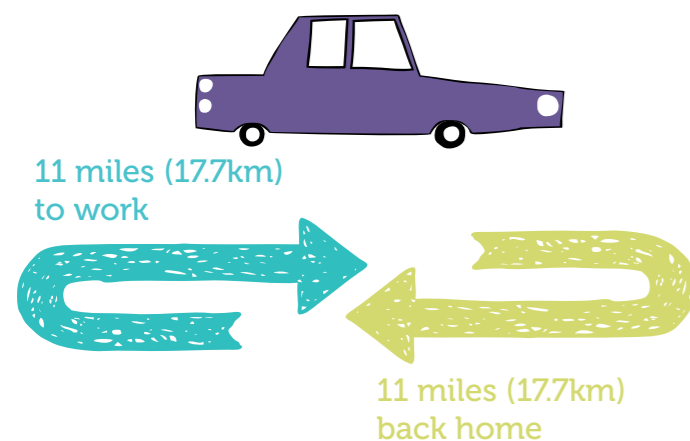
People who live in environments that encourage people to walk or cycle rather than use the car have a stronger sense of community, better social connections and are more positive about the places they live than those who live in areas of heavy car use. They are more likely to know their neighbours, trust others and engage in community life.

Motorised transport and health

Motorised transport has seen the distances people can travel for work, school and leisure increase and can bring many benefits. These include improved access to employment, reduced social isolation and better access to health care. These need to be balanced against the adverse consequences of this mode of travel for health and communities.

Neighbourhoods where housing and amenities are far apart, characterised by "urban sprawl", have higher car use and higher levels of obesity and other health problems which taken together are equivalent to the population ageing 4 years.

Commuting



In Bucks, the average commuter travels nearly 11 miles (17.7km) each way to work, longer than the average for England (9.3 miles, 15.0km) and the South East (10.3 miles, 16.6km).

Key facts:

Between 2001 and 2011 the average commuting distance increased by more than 11% in Buckinghamshire, similar to the increase nationally. This equates to an increase of around 340,000 additional miles (550,000 kilometres) travelled each day by commuters in Bucks.

The average journey time to work in Buckinghamshire is around 34 minutes each way (68 minutes per day in total).

A higher proportion of commuters travel to and from work by car (43%) compared to the England average (35%).

Long commutes are increasingly being recognised as having a detrimental effect on our health and wellbeing. They have been linked with higher levels of stress and anxiety and higher blood pressure. In addition, long commute times reduce the amount of free time people have for recreational activities, cooking and sleeping and participating in community life with consequent adverse impact on their health.

As the distance commuted increases, people's health suffers, with lower levels of physical activity and fitness, higher body weight and cholesterol, waist circumference and risk of diabetes and cardiovascular disease [31]. Studies have shown that driving more than 10 miles one way to and from work five days a week was associated with an increased risk of developing high blood sugar and cholesterol and commuting more than 30 miles a day was associated with high blood pressure, stress and heart disease. Statistics show the longer we drive the less happy we are and that happiness decreases with every mile of commute. Workers with longer commutes are 33% more likely to suffer from depression and 12% more likely to report stress at work. They are also 46% less likely to get the recommended minimum of seven hours of sleep each night [32]. Studies have shown that, to have the same level of satisfaction as someone who walks, a commuter travelling for more than one hour per day has to earn 40% more money. Changing from a long commute to a short walk to work has the same impact on happiness as a single person finding a new partner [33] [34].

A recent report looking at congestion in towns and cities shows that commuters in Aylesbury spend on average 32 hours stuck in congestion each year. Out of 111 towns and cities in the UK that were assessed, commuters in Aylesbury spent the 6th highest amount of time in congestion [35].

Key facts:

The average commuter in Aylesbury spends 32 hours each year stuck in congestion

Commuters in Aylesbury have one of the highest average time spent in congestion in the UK (6/111).

Road traffic accidents can also contribute to harm. Speed is the main cause of premature deaths and injuries in road accidents, 9 in every 10 pedestrians survive if hit by vehicle travelling at 20mph, 5 out of

Key facts:

Between 2014 and 2016, there were 241 people killed or seriously injured* (KSI) on average each year on the roads in Buckinghamshire.

On average, slightly more than half (53.2%) of deaths or serious injuries on the road in Bucks occurred on rural roads (128), and approximately one in ten (26) occurred on motorways (10.8%). Urban roads in Bucks accounted for an average of 87 deaths and serious injuries per year (36.0%).

Between 2014 and 2016, there were 21 deaths per year on the roads in Bucks. Two thirds of deaths (an average of 14 deaths) occurred on rural A roads and minor rural roads (67%). Around one in six deaths (17.5%) occurred on urban roads. Similarly, around one in six deaths (15.9%) occurred on motorways, equivalent to an average of 3 deaths per year. The proportion of fatalities on rural roads is statistically

significantly higher to the proportion of deaths on urban roads and motorways.

In the three years 2014-16 there were 14 pedestrian or cyclist deaths, 14 motorcyclist deaths, 33 deaths of car occupants and 2 deaths of other road users. Over the same time period, there were 209 pedestrians and cyclists who were killed or seriously injured (28.9%), 160 motor cyclists (22.2%), 322 car occupants (44.6%) and 23 other road users (3.2%) who were killed or seriously injured.

There is wide variation in the rate of KSI between the districts, with the highest rate in South Bucks (79.6 per 100,000), followed by Aylesbury Vale (41.7), Wycombe (39.8) and Chiltern (39.1). However, the difference is only statistically significant for South Bucks, which is also significantly higher to the national average.



*A serious injury is defined as an injury for which a person is detained in hospital as an "in-patient", or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushings, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident.

10 die if hit by vehicle travelling at 30 mph and 9 in 10 die if hit by vehicle at 40 mph. Nationally, whilst the majority of road traffic injuries (all casualties) arise on 30mph built up roads (58%), less than one in three deaths on the roads occur on 30mph built-up roads. In comparison, 60mph roads account for less than one in every six casualties, but more than one in every three deaths nationally (36%).

Traffic calming measures have been found to reduce the number of accidents by 40% whilst also reducing the severity of the accidents [36]. Speed bumps and chicanes in the road are the most effective ways of reducing vehicle speed [37]. However, speed bumps need to be effectively designed to minimise the potential impact on air quality due to extra braking and fuel consumption [38].

Motorised vehicles are a major contributor to air and noise pollution, accounting for approximately

a third of air pollution from particulate matter [39]. However, the impact of air pollution from road traffic is greater in built up areas where concentrations of vehicles are higher [40]. As a result, road traffic is responsible for a large proportion of air quality management areas due to Nitrogen Dioxide (96%) and particulate matter (76%) in the UK [41]. The cost of ill health due to air pollution from road traffic is estimated to be between £4.5-10bn to the UK economy each year [40].

Transport networks and health

The design of our transport network and roads influence how we choose to travel from place to place but also about how we interact with each other. Roads, especially large or busy roads can act as a significant barrier and can have a negative impact on health. 'Community severance', where busy roads reduce access to goods, services or people can isolate communities

and neighbourhoods increasing the difficulty in accessing important facilities such as schools, doctors' surgeries and shopping centres. This is especially important for children and older people. Community severance creates a self-perpetuating cycle, whereby the presence of a busy road causes individuals to rely more on cars to move around, thus causing higher congestion on the roads and greater severance. Living on a road with heavy traffic can reduce the opportunity for social interaction with neighbours. Residents living on streets with light car traffic volumes have three times more friends and twice as many acquaintances than those living on streets with high car traffic.

Public transport

Travelling by public transport compared with driving a car has a number of benefits for both mental and physical health and wellbeing. Using public

transport increases amount of time being physically active by between 8-33 minutes on average. On average, residents living in areas served by a good public transport network or where there is "mixed land use" (where houses, jobs and amenities are close to each other) own significantly fewer cars, drive significantly less and use active and public modes of transport for a higher proportion of their travel [42].

In addition to boosting levels of physical activity, using good quality public transport is associated with lower levels of stress compared to driving and can reduce exposure to air pollution as car users have higher exposure to air pollutants that people on buses and trains [43] [44].



Air and Noise Pollution



The evidence

Air Pollution

Air pollution is a mixture of particles and gases that damage health, the environment and the economy. The most important pollutants with respect to health are particulate matter (PM) and nitrogen dioxide. Particulate matter is classified by size and includes *PM10* and *PM2.5* which comprise all particles smaller than 10 microns and 2.5 microns respectively. *PM2.5* is most strongly linked to health outcomes as at this size the particles can be inhaled deep into the lungs. The very small particles *PM0.1* once inhaled can pass directly into the bloodstream. The particles can be composed of combustion products, abrasion of engine components, brakes and tyres on road surfaces or generated during construction and agricultural processes. In urban pollution hotspots, particularly those close to roads, the source is mainly from traffic and the particles include soot, part burnt petrol and diesel and compounds that form benzene based carcinogens and waste matter from road surfaces. There are considerable differences in emissions between vehicles but on average diesel exhaust contains up to 30 times more PM than petrol. In the countryside agriculture and upwind industries make a larger contribution to air pollution. Nationally, 38% of *PM2.5* is produced by households burning wood, coal and other solids fuels in open fires and stoves.

Nitrogen dioxide and related oxides of nitrogen are gases produced by combustion. In areas where the UK is exceeding recommended limits 80% of the emissions are due to transport, the largest source of which is diesel cars and vans.

Air pollution is the largest environmental risk to the public's health contributing to cardiovascular disease, lung cancer and respiratory disease. More than one in every 20 deaths in the UK is attributed to long term exposure to *PM2.5* air pollutants. That is the equivalent of approximately 25,000 deaths per year [45].

Long term exposure to PM contributes to the development of cardiovascular disease, lung cancer and respiratory disease and increases the risk of death. Exposure to elevated levels of *PM2.5* increases the risk of death and shortens life expectancy by several months to a few years. Short term exposure to elevated *PM2.5* levels can trigger wheezing and exacerbations of asthma and bronchitis, heart attacks and heart rhythm

disturbances and strokes [46] and has been linked to an increase in hospital admissions as well as deaths [47]. There is also emerging evidence linking long term exposure to *PM2.5* to the progression of Alzheimer's and Parkinson's disease, diabetes, low birthweight and developmental outcomes.

Nitrogen dioxide (NO₂) at high concentrations is a respiratory irritant that can cause inflammation of the airways and shortness of breath. Studies have shown links between high concentrations of NO₂ and impaired lung development and respiratory infections in children and adverse effects on adult lung function.

Older people, children and those with cardiovascular or respiratory disease are particularly vulnerable to the effects of air pollution. Exposure to air pollution is also unevenly distributed across the population with deprived communities more likely to be living near busy polluting roads. Air pollution varies substantially over small distances being typically highest near the source and can decline rapidly further away. Air pollution levels are typically as high within vehicles as outside so higher levels of air pollution are experienced not only by those who live or work on busy roads but also those who drive for a living.

Key facts:

Buckinghamshire has eight Air Quality Management Areas, where levels of pollutants do not meet the national air quality objectives. All eight AQMAs relate to excess levels of Nitrogen Dioxide and are associated with areas surrounding roads

Aylesbury Vale and Wycombe Districts each have three AQMAs, whilst South Bucks and Chiltern each have one AQMA. [48]

In Bucks, one in every 18 deaths (5.5%) is attributed to poor air quality.

In Buckinghamshire mean fine particulate matter levels (PM_{2.5}) arising from human activity is 9.9micrograms/m³. This is comparable to England (9.9) and the South East (9.7).

The costs to society of air pollution are similar to those caused by obesity and smoking, with health related costs estimated between £22bn and £67bn and costs due to lost economic productivity estimated at almost £0.8bn.

Noise pollution

Noise is an often underestimated threat that can cause a number of short- and long-term health problems. Excessive noise seriously harms human health and interferes with people's daily activities at school, at work, at home and during leisure time. It impacts on both physical and mental health through sleep disturbance and increased stress. It is estimated that the direct health impact of noise pollution costs the UK economy over one billion pounds per year.

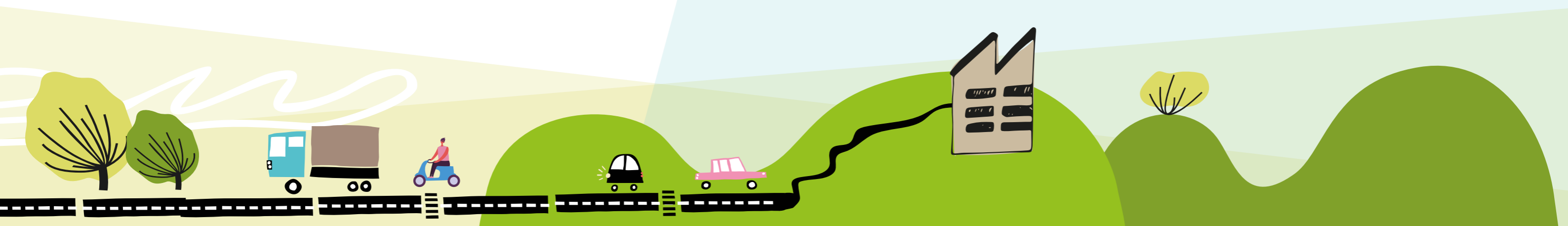
Noise pollution is associated with poor sleep and stress, increased blood pressure and increased risk of conditions such as heart attack, stroke and dementia. In children, exposure to noise pollution can have a negative effect on development and education with evidence showing poorer educational attainment and worse health in children exposed to higher levels of noise pollution. Children exposed to noise have poorer concentration and for every 5 decibel increase in average noise that children are exposed to, reading age decreases by two months.

In the UK, about half of the UK population live in areas where daytime sound levels exceed the recommended limit, causing adverse impacts on health. About two-thirds of the population live in areas where the night-time guidelines recommended by the WHO are exceeded [49].

Outside night noise levels of 55 decibels (dB) plus exposure is considered increasingly dangerous for public health. About 40% of the population in EU countries are exposed to road traffic noise at levels exceeding 55 (dB) and 20% are exposed to levels exceeding 65 (dB) during the daytime; and more than 30% is exposed to levels exceeding 55 (dB) at night [46].

Noise pollution disproportionately affects the most vulnerable in society, with homes in more deprived communities exposed to higher levels of noise pollution from busy roads. In addition, the impacts of noise pollution are greater among children and older people.

People value quiet areas, with 91% identifying the importance of protecting quiet areas from an increase in noise. In Buckinghamshire, there were over 1500 noise complaints in 2014/15. The rate of noise complaints per 1000 residents is highest in Wycombe District (4.0) followed by Chiltern (3.5), Aylesbury Vale (2.0) and South Bucks (1.6).



Green spaces and the natural environment

Introduction

There is a strong body of evidence that shows that being in contact with the natural environment is vital for our mental wellbeing and physical health at all ages. People with access to good quality green space have better mental and physical health and every 10% increase in green space is associated with a reduction in disease equivalent to a gain of 5 years of life.

The natural environment also helps mitigate some of the threats to our health from air pollution, noise pollution and extreme weather events including heat waves and flooding and provides a host of social and economic benefits. Green space and views of green space encourage social connections in communities, helps children concentrate at school and helps people recover more quickly in hospital. Many studies have shown the importance of incorporating green spaces into the design of towns, cities and housing developments.



The evidence

Green spaces and health

People with access to good quality green space have better self-rated health and are less likely to be overweight and obese. Natural landscaping and surroundings have been shown to positively influence people's attitudes and motivations to be physically active and as a result people living near green spaces are more likely to be physically active with all the benefits that being active provides. Living within 500m of green spaces increases the likelihood of doing at least 30 minutes of physical activity per day. The creation or improvement of a park or open space leads to an increase in local peoples' activity levels by up to 48%.

People also make more walking trips to local amenities such as shops and cafes when they perceive there are many natural features along the route including roadside trees. In less green neighbourhoods people judge distances to be further than they are which may discourage walking.

Undertaking physical activity in green spaces appears to offer additional health benefits compared to physical activity in indoor settings, with a greater positive effect on mental health. Experiments have shown walking in natural environments results in an increase in positive emotions and a fall in blood pressure. For people with depression, exercising in the natural environment has been associated with greater feelings of positivity, increased energy and decreases in tension, confusion, anger and depression compared to exercising indoors.

The strong positive impact that exposure to green spaces has on people's mental wellbeing and mental health extends beyond just doing exercise outdoors. Clinical studies have shown that within 5 minutes of viewing a nature setting, positive changes occur in blood pressure, heart rate, muscle tension and brain activity.

Caring for natural landscapes has been shown to improve self-reported health and depressive symptoms. Exposure to green spaces reduces stress levels and depression, especially in more deprived communities.

Studies have also shown that areas with higher amounts of green space have lower levels of hospital admissions for mental health conditions,

even after adjusting for other factors such as how urbanised an area is and the level of deprivation. Furthermore, when people do become unwell, being close to or having a view of greenery can help with recovery. Patients in hospital recovering from surgery have a shorter recovery time, reduced need for pain medication and lower anxiety if they can look out over green and open spaces.

Key facts:

Nearly one in every five (18%) Buckinghamshire households lives within 300m of a natural green space of at least 2 hectares, and only 58% of households live within 2km of a natural green space of at least 20 hectares.

Less than one in every five residents in Bucks (17.4%) spend time in outdoor green and open space (excluding shops and own garden) in a usual week.

Between 2013/14 and 2015/16 the proportion of adults using outdoor space for exercise or health reasons has fallen from 28.8% to 17.4%.

Buckinghamshire has over 43 hectares of open access land and a Right of Way network that spans over 3300km.

There are 1270km of promoted recreational routes across Bucks.



Green spaces throughout life

Green spaces for children and young people

The ability to participate in safe outdoor play is one of the most important benefits of green spaces for young people. It helps their physical and social development and keeps them healthy. Open spaces enable children to play freely and develop their imagination and creativity and interact with the natural environment. Play enables children to socialise and meet others from different backgrounds, contributing to a strong sense of community and helping to foster community cohesion.

Green spaces encourage children to be more physically active with benefits for their health. Parks with shaded areas have been shown to increase teenage girls' activity levels and girls' activity levels more than doubled in areas conducive to walking. Studies show that children living in deprived areas with more green spaces were less likely to be overweight and obese than children living in comparable areas with less green space.

Exposure to green spaces within and around schools is also good for children's learning, improving their levels of attention and educational attainment [51]. Travelling to school via green routes has also been linked to better memory and attention.

Green spaces also might be important at the very start of life. Pregnant women who live closer to green spaces have lower risk of low birthweight babies. For every 10% increase in green space within 100m of the home, there is an increase of up to 436g in average baby weight [52]. The effect is greater among women with lower levels of education. The effect also extends to green space that is further from the home. Having more green space within 500m of the home still has an important positive impact on birth weight.

Key facts:

In Buckinghamshire, levels of overweight and obesity among children in reception year and year six are 18% and 27% respectively.

Approximately one in every six girls (16%) and one in every four boys (23%) aged 5-15 years, in the South East of England are reported to achieve the recommended levels of physical activity.

During the week, three in every five (60.8%) children aged 15 years in Bucks spends at least 7 hours a day doing sedentary activities outside of school (e.g. playing computer games, on the internet, watching TV, etc.).

Green spaces for older people

Living close to green and open spaces is particularly important for older people, reflecting the fact that they spend a larger proportion of their time in their local neighbourhood compared to other age groups.

Research has shown that older people who lived near parks, tree-lined streets and spaces for taking walks showed greater longevity over a 5 year period and that walking in natural surroundings can boost immunity, lower stress indicators and reduced depression.

Studies have also shown the benefits of gardening for healthy ageing. Physical health was better and perceived stress levels decreased significantly among those aged 50-88 years who maintained a community garden plot compared to those who exercised indoors.

The benefits of green space are also seen for people with dementia where access to gardens improves socialisation and sleep, reduced agitation and aggression and the risk of experiencing injuries. Quality of life measures for people with dementia, their families and staff appear to improve at long term care facilities with therapeutic gardens.

Benefits to communities

Well-designed environments can encourage social interaction and facilitate the building of well-connected communities. Good natural landscaping encourages greater use of outdoor areas by residents and well managed green common spaces are very important in promoting the development of social ties in housing developments. Studies have shown that more social activities occurred in green common spaces than treeless spaces of the same size. Older adults who have more exposure to green common spaces report a stronger sense of unity among residents and a stronger sense of belonging to the neighbourhood. There is less graffiti, vandalism and littering in outdoor spaces with natural landscapes than in comparable plant-less spaces and residents in these areas also report fewer acts of domestic aggression, property crime and violence.

Protecting us from extreme weather events, air and noise pollution

Natural landscaping can help mitigate the threats to our health from air and noise pollution, flooding and heat waves. Urban greening is the process of landscaping developed areas to incorporate green infrastructure such as trees, green walls, green roofs and drainage measures.

Climate change is bringing more extreme weather events such as the heat wave that resulted in an extra 35,000 deaths across Europe in 2003 [53]. The risk to health of heat waves is particularly

marked in urban areas which are prone to the 'urban heat island' effect - a phenomenon where built up areas absorb and trap heat meaning temperatures can be as much as 5° Celsius higher than rural surroundings.

The urban heat island effect can be mitigated by urban greening, using green roofs, green walls, living architecture and tree lined streets. Trees can help reduce the urban heat island effect and reduce air temperatures by 1-2° Celsius. The lower temperatures can reduce the risk of heat exhaustion, which is especially a risk in vulnerable populations such as the very young and older people. The shading effect of trees around buildings has also been estimated to reduce heating and cooling costs by 20% and use of air conditioning by up to 30% thus helping save costs, energy and reducing greenhouse gases. Green roofs also improve the energy efficiency of homes by offering additional insulation. Installing a green roof can reduce the need for cooling in the summer as temperatures under a green roof are up to 15°C cooler in summer. In winter temperatures under a green roof are 4.5°C warmer, reducing the need for heating. For older people, this can help with winter warmth and avoid fuel poverty.

Urban environments are also more at risk of flooding, due to surface run-off from paved over areas. Street trees are able to absorb up to 60% of rain water, with mature trees soaking up between 50 and 100 gallons of rainwater during a storm [54]. This reduces surface run-off and acts as a flood prevention measure. Green roofs offer similar flood protection as they can absorb up to 90% of rainwater. Rainwater absorbed by trees and green roofs is then released gradually, reducing the risk of flooding.

Urban greening is an effective strategy to improve health by improving air quality and reducing levels of noise pollution. Whilst all trees and greenery absorb air pollutants, the effect is greatest in built up areas where pollution is highest. The traffic on our streets and roads contributes to approximately 50% of air pollutants, with the highest levels in built up areas. Urban trees and greenery are able to improve air quality by absorbing airborne particulates and can cut pollution from fine particulate matter by as much as 25% [55].

It is not only air pollution that urban greening can improve. The insulation properties of green roofs extend to noise insulation, with some green roofs able to reduce noise in the home from external

sounds by up to half. Living on a street with trees can also help to reduce the level noise pollution by creating a natural sound barrier.

It is estimated that the direct health impact of noise pollution costs the UK economy over £1 billion per year. Noise pollution is associated with poor sleep and stress, increased blood pressure and increased risk of conditions such as heart attack, stroke and dementia. Children exposed to noise have poorer concentration and for every 5 decibel increase in average noise that children are exposed to, reading age decreases by two months.

Using urban greening to improve health and wellbeing

In addition to the benefits described above in relation to reducing impacts of heat events, flooding and noise, residents living in areas with trees have a stronger sense of community and experience less crime and have a greater life expectancy. Living on a street with 10 extra trees improves happiness to the same extent as being seven years younger.

Residents living in housing with nearby trees and greenery have been shown to be more able to cope with major life events compared to those living in homes with more barren surroundings e.g. surrounded by concrete. Green walls also offer the opportunity to provide greenery in very small spaces, using vertical surfaces to grow plants. Green walls can also be effective ways of bringing the natural environment into indoor spaces, offering the benefits to people whilst they are inside. Having greenery indoors in hospitals and schools can improve recovery times for patients and reduce symptoms from conditions such as attention deficit and hyperactivity disorder among children.

The visual impact of green walls in public places can lower blood pressure, reduce stress and promote physical activity through creating an alluring and inviting environment. Green walls and greenery in workplaces has been linked to increased productivity, reduce common symptoms such as cough and tiredness and has been linked to improving health and food literacy.

Urban greening can also offer benefits to employees, employers and the economy. Studies have shown that having views of nearby nature can improve worker productivity and reduce stress and potentially reduce sickness absence.

The evidence

Eating foods from out of the home food outlets

Food bought from out of home food outlets is generally considered to be less healthy than food prepared in the home, with higher levels of sugar, fat and salt. In addition to this, portion sizes bought from out of the home food outlets tend to be larger [62].

Currently, over a quarter of adults (27%) have at least one meal per week that is bought from an out of home food outlet, either from a takeaway or restaurant. Research suggests that increased access to healthier food retail outlets is associated with increased weight in the general population and increased obesity and unhealthy eating behaviours in children living in low income areas. There is an association between the density of takeaway food outlets and areas of deprivation with higher densities of takeaway food outlets in more deprived areas. This issue is exacerbated by the trend towards purchasing fresh food from out of town or edge of town super markets rather than local providers. This has resulted in the phenomenon known as food deserts, which are more common in deprived communities [63].

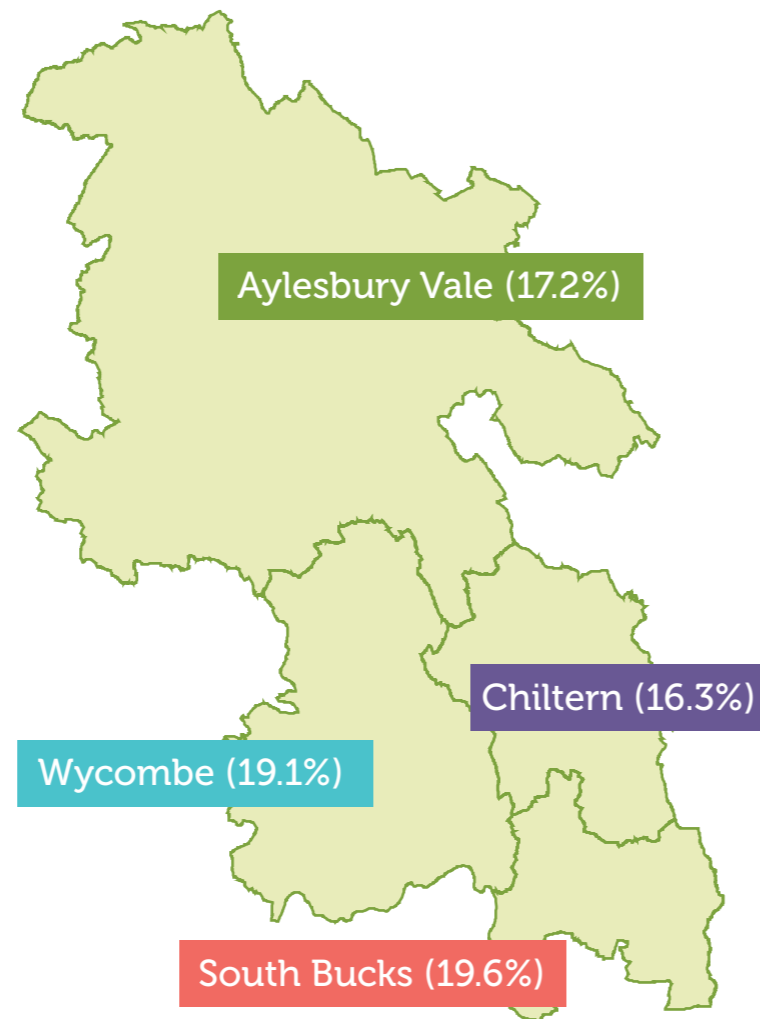
Evidence suggests that increased access to outlets selling healthier food is associated with improvements in diet and adult weight [64]. There is also evidence that providing healthy affordable food in schools is associated with improved healthier food sales, dietary behaviours and better nutrition.

There are nearly 200 fast food outlets in Buckinghamshire. However, this is likely to be a conservative estimate with some shops and restaurants also selling fast food. The highest density of fast food outlets (number of outlets per 100,000 people) is in Wycombe (64) followed by Chiltern (50) and Aylesbury Vale (49.8). South Bucks has the lowest density of fast food outlets (39.4). This compares to an average density across England of 88 fast food outlets per 100,000 people [65].

Key facts:

Among children in year 6 (10-11 years) the highest levels of excess weight are in Aylesbury Vale (28.8%), followed by South Bucks (28.5%), Wycombe (26.8%), Chiltern (23.7%)

Among adults the highest levels of overweight and obesity are in Aylesbury Vale (64.0%) followed by Wycombe (60.7%), South Bucks (54.7%) and Chiltern (52.1%)



Levels of excess weight vary by area. Among children in reception year (4-5 years) the highest levels of excess weight are in South Bucks (19.6%), followed by Wycombe (19.1%), Aylesbury Vale (17.2%), Chiltern (16.3%)

Home and locally grown foods

Community gardens and allotments offer a range of health benefits. Locally grown foods on personal and community allotments and gardens are predominantly fruits and vegetables. Growing food locally has been shown to support people to have a more balanced diet and achieve the recommended five portions of fruit and vegetables per day.

Gardening also offers opportunities to take exercise and is a great way to get outdoors and be active. Depending on the level of exertion, gardening and working on an allotment count as moderate or vigorous intensity physical activity as well as strengthening exercises. This means that gardening and working on an allotment can help adults achieve the recommendation of 150 minutes of moderate intensity physical activity and lower the risks from conditions such as heart disease and stroke.

A common reason for people not to have a healthy diet is that they are unsure what food to eat as well as lacking confidence in preparing healthier meals. Growing your own food has also been shown to increase food and health literacy, overcoming these barriers and enabling people to improve their diets. This is particularly important in childhood and schemes teaching children to grow food in

a community garden or allotments have shown improvements in food literacy [66] and reductions in overweight and obesity [67].

The mental health benefits of allotment gardening include lower levels of stress and depression through being immersed in nature, engaging with the natural environment and viewing green space. Community allotments can be used as 'horticultural therapy', and have been shown to support people with chronic pain, dementia and long term mental health conditions.

There are a number of wider benefits from allotments and community gardens including the opportunities to socialise. Allotments have long been an important aspect of British culture as a community asset, providing a different type of meeting point than other amenities such as leisure centres, shops, food outlets and town centres. Use of community allotments has been linked to lower levels of social isolation and more community networking. Community allotments have been shown to increase social networks within communities, especially in groups at high risk such as socially excluded groups, substance misusers and people with long-term physical and mental health conditions.



Summary and Recommendations

The health and wellbeing of our population is vital for the social and economic success of Buckinghamshire. Good health helps people live a satisfying life and achieve their goals. It supports children's educational attainment, adult's ability to work and everyone's ability to participate in and contribute to community life.

This report has shown the myriad ways in which the places where we grow up, live, work, play and age impact on our mental and physical health and wellbeing. It has also highlighted that key groups are more vulnerable to the impact of poor environments particularly children, older people and people with existing health problems. In addition some groups are more often exposed to poorer environmental conditions such as people on low incomes, people living in more deprived areas, older people and those with long term conditions. Communities and neighbourhoods need to be designed with this in mind to ensure they meet the needs of all residents and ensure that everyone has a chance to live as healthy a life as possible.

The impacts of our living environments on our health are wide ranging and are felt throughout life. Where we live can influence how happy we are, whether we know our neighbours and how strong the community ties are. They can also influence how well children develop and how they do at school, crime levels, fear of crime and economic productivity.

When it comes to health the impacts are far reaching. The places and communities in which we live affect our ability to live healthy lives which has a profound impact on our risk of developing a wide range of long term conditions such as high blood pressure, obesity, diabetes, heart disease, stroke, cancer and dementia. As our population ages it is more crucial than ever that our residents age well and delay or prevent the onset of long term conditions, disability and frailty. The opportunities to be active and have access to healthy affordable food also affect the health of our children and young people. Moreover, young people growing up in strong communities are more likely to adopt positive health behaviours and resist harmful patterns of behaviour.

The places and communities in which we live influence our mental wellbeing which affects all

other aspects of our health and lives. The presence of strong social connections and community spirit can help protect mental wellbeing and reduce loneliness and social isolation. Well-designed neighbourhoods with welcoming places to meet that are accessible to all help improve social connections. Green spaces and places to be physically active also produce a wide range of mental wellbeing and physical benefits.

The places we live and work determine the quality of the air we breathe and the levels of noise we experience. There is good evidence that poor air quality increases the risk of a wide range of long term conditions and has a harmful impact on child health and development. Noise pollution also has a significant impact on physical and mental health. Significant sources of air pollution include road and rail traffic and construction so it is important that with housing growth and the significant infrastructure developments in Buckinghamshire that action is taken to mitigate the impact of air and noise pollution. Good spatial design can also help mitigate the health effects of extreme weather due to climate change e.g. heat waves and flooding. Good design and policies can also help reduce energy use and contribute to a more sustainable future.

Finally the provision of a wide range of quality affordable and adaptable housing is vital to our residents, helping them stay physically and mentally healthy throughout life and live in suitable accommodation as their needs change.

Improving the health of our residents makes good economic sense and reduces demand on health and social care and other public sector services. Improving health through improvements to the environment and community life has additional benefits as it helps Buckinghamshire remain a thriving and attractive place where people want to live and work, can contribute to reducing congestion, air and noise pollution, mitigating the impact of climate change and attract inward investment.

A wide range of stakeholders have a role in determining whether our environment is healthy. Communities have a key role to play in making places successful and attractive to live in. Other key partners include local authorities, developers,

businesses and the public and private sector working with communities, voluntary and faith groups. Much good work is already underway across Buckinghamshire to protect and improve the places we live and to strengthen communities. There are very significant opportunities for us all to work together. This includes the recent awarding of Garden Town status to Aylesbury which offers a unique chance to ensure that as the town grows we can create well planned sustainable environments and desirable communities in which to live. There are other place shaping initiatives taking place across Buckinghamshire and opportunities to share good practice across the county and beyond.

To continue and support this good work the following recommendations are for all stakeholders including communities themselves.

Recommendations

1. The promotion and protection of the health and wellbeing of everyone who lives and works in Buckinghamshire should be a major consideration when planning new developments or improving existing developments. This should be supported by health impact assessments where appropriate, to understand the impact of these changes on health and wellbeing particularly for those most vulnerable and with the greatest risk of poor health.
2. Where possible, local authorities and developers should engage communities in co-designing new developments and making improvements to existing developments. They should ensure input from a wide range of current and future residents of all ages and abilities to ensure developments work for all. The WHO 'Age Friendly' Cities guidance and UNICEF Child Friendly Cities and Communities initiative offer useful principles to inform discussions.
3. Local authorities, communities, town and parish councils and local area forums should use this report to consider how they might work together to improve the health and wellbeing of their residents, drawing on the assets in their communities and their local knowledge of what might need to change. This could include strengthening the social ties in an area, increasing community engagement and reducing social isolation or making improvements to the built and natural

environment. A useful set of questions to inform discussions is the Place Standard toolkit, using 14 questions designed to cover the physical and social aspects of a place and help determine priorities for action.

4. The public and private sector, voluntary, community and faith sector including local authorities, the NHS, schools, universities and businesses should use this report to consider how they can help improve health and wellbeing through their actions that impact on the environment and strengthen communities in Buckinghamshire. This can include the services they provide, their policies on community engagement and co-design of services with communities, travel, land use, and corporate social responsibility.
5. We should, where possible, encourage planning for new and existing developments to:
 - Be socially inclusive, welcoming and accessible to all sections of our community. Designed on a human scale for people and taking into account the needs of children and older people and those with disabilities.
 - Provide safe, welcoming indoor and outdoor public places where people can meet.
 - Encourage physical activity, active travel and access to good public transport.
 - Incorporate natural landscaping and urban greening and good access to high quality green and blue public spaces e.g. parks and community gardens that people of all ages and backgrounds can enjoy.
 - Improve access to healthy affordable food.
 - Be designed to help reduce crime.
 - Provide healthy good quality homes using lifetime home principles and affordable housing.
 - Provide good access to employment, retail and community facilities and health services which can ideally be accessed by walking or cycling through mixed land use policies.
 - Minimise the impact of climate change and minimise air, water and noise pollution.
 - Foster strong social connections and a sense of belonging and link new and existing communities effectively.

Appendix

Community Appraisal Tool

The Place Standard – How Good is Our Place?

The Place Standard is a way of assessing places. Whether the place is well-established, undergoing change, or is still being planned. The Place Standard tool provides a simple framework and allows you to think about the physical elements of a place as well as the social aspects.

The Place Standard is a tool that is used to assess the quality of a place. The tool pinpoints the assets of a place, as well as areas where a place could improve, helping to identify priorities for a particular place.

The tool is simple and free to use. It consists of 14 questions which cover both the physical and social elements of a place:

1. Can I easily walk and cycle around using good-quality routes?
2. Does public transport meet my needs?
3. Do traffic and parking arrangements allow people to move around safely and meet the community's needs?

The local Place Standard Tool is available at www.placestandard.scot/start/buckinghamshire

All responses are anonymous and will be combined with other responses to develop a spider diagram (see Figure 2) to help inform local services.

4. Do buildings, streets and public spaces create an attractive place that is easy to get around?
5. Can I regularly experience good-quality natural space?
6. Can I access a range of spaces with opportunities for play and recreation?
7. Do facilities and amenities meet my needs?
8. Is there an active local economy and the opportunity to access good-quality work?
9. Do the homes in my area support the needs of the community?
10. Is there a range of spaces and opportunities to meet people?
11. Does this place have a positive identity and do I feel I belong?
12. Do I feel safe here?
13. Are buildings and spaces well cared for?
14. Do I feel able to take part in decisions and help change things for the better?

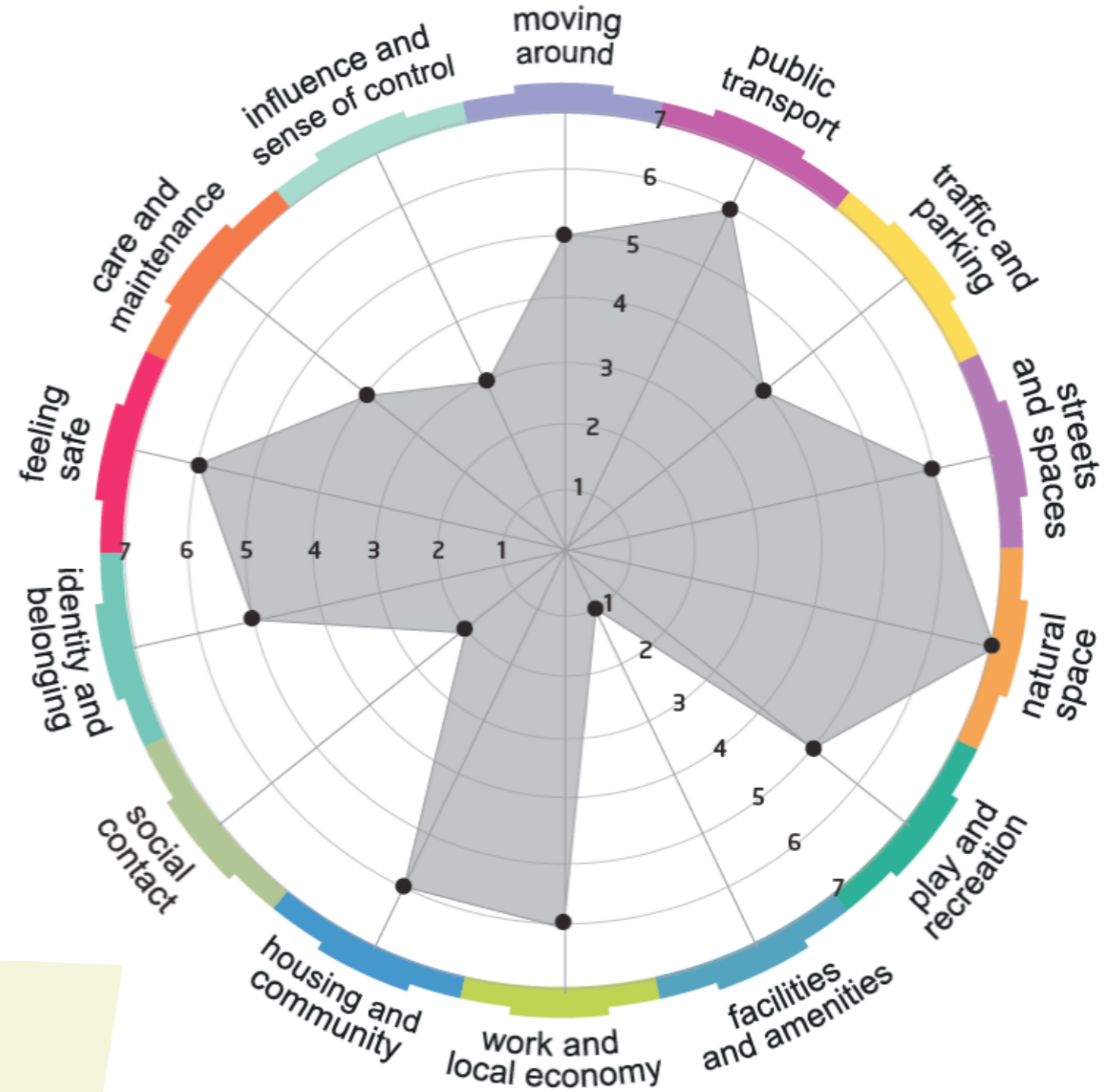
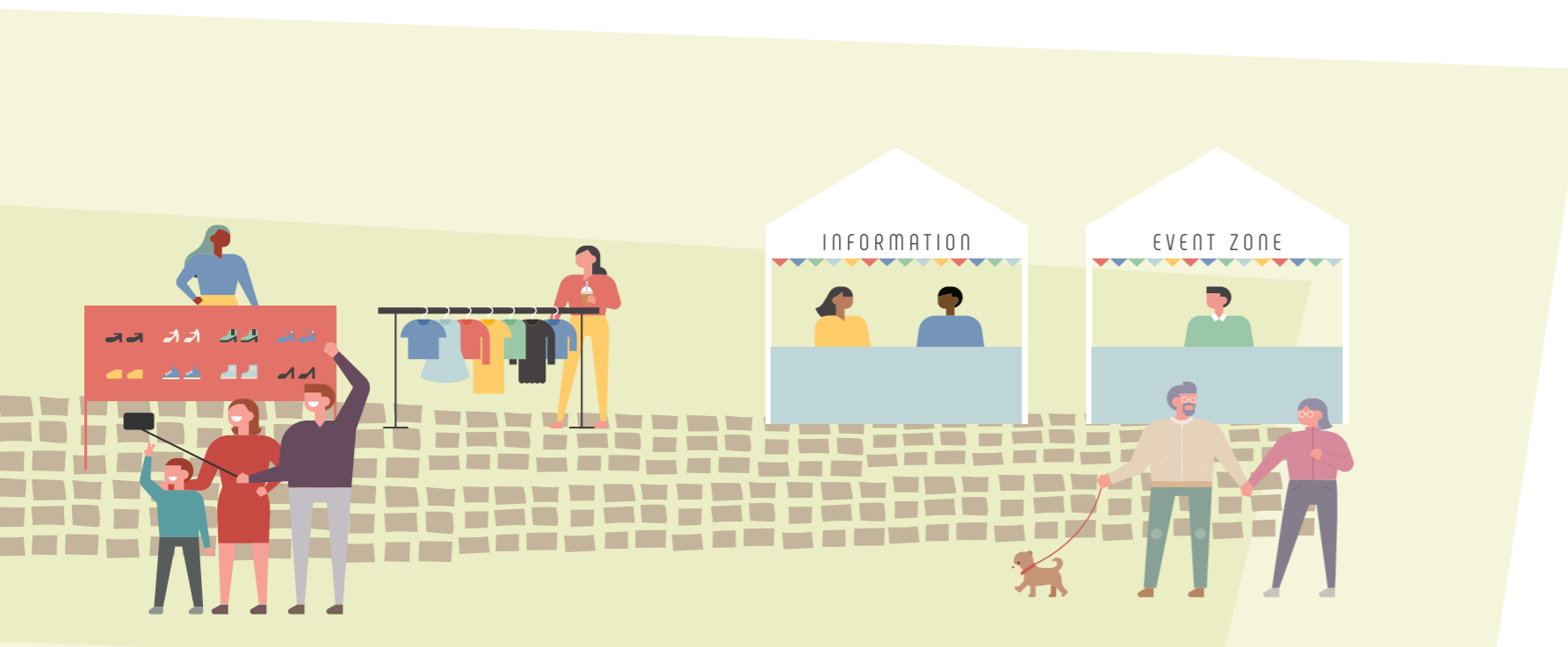


Figure 2 - Example of an assessment of a community using the Place Standard.



Appendix – Public Health Outcomes Grid

| Public Health Outcomes Grid - Director of Public Health's Annual Report - Buckinghamshire 2018 | | | | | | | | | | |
|--|---|------------------|---------------|--------|-------|------------|---------|-------------|-------------|-------|
| Indicator | | Unit | Year | Bucks | | South East | England | Time series | CIPFA Peers | |
| Number | Name | | | Count | Value | | | | Value | Value |
| Overarching | | | | | | | | | | |
| 1 | Healthy life expectancy at birth (Male) | Years | 2014-16 | - | 69.4 | 66.1 | 63.3 | | 65.9 | 1 |
| 2 | Healthy life expectancy at birth (Female) | Years | 2014-16 | - | 70.3 | 66.3 | 63.9 | | 66.4 | 1 |
| 3 | Life expectancy at birth (Male) | Years | 2014-16 | - | 81.9 | 80.6 | 79.5 | | 80.6 | 1 |
| 4 | Life expectancy at birth (Female) | Years | 2014-16 | - | 84.9 | 84.0 | 83.1 | | 84.0 | 1 |
| Wider Determinants | | | | | | | | | | |
| 5 | School readiness: % children achieving good level of development at the end of reception | % | 2016/17 | 4,791 | 73.5 | 74.0 | 70.7 | | 71.8 | 3 |
| 6 | Sickness absence - % of employees who had at least one day off in the previous week | % | 2014-16 | - | 2.5 | 2.2 | 2.1 | | 2.0 | 14 |
| 7 | Killed or seriously injured casualties on England's roads | Rate per 100,000 | 2014-16 | 722 | 45.5 | 50.6 | 39.7 | | 47.7 | 8 |
| 8 | Violent crime including sexual violence - violence offences per 1,000 population | Rate per 1,000 | 2016/17 | 5,788 | 11.0 | 19.4 | 20.0 | | 16.6 | 1 |
| 9 | Domestic Abuse related incidents and crimes | Rate per 1,000 | 2016/17 | - | 16.0 | 18.9 | 22.5 | | 19.7 | 4 |
| 10 | Social Isolation - % of adult social care users who have as much social contact as they would like | % | 2016/17 | - | 45.1 | 46.6 | 45.4 | | 46.4 | 6 |
| 11 | Fuel poverty | % | 2015 | 17,551 | 8.4 | 9.4 | 11.0 | | 9.7 | 6 |
| 12 | Children in care | Rate per 10,000 | 2017 | 455 | 37.0 | 51.0 | 62.0 | | 46.5 | 5 |
| Health Improvement | | | | | | | | | | |
| 13 | Low birth weight of term babies | % | 2016 | 157 | 2.8 | 2.3 | 2.8 | | 2.3 | 16 |
| 14 | Excess weight in 4-5 year olds (NCMP) | % | 2016/17 | 1,088 | 18.0 | 21.4 | 22.6 | | 21.3 | 2 |
| 15 | Excess weight in 10-11 year olds (NCMP) | % | 2016/17 | 1,384 | 27.2 | 30.6 | 34.2 | | 30.3 | 3 |
| 16 | Smoking Prevalence in adults - current smokers (APS) | % | 2016 | - | 11.2 | 14.6 | 15.5 | | 13.8 | 1 |
| 17 | Excess weight in adults | % | 2016-17 | - | 57.8 | 59.7 | 61.3 | | 60.6 | 3 |
| 18 | Adults reporting as physically inactive (<30 mins of moderate to high intensity physical activity/week 19+) | % | 2016/17 | - | 17.5 | 19.3 | 22.2 | | 20.1 | 1 |
| 19 | Diabetes Prevalence (QOF) | % | 2016/17 | - | 5.9 | 6.0 | 6.7 | | 6.2 | 5 |
| 20 | Admission episodes for alcohol-related conditions - narrow definition | Rate per 100,000 | 2016/17 | 2,594 | 502.6 | 525.1 | 636.4 | | 584.9 | 4 |
| 21 | Cancer screening coverage - Breast | % | 2017 | 46,832 | 79.4 | 76.9 | 75.4 | | 77.7 | 3 |
| 22 | Cancer screening coverage - Cervical | % | 2017 | 47,783 | 74.7 | 73.2 | 72.1 | | 74.4 | 7 |
| 23 | Cancer screening coverage - Bowel | % | 2017 | 47,783 | 60.9 | 61.0 | 58.8 | | 61.9 | 10 |
| 24 | Cumulative % of the eligible population offered an NHS Health Check who received an NHS Health Check | % | 2013/14-16/17 | 57,762 | 44.3 | 45.5 | 48.9 | N/A | 48.4 | 10 |
| 25 | Self-reported wellbeing - People with a low happiness score | % | 2016/17 | - | 6.2 | 7.8 | 8.5 | | 7.7 | 4 |
| 26 | Self harm in children: Hospital admissions as a result of self-harm 10-24yrs | Rate per 100,000 | 2016/17 | 294 | 329.2 | 449.3 | 404.6 | | 476.5 | 3 |
| 27 | Average difficulties score for all looked after children aged 5-16 who have been in care for at least 12 months | Score | 2016/17 | - | 14.3 | 14.6 | 14.1 | | 14.7 | 7 |
| 28 | Emergency hospital admissions for intentional self-harm | Rate per 100,000 | 2016/17 | 657 | 126.3 | 197.3 | 185.3 | | 194.9 | 2 |
| 29 | Women 6-8 weeks post-natal with an Edinburgh Post Natal Depression Score indicative of post-natal depression | % | | | 7.3 | N/A | N/A | N/A | N/A | - |
| 30 | Recorded dementia prevalence (65+) | % | Sep-17 | 4,333 | 4.3 | 4.2 | 4.3 | | 4.2 | 11 |
| 31 | Under 18 conceptions | Rate per 1,000 | 2015 | 101 | 10.4 | 15.0 | 18.8 | | 14.8 | 1 |

Figure 3 - Buckinghamshire Public Health Outcomes Grid

Public Health Outcomes Grid - Director of Public Health's Annual Report - Buckinghamshire 2018

| Number | Indicator Name | Unit | Year | Bucks | | South East | England | Time series | CIPFA Peers | |
|---|---|------------------|-------------------|---------|---------|------------|---------|-------------|----------------------|---|
| | | | | Count | Value | Value | Value | | Mean excluding Bucks | Rank 1-5 are best 12-16 are worst |
| Health Protection | | | | | | | | | | |
| 32 | Chlamydia detection rate (15-24) ¹ | Rate per 100,000 | 2016 | 685 | 1,181.8 | 1,500.5 | 1,882.3 | | 1588.9 | 14 |
| 33 | Children in care with up to date immunisations | % | 2017 | 285 | 95.3 | 80.9 | 84.6 | | 75.4 | 1 |
| 34 | Population vaccination coverage - Flu (aged 65+) ² | % | 2016/17 | 70,984 | 71.3 | 70.2 | 70.5 | | 71.4 | 10 |
| 35 | Population vaccination coverage - Flu (at-risk individuals) ³ | % | 2016/17 | 27,421 | 48.1 | 48.3 | 48.6 | | 48.8 | 10 |
| 36 | HIV late diagnosis ⁴ | % | 2014-16 | 36 | 43.4 | 43.4 | 40.1 | | 44.7 | - |
| 37 | Incidence of TB ⁵ | Rate per 100,000 | 2014-16 | 133 | 8.4 | 7.1 | 10.9 | | 4.8 | 16 |
| Healthcare and Premature Mortality | | | | | | | | | | |
| 38 | Infant mortality | Rate per 1,000 | 2014-16 | 64 | 3.5 | 3.2 | 3.9 | | 3.4 | 11 |
| 39 | Under 75 mortality rate from all CVD | Rate per 100,000 | 2014-16 | 707 | 52.3 | 61.5 | 73.5 | | 62.2 | 2 |
| 40 | Under 75 mortality rate from all Cancers | Rate per 100,000 | 2014-16 | 1,529 | 112.8 | 126.9 | 136.8 | | 124.5 | 1 |
| 41 | Under 75 liver disease mortality considered preventable | Rate per 100,000 | 2014-16 | 123 | 8.8 | 13.2 | 16.1 | | 12.3 | 1 |
| 42 | Mortality attributable to particulate air pollution | % | 2016 | - | 5.5 | 5.5 | 5.3 | | 5.2 | 13 |
| 43 | Directly Age Standardised Rate of Mortality in persons (aged 65+) with a recorded mention of dementia | Rate per 100,000 | 2016 | 731 | 710.7 | 840.7 | 867.6 | | 820.3 | 1 |
| 44 | Excess under 75 mortality rate in adults with serious mental illness (Indirectly standardised ratio) | % | 2014/15 | - | 351.1 | 347.5 | 370.0 | | 353.3 | 9 |
| 45 | Suicide rate | Rate per 100,000 | 2014-16 | 97 | 7.2 | 9.8 | 9.9 | | 9.6 | 2 |
| 46 | Hip fractures in people aged 65 and over | Rate per 100,000 | 2016/17 | 580 | 572.6 | 560.4 | 575.0 | | 568.2 | 8 |
| 47 | Excess winter deaths Index - 3 years | Ratio | Aug 2013-Jul 2016 | 698 | 18.0 | 17.4 | 17.9 | | 17.3 | 12 |
| 48 | Mortality rate from causes considered preventable | Rate per 100,000 | 2014-2016 | 1,988.0 | 132.5 | 159.6 | 182.8 | | 156.7 | 1 |

Rag Rating: 1. Red: <1,900; Amber: 1,900-2,300; Green: ≥2,300. 2. Red: <75; Green: ≥75. 3. Red: <55; Green: ≥55. 4. Green: <25; Amber: 25-50; Red: ≥50. 5. Red: >50th-percentile of UTLAs; Amber: ≤50th to >10th; Green: ≤10th.

All other indicators compared to England:
● Better ● Similar ● Worse ● Lower ● Similar ● Higher
○ Not Compared



Figure 3 - Buckinghamshire Public Health Outcomes Grid

Update on recommendations from 2016 Director of Public Health Annual Report

| Recommendation | Progress |
|--|--|
| 1. Healthcare professionals in contact with pregnant women or new mothers should assess all the factors that could impact on the mother's, baby's and family's health and offer advice, support and referral to appropriate services. This includes lifestyle factors such as smoking, alcohol consumption, drug use, weight and healthy eating as well as mental health, exposure to domestic violence and other social factors. There is significant scope to increase referrals to support services to improve outcomes for babies, mothers and families. | <ul style="list-style-type: none"> Buckinghamshire CCG has commissioned a specialist Perinatal Mental Health service. This service has developed a perinatal mental health pathway in Buckinghamshire which is being promoted and embedded into everyday practice. The health visiting service has an infant feeding specialist now in post and the service is working towards UNICEF baby friendly status accreditation. Stage 1 of the process has been achieved and the service is currently being assessed for stage 2 accreditation. Buckinghamshire Healthcare Trust (BHT) have implemented a set of actions to improve the identification, recording and referral of pregnant women with high risk lifestyle behaviours, including: <ul style="list-style-type: none"> Midwives are being supported by the CCG and healthcare providers to develop skills in delivering holistic care, including identifying high risk women and referring to appropriate services. Pathways are being developed with new providers of lifestyle services to improve referral and care. |
| 2. Buckinghamshire County Council and partners should consider whether there is a need to develop and implement a new comprehensive strategy to support parents in Buckinghamshire. | <ul style="list-style-type: none"> A 'Transition to Parenthood' pathway (from ante-natal to post-natal care) has been developed and is being implemented. The pathway for vulnerable women is in development. |
| 3. All professionals in contact with pregnant women and families with young children should encourage parents to access universal parenting advice via the red book, national start4life website, Baby Buddy app and the Buckinghamshire Family Information Service. | <ul style="list-style-type: none"> The Baby Buddy app has been commissioned in Bucks with the additional ability to adapt the platform to be more specific to Buckinghamshire. The app is promoted by maternity service and other stakeholders. Uptake and usage of the Baby Buddy app is regularly monitored and information is used to target its promotion in areas with higher need and poor uptake. Buckinghamshire Family Information Services provides national and local information and sources of support during maternity and parenthood is included. A local tool to support signposting to relevant information sources and services is being developed for non-healthcare staff and volunteers in contact with pregnant women and families with young children. This includes signposting for services relating to lifestyle factors, social issues, mental health concerns and domestic violence. |

| Recommendation | Progress |
|--|--|
| 4. Commissioners and providers of maternity, early years, mental health and substance misuse services should enhance the data collected on the physical and mental health of mothers and babies, the prevalence of risk factors and referral to and outcomes of services. This should enable us to monitor progress and evaluate the impact of our services. Key data should be reported annually to the Health and Wellbeing Board. | <ul style="list-style-type: none"> BHT has reviewed the process of identifying and recording relevant information on pregnant women and has implemented a process to improve data accuracy and completeness. BHT is working with the new lifestyle service provider to improve data collection. The maternity and health visiting services have implemented a number of actions to improve the completeness and accuracy of data related to breastfeeding. Key indicators related to physical and mental health of mothers and babies are included in the Health and Wellbeing Board Performance Dashboard. These include indicators assessing: <ul style="list-style-type: none"> Maternal mood Smoking status at the time of delivery Low birth weight of term babies Infant mortality. |
| 5. Buckinghamshire County Council should work closely with schools to explore how the new RSE/ PSHE can prepare young people for a healthy and happy life and addresses emotional resilience, healthy relationships, sexual health and healthy lifestyles. One of the future benefits of this should be healthier parents and babies and healthy, planned pregnancies. | <ul style="list-style-type: none"> A PSHE lead has been in post since December 2017. PSHE training sessions have been organised and delivered for primary and secondary PSHE school leads, and primary and secondary school PSHE forums (12 secondary and 20 primary leads plus other PSHE teachers have attended). These sessions have been facilitated by the PSHE lead and have resulted in increasing engagement from schools and improved sharing of practice and models. This will inform the report to be produced by the PSHE lead. A PSHE webpage has been set up which is available to all PSHE staff in schools. A termly newsletter is sent to schools to update them on the latest local and national updates. An increasing number of schools have joined the PSHE association which provides resources, tools and expert advice. A response to the Relationship and sex education consultation was made and the consultation was circulated to schools. The PSHE lead has encouraged schools and pupils to respond to the consultation. |
| 6. Partners should consider how they can contribute to improving outcomes for babies, mothers and families in Buckinghamshire. | <ul style="list-style-type: none"> The Health and Wellbeing Board hosted a workshop in October 2017 with over 50 delegates attending from a range of key organisations across Bucks including the councils, healthcare providers, healthcare commissioners and the voluntary and charitable sector. The workshop focussed on identifying activities that would improve outcomes for mothers, babies and families in Buckinghamshire with a particular focus on those with poorer outcomes. Individuals and organisations attending the workshop who were able to contribute to further developing and implementing activities and projects were identified and, where appropriate, engaged in the activities above. |

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