Director of Public Health Annual Report 2022

# Hearts and Minds

## Preventing heart disease and stroke in Buckinghamshire

SHORT READ VERSION

# 1. Introduction

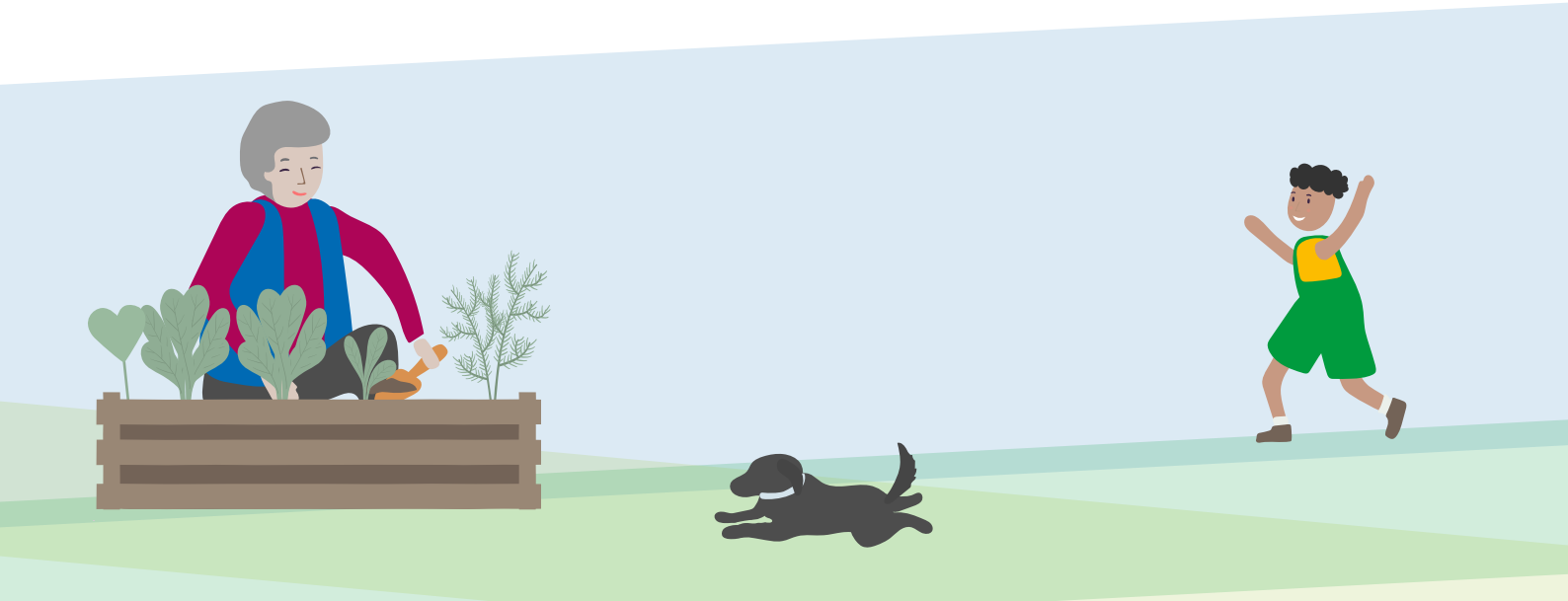
Cardiovascular disease describes diseases of the heart and blood vessels. It includes heart disease, stroke, transient ischaemic attacks (mini-strokes) and vascular dementia, which is the second commonest type of dementia. Cardiovascular disease costs the NHS in England £7.4 billion and the wider economy £15.8 billion every year. It is responsible for one in four premature deaths in the UK and is the biggest contributor to the gap in life expectancy between those living in the most and least deprived areas.

Buckinghamshire is one of least deprived and consequently healthiest counties in England. However, our residents still suffer from a significant burden of preventable diseases, including cardiovascular disease. Although our death rate is lower than the national average, cardiovascular disease is a significant cause of ill health and disability in Buckinghamshire. It causes more than one in five deaths in Buckinghamshire and is the biggest contributor to the gap in life expectancy between people living in our most and least deprived areas.

Death rates from cardiovascular disease had been falling in Buckinghamshire over the last 20 years but progress has been slowing and premature death rates have plateaued recently. Risk factors for cardiovascular disease, such as obesity and diabetes, are rising nationally and locally and could lead to rising rates of cardiovascular disease again.

The COVID pandemic has also had an impact on cardiovascular disease risk by increasing unhealthy behaviours and affecting other cardiovascular disease risk factors. Provisional data covering the pandemic period also revealed a rise in cardiovascular disease death rates between 2020 and 2021. The rise in the cost of living may also have an adverse impact on the development of cardiovascular disease in our residents. We need to act now to reduce the burden of ill health experienced by our communities.

The good news is that the majority of cardiovascular disease can be prevented. Many of the risk factors for cardiovascular disease also cause other diseases, such as cancer, lung and liver disease. Acting on these risk factors will reduce these diseases too and bring many benefits to individuals and communities. It can improve people's health, quality of life and independence as well as the quality of our environment, help mitigate the impact of climate change and increase the economic and social success of Buckinghamshire.



# 2. Risk factors for cardiovascular disease

We understand a lot about what increases peoples risk of developing cardiovascular disease so we can act effectively to prevent it developing in the first place. It is estimated that up to 80% of cardiovascular disease is preventable.

The risk factors for cardiovascular disease are a mix of personal characteristics, such as age and ethnicity, which cannot be changed and factors that are modifiable, such as the environments and circumstances in which people live, people's opportunities to adopt healthy behaviours and exposure to chronic stress.

The modifiable risk factors can be categorised as behavioural risk factors, clinical risk factors and environmental risk factors and these are discussed below. These factors are often inter-related and therefore we need a multi-agency and multi-level approach to address them. This approach combines actions people can take themselves, actions at a community level and a Buckinghamshire-wide level. National action is also required to help address some of the risk factors.

## 2.1 Behavioural risk factors

Smoking, being physically inactive, drinking too much alcohol and eating an unhealthy diet increase the risk of cardiovascular disease. The greater the number of risk factors a person has the greater the risk of developing cardiovascular disease. In Buckinghamshire, 13% of adults smoke but this rises to 22% in the most deprived areas of Buckinghamshire according to primary care data.

Changing behaviour is not just a matter of will power. Most health related behaviours are shaped in childhood and adolescence and are influenced by a wide range of factors when we are at an impressionable age. The health behaviours of young people are strongly influenced by the people they see around them, including parents, other adults and their peers. For instance, we know that children who have parents who smoke are more likely to become smokers themselves.

The conditions in which people live also profoundly influences their ability to adopt healthy behaviours. For example, to eat healthily or keep homes warm requires a sufficient level of income. Studies show the poorest 10% of UK households would need to spend 75% of their disposable income on food to meet the recommendations for healthy eating compared to just 8% for the richest 20%. The density of fast food outlets is higher in more deprived areas increasing the availability of unhealthy food. The ability to build physical activity into daily routines is supported by safe cycling or walking routes and safe places to play and be physically active. The pricing, advertising and availability of food and alcohol affect consumption significantly and the food and alcohol industry spend many millions on advertising their products to influence cultural norms and consumption. For all these reasons the prevalence of health promoting or health harming behaviours varies across the population and over time.

Changing behaviour requires much more than a focus on the individual and their behaviour but a whole system approach that supports the individual to make healthy choices and makes healthy choices the easy choices. Interventions that introduce structural changes and require less effort on the part of the individual often have a larger health impact and reduce health inequalities more effectively. The most effective approaches combine population level interventions and individual support. Smoking provides a good example of this combined approach. National action helps produce an environment that discourages smoking through legislation, taxation and advertising and individual support is offered to help people stop smoking.

## 2.2 'Clinical' risk factors

High blood pressure, being overweight or obese, having high levels of cholesterol in the blood and diabetes increases the risk of cardiovascular disease. The health behaviours described above often contribute to the risk of developing these conditions and addressing health behaviours can help reduce the risk of developing these conditions and help treat them. There are also effective treatments for these clinical conditions that reduce the risk of developing cardiovascular disease.

It is estimated that more than half of cases of type 2 diabetes can be prevented or delayed. The risk factors for type 2 diabetes are an unhealthy diet, being overweight and lower levels of physical activity. In Buckinghamshire, 6% of adults are recorded as having diabetes which is lower than the national average of 7%.

In Buckinghamshire, 16% of adults are recorded as having high blood pressure and the prevalence is higher than the national average, which may reflect better detection or recording. The risk of developing high blood pressure is increased by being overweight, an unhealthy diet ,including eating too much salt, lack of physical activity and higher levels of alcohol consumption.

People often do not know they have high blood pressure, high cholesterol or diabetes as clinical tests are required to detect them. The recorded prevalence of both high blood pressure and diabetes has increased by 8% and 16% respectively in Buckinghamshire since 2012 according to GP data. However, estimates suggest that in Buckinghamshire there may be 10,000 people who have diabetes and 47,000 people who have high blood pressure but it has not yet been recorded or diagnosed. The longer any of these conditions remain undetected and untreated the greater the risk of developing serious complications, such as heart attacks and strokes.

The prevalence of obesity is increasing both in children and adults in Buckinghamshire. More than six in ten adults in Buckinghamshire are overweight or obese and one in three 10-11 year olds are overweight or obese. The prevalence of obesity in 10-11 year olds in Buckinghamshire is highest in the most deprived areas where 26% of children are obese and 14% are overweight.

Some people may not be aware that their weight is putting them at risk. People with a Body Mass Index (BMI) over 30 are classed as obese and have an increased risk of diabetes, high blood pressure, heart disease and dementia. People from South Asian and black ethnic groups have a higher risk of diabetes and cardiovascular disease at lower BMI than people from white groups. Waist circumference is also an indicator of cardiovascular disease risk - a waist measurement of more than 102cm for a man and 88cm for a woman increases the risk of cardiovascular disease.

## 2.3 Environmental risk factors

Certain types of stress at work have been found to be associated with an increased risk of death from cardiovascular disease. Stressful jobs are particularly damaging to health, and these can be either jobs that make high demands of employees but offer little control, or those that ask for a great deal of effort but provide little reward in the form of pay, recognition or status. These jobs are associated with worse physical and mental health, including higher risks of obesity, heart disease and diabetes. In addition, international evidence has shown that people who work more than 55 hours per week are more likely to die from heart disease and stroke than people working 35-40 hours per week.

Very high and very low temperatures are associated with increased risk of death from cardiovascular disease. Without mitigation climate change will lead to increased summer deaths. Cold homes are also associated with an increased risk of cardiovascular disease and other health problems. Before the COVID pandemic one in five excess winter deaths were due to cardiovascular disease.

Poor outdoor air quality is responsible for up to 36,000 deaths per year in the UK, the majority of which are from heart disease and stroke.

# 3. Who is more at risk of cardiovascular disease?

While anyone can develop cardiovascular disease, some people are more likely to develop it than others. It is important to understand who is at greater risk of cardiovascular disease to ensure that initiatives to prevent and treat cardiovascular disease are reaching those who need it most and are effective. Increasing people's awareness of their increased risk also enables people to take appropriate steps to reduce their risk by acting on the risk factors that they can change themselves.

Cardiovascular disease increases with age and is more common in men, people living on lower incomes or living in more deprived areas and people from certain ethnic groups, especially black and South Asian ethnic groups. It is also more common in people living with severe mental illnesses, such as schizophrenia or bipolar disease and people with certain inherited conditions, such as familial hypercholesterolaemia. Although cardiovascular disease increases with age it occurs at a younger age in certain groups at risk.

Differences in cardiovascular disease between different groups are a significant driver of health inequalities across Buckinghamshire. Cardiovascular disease is the largest contributor to the gap in life expectancy between people living in our most and least deprived areas.

## 3.1 People living in deprived areas

People living in the most deprived areas of England are four times more likely to die early from cardiovascular disease compared with people who live in the least deprived areas. This is due to the complex inter-relationship of factors, such as income, employment and environment, their impact on the opportunity to adopt healthy behaviours and the development of conditions such as diabetes. Nationally, people living in deprived areas have higher levels of smoking, physical inactivity and harmful alcohol consumption. They also have higher levels of clinical risk factors such as high blood pressure, diabetes and overweight. They are more likely to live in poorer quality housing and areas with lower environmental quality, have lower incomes and poorer quality jobs, all of which increase the risk of cardiovascular disease.

In Buckinghamshire, data shows that people living in our most deprived areas have a premature death rate from cardiovascular disease which is 2.6 times higher than those living in the least deprived areas. Emergency admission rates to hospital for cardiovascular disease are 60-90% higher from our most deprived areas compared to our least deprived areas but rates of planned admissions are only 20% higher from these areas.

People living in our more deprived areas have higher rates of smoking, overweight and diabetes than in other areas of Buckinghamshire. The frequency of these conditions shows a stepwise increase as area deprivation increases.

## 3.2 Differences in cardiovascular disease risk between ethnic groups

### South Asian ethnic groups

National data shows that people from South Asian groups are more likely to develop and die from cardiovascular disease than white groups and have the highest risk of death from heart disease of any ethnic group. South Asian people also tend to develop cardiovascular disease at a younger age than their white counterparts. South Asian men have been found to develop cardiovascular disease on average at around 60 years of age which is eight years younger

than white men. South Asian women develop cardiovascular disease around 63 years of age which is 11 years earlier than white women. This reflects the complex mix of environmental, social, behavioural and clinical risk factors highlighted above and is not inevitable.

The increased prevalence of diabetes in South Asian groups is a significant driver of increased cardiovascular disease risk. People from South Asian groups are up to six times more likely to develop diabetes than people from white groups and develop diabetes at a younger age at around 62 years compared to 67 years for white European groups. The risk of developing type 2 diabetes increases from age 25 in South Asian groups compared to age 40 in white groups.

By the age of 80 years 40-50% of South Asian people will have diabetes which is twice the prevalence in Europeans.

Being a healthy weight, having a healthy diet and being physically active help prevent or delay the onset of diabetes. Although adults of South Asian ethnicity tend to be a lower weight than white groups, they develop diabetes and cardiovascular disease at a lower weight as measured by Body Mass Index than white groups.

Other risk factors, such as smoking and drinking harmful levels of alcohol, are lower in South Asian groups than white groups which helps protect their health.

In Buckinghamshire, people of Pakistani ethnicity have the highest prevalence of coronary heart disease and diabetes.

## Black ethnic groups

People from black ethnic groups appear to have a lower risk of heart disease but are more likely to have high blood pressure and die from stroke than other ethnic groups and more likely to have a stroke at a younger age. Black ethnic groups in the UK may be three to four times more likely to have high blood pressure than white groups and there is some evidence to suggest when blood pressure is detected it is less likely to be well controlled in these groups.

People from black ethnic groups are also up to three times more likely to develop diabetes and have a higher risk of dying from diabetes than the white population. People from black ethnic groups also tend to develop diabetes at a lower weight than white groups.

People from black ethnic groups are less likely to smoke or consume alcohol to harmful levels than white groups which helps protect their health.

In Buckinghamshire, according to primary care records, black ethnic groups have the second highest prevalence of diagnosed high blood pressure (white British groups have highest prevalence) and the second highest prevalence of diagnosed diabetes. People from black ethnic groups have the lowest prevalence of diagnosed heart disease.

## Social and economic factors

Social and economic factors are also likely to play a role in the increased risk of cardiovascular disease in black and South Asian groups. Some ethnic groups are more likely to live in deprived areas and it is likely that this is a marker for other social factors, such as income, experience of work related stress and environmental quality, that are important components of the increased risk of cardiovascular disease in these groups. Experience of racism is also known to affect health by increasing stress levels and may also play a role.

The accuracy and completeness of ethnic recording of hospital health care data for Buckinghamshire residents is incomplete making assessment of access and outcomes by ethnicity more difficult. In addition, death certificates do not currently record ethnicity to allow analysis at local level.

## 3.3 Differences in cardiovascular disease risk by gender

Men are more likely to have cardiovascular disease and more likely to die from it than women. Before the menopause female hormones have a protective effect on cardiovascular disease in women but after the menopause the prevalence of cardiovascular disease increases in women. In Buckinghamshire, men are 2.3 times more likely to die prematurely from cardiovascular disease than women. Between 2019 and 2021 death rates from cardiovascular disease increased in both men and women but much more markedly in men.

Men are more likely to have diabetes than women at the same age and more likely to smoke and drink to harmful levels.

However, international evidence shows that women are less likely to correctly identify the symptoms of a heart attack, that they are slower to seek treatment, that they are 50% more likely to receive the wrong initial diagnosis and that when a heart attack is diagnosed, they received unequal care. Prompt treatment is critical to reduce complications and damage after a heart attack.

## 3.4 People with severe mental illness

People with a severe mental illness (such as schizophrenia or bipolar disorder) have a greater risk of developing cardiovascular disease and dying from it than people without a serious illness of a similar age. Some risk factors are more common in people with severe mental illness, such as smoking and alcohol consumption. Diabetes and obesity are also more common in people with severe mental illness and some of this increase may partly be due to the side effects of some medication.

# 4. Cardiovascular disease and COVID

People with cardiovascular disease or the risk factors for cardiovascular disease, such as high blood pressure, diabetes or obesity ,tended to experience more serious outcomes from infection with COVID.

The COVID pandemic has also increased the risk of cardiovascular disease both directly and indirectly. The pandemic has had an indirect impact on cardiovascular disease by worsening some people's mental health and economic circumstances and increasing the proportion of people with unhealthy behaviours, such as eating unhealthily, being less active, drinking more alcohol and gaining weight.

The pandemic also reduced access to routine health care and preventive interventions, such as NHS health checks and management of blood pressure and diabetes. COVID infection has had a direct impact on cardiovascular disease and led to an increase in cardiovascular disease events after infection, even in those who were not admitted to hospital.

COVID will continue to impact on society and we are still learning about the impact COVID has on long-term health. There is some emerging evidence that COVID itself may increase the risk of cardiovascular disease in people who get infected. COVID will continue to circulate and will impact more severely on those with pre-existing cardiovascular disease or its risk factors, which gives us added incentive to tackle cardiovascular disease now.

# 5. What are we doing now?

We have a range of programmes in Buckinghamshire designed to address the main behavioural and clinical risk factors for cardiovascular disease. These are highlighted in the main report. We are also developing and implementing a multi-agency plan to address inequalities in cardiovascular disease across Buckinghamshire, overseen by the Buckinghamshire Health and Wellbeing Board.

## 5.1 Addressing behavioural risk factors

Smoking is addressed through the multi-agency Buckinghamshire Tobacco Control Strategy and implementing the NHS Long Term Plan for smoking cessation. The council provides free smoking cessation support to those who wish to quit smoking through the Live Well Stay Well service.

Physical activity is addressed via the multi-agency Buckinghamshire Physical Activity Strategy 2018-2023 and action plan. Examples of successful programmes include Active Communities, a pilot project taking a whole community approach to reduce sedentary behaviour in two communities, and an Active Movement in Schools programme to reduce sedentary behaviour in children and families. Other programmes support Active Travel and Play Streets.

Healthy eating and a healthy weight are addressed through several programmes, including the Buckinghamshire 'Whole Systems Approach To Healthy Weight'. The approach brings together partners, including housing, planning, transport, leisure and schools and local communities, to develop and agree on a shared action plan that addresses the wider environmental factors that make it easier for people to maintain a healthy weight.

Healthy eating activities include increasing access to healthy affordable food through community growing schemes such as Grow It Cook It Eat It, which supports communities to grow their own food and offers cookery courses, including basic cookery skills and healthy meals on a budget. Grow to Give encourages people to grow more food in their gardens and allotments and donate the surplus to food banks and community fridges. In 2021 the community of growers donated 3.22 tonnes of produce for food parcels that supported over 600 families, that's the same weight as 403 baskets of fruit and vegetables, three giraffes or two family sized cars.

Buckinghamshire Council commissions some weight management services, including through our integrated lifestyle service, Live Well Stay Well. The NHS also offers some weight management support and programmes to prevent the development of diabetes.

## 5.2 Detecting and managing clinical risk factors

The free NHS health check is offered to eligible adults aged 40-74 and is designed to spot risk factors such as high blood pressure and high cholesterol or early signs of heart disease, type 2 diabetes, stroke, kidney disease or dementia.

It offers opportunities for people to be tested and be given advice about reducing their risk of cardiovascular disease and referred on for treatment if required. The NHS health check was paused during the pandemic but has now restarted and we are working to increase uptake in groups at greatest risk of cardiovascular disease. The NHS is also working to support management of high blood pressure and diabetes as we adapt to living with COVID.

## 5.3 Addressing environmental risk factors

Buckinghamshire Council and partners have a variety of plans to improve the wider environmental risk factors for cardiovascular disease, including action on climate change, air quality, active travel, employment and housing.

# 6. Recommendations

We need a renewed focus on preventing cardiovascular disease in Buckinghamshire. This needs to address the key social, economic and environmental risk factors for cardiovascular disease, alongside the behavioural and clinical risk factors to keep our residents healthy and narrow inequalities. Tackling the key risk factors will also improve health in a variety of other ways, including reducing the risk of cancer, diabetes, dementia, musculoskeletal problems and poor mental health, and produce many other societal and economic benefits, making Buckinghamshire an even better place to live.

To tackle cardiovascular disease and reduce inequalities in illness and premature death in Buckinghamshire we need a multilevel approach that addresses risks at the individual, community and Buckinghamshire-wide level that will impact over the short, medium and long term.

### We need to work together with partners and communities across Buckinghamshire to:

**1. Act on the broader determinants of health**, such as income, debt, good quality employment, high quality education and healthy environments to level up outcomes across Buckinghamshire. Tackling these issues is an essential component of reducing inequalities in health.

**2. Support a systematic large-scale improvement in behavioural risk factors** by:

- Ensuring the physical, social, commercial and economic environments in which people live, work and learn support healthy behaviours.
- Increasing the understanding and the skills required to design effective behaviour change interventions across Buckinghamshire Council, the NHS and partners, including rolling out the behaviour change Making Every Contact Count programme. This enables people to have 'healthy conversations' to support behaviour change in their day-to-day interactions.
- Working with communities to understand what would support them to reduce their risk of cardiovascular disease and co-design and evaluate appropriate approaches.
- Supporting NHS trusts to implement the NHS Long Term Plan smoking cessation support requirements as smoking is the single biggest modifiable driver of health inequalities.
- Working together with partners and communities to develop a whole system approach to healthy eating and physical activity to combat the rise in unhealthy weight and obesity.
- Working together to tackle smoking via the Tobacco Control Action Plan.
- Working together to address harmful alcohol misuse through development of our new drug and alcohol strategy.

**3. Increase detection and management of modifiable risk factors in people at higher risk of cardiovascular disease**, including those living in more deprived areas, ethnic groups at higher risk of cardiovascular disease and those with mental illness by:

- Increasing capacity in primary care in more deprived areas to undertake NHS health checks and detect and manage clinical risk factors, such as high blood pressure and diabetes, and refer to appropriate interventions, such as smoking cessation.
- Working with people from ethnic minority groups to design effective, culturally competent approaches to increase detection of risk factors and management of risk factors.
- Working with NHS and local authority partners to develop and implement the whole system plan to tackle inequalities in cardiovascular disease.

**4. Improve data collection and monitoring to track progress.**

- Improve data collection in primary and secondary care to enable monitoring of outcomes by ethnicity and areas of deprivation and improve the quality, accuracy and completeness of ethnic monitoring data.
- Undertake equity audits to determine access to and uptake of prevention and treatment initiatives of cardiovascular disease by different groups.