Cambridgeshire and Peterborough

Healthy Weight Strategy 2016-2019

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2.1   Background

Achieving a healthy weight for the population is a major public health challenge. Healthy weight is fundamental for good health and wellbeing and demands a joined up collaborative whole systems wide approach if it is to be addressed effectively. This Strategy is underpinned by the Cambridgeshire Health and Wellbeing Strategy 2012-17 and supports delivery of its five strategic objectives. It is firmly embedded into the Cambridgeshire and Peterborough System Transformation Prevention Strategy.

The Strategy has been developed through the Cambridgeshire Public Health Reference Group (PHRG). The PHRG provides whole system leadership and multi-agency co-ordination for public health initiatives in Cambridgeshire and Peterborough. It is accountable to the Cambridgeshire Health and Wellbeing Board and provides reports for a number of strategic boards. Its focus is upon improving outcomes for residents and reducing health inequalities. The PHRG has a broad membership representing a range of organisations including local academic institutions.

2.2   Why do we need a Healthy Weight Strategy?

The prioritisation of healthy weight by the PHRG reflects its considerable impact upon health across the life course. There is a particular concern with how obesity is associated with a high risk of long term conditions such as: diabetes; high blood pressure; coronary heart disease; stroke and some cancers. Another major concern is poor nutrition and underweight for older age groups in England. These unhealthy weight statuses are placing an unsustainable demand on health and social care systems. How we prevent and manage them is a priority if we are to have sufficient resources to address needs in the future.

3   Strategic Vision, Aim and Objectives

3.1   Vision

To take a system-wide approach to healthy weight in Cambridgeshire and Peterborough, empowering and supporting residents to achieve and maintain a healthy weight throughout their life.

3.2   Strategic Aim

To increase the proportion of healthy weight children and adults in Cambridgeshire and Peterborough.

3.3 Strategic Objectives

The five key strategic objectives of the Strategy for achievement of healthy weight are supported by themes of environment, the life course, information and skills which are reflected in the evidence base.

1. **Create an environment which promotes and supports a healthy weight.**

2. **Encourage healthy lifestyle behaviours for nutrition and physical activity.**

3. **Ensure everyone is supported throughout their life to maintain a healthy weight.**

4. **Engage and enable individuals and communities to take responsibility for their health.**

5. **Address healthy weight inequalities.**

3.4 Strategic Targets

To see locally, in line with the national ambition set out in the Childhood Obesity: A Plan for Action (2016) and in previous targets from the Healthy Lives, Healthy People: A Call to Action on Obesity in England (2011):

- Significant reduction in the rate of childhood obesity within the next 10 years (2026).
- Downward trend in the level of excess weight averaged across all adults by 2020.

4 Scope

This Strategy considers prevention through to treatment for unhealthy weight and the associated poor health outcomes. There is a focus on diet and physical activity as the key factors that influence a healthy weight. Nationally and locally there is considerable emphasis upon obesity and excess weight dominates the focus of the Strategy. Information on malnutrition (referring to underweight for the purposes of this Strategy) is also included to provide an understanding of how it impacts on health in Cambridgeshire and Peterborough.

Current needs and trends are presented to show the prevalence of excess weight and malnutrition and how these affect health. It identifies population groups at a high risk of being an unhealthy weight. It has a strong focus on prevention in terms of how a healthy weight can be achieved and maintained. Treatment of unhealthy weight is also included in the Strategy acknowledging that a holistic approach is required if the associated poor health outcomes are to be addressed.

The Strategy is conceptualised around three main themes as the main contributors to a healthy weight across the life course: the built and natural environment; settings plus information and skills. Within the life course there are key stages where people make critical decisions that can influence long term lifestyle behaviours. Interventions are not particularly successful at any one point; instead a life course approach offers opportunities to address factors that contribute to an unhealthy weight. The overarching theme is that efforts to address unhealthy weight need to be collaborative and across the whole system. Key evidence based areas are identified which call for well evaluated interventions. Figure 1 captures the main themes and key areas for action that have been identified from the evidence. An action plan will be developed that reflects these key areas.

A section within the Strategy presents the evidence base for addressing unhealthy weight and identifies interventions that have been evaluated as effective. Many of the examples are from across the county and give an insight into the wide range of existing local work. Nationally there are a growing number of well evaluated evidenced based interventions. It is good practice to ensure that any interventions are evaluated so they can contribute to our understanding of what influences a healthy weight.

However there are overall challenges associated with securing evidence for a healthy weight due to the many variables that are known to have an impact upon behaviour, along with long timeframes for measuring outcomes and any cost savings. The Strategy includes and endorses the strongest evidence but also calls for any new initiatives to be well evaluated.

Figure 1 – Healthy Weight Strategic Framework for Action.

Joined Up Whole System Approach

Environment

Adopt policies and programmes for the built and natural environment that support a healthy weight.

Settings

Ensure that the places or social context in which people engage in daily activities support a healthy weight.

Information & Skills

Create opportunities for individuals, communities and organisations to build knowledge and skills that support a healthy weight.

Life course

Whole Population and Targeted

Local use of policy, legislative and planning levers with a consistent approach across Cambridgeshire.

Evidence based interventions to increase walking and cycling e.g. Personalised Travel Plans.

Minimise local promotion of unhealthy foods.

Work effectively with local retailers to increase access to healthy food and drink

Ensure all relevant setting have local guidelines in place to prevent malnutrition in high risk groups.

Ensure that policies and practice are established to support infant feeding in all relevant settings.

Increase in schools and early years using policy and interventions to promote healthy weight.

Engage employers across Cambridgeshire in the adopting healthy workplace programmes.

Engage communities in taking a leadership role and whole community approach to promote healthy weight.

Embed behavioural change techniques into interventions to promote physical activity and healthy diet.

Ensure professionals, voluntary sector workers and community members have the skills to make behavioural change interventions.

Secure and embed social marketing intelligence into the design and implementation of interventions and campaigns.

5 Strategic Framework Tool

The Strategic Framework (Appendix 1) is a tool to help identify current initiatives and also gaps in local services and interventions which can support people to achieve and maintain a healthy weight.

The framework can be applied by all local organisations; lead agencies are identified in the strategic framework and will encompass a wider number of organisations within each lead agency. The framework enables lead agencies and organisations to recognise work they currently undertake to support healthy weight. It also allows for any gaps to be identified and addressed.

The framework considers key stages in the life course for action, from the early years through to the elderly. It separates local initiatives into broad population approaches aimed at achieving a healthy weight; increased support for higher risk groups and specialist services for groups in need of further support to achieve a healthy weight.

Using the framework tool lead agencies, both together or individually, can consider current healthy weight initiatives for each life course and map these on the framework. Then following the same process lead agencies can use the framework to map any gaps in healthy weight initiatives. An example of mapping the current provision of services for the elderly is given below in Figure 2. The framework will be used to develop the supporting action plan to the Strategy.

Figure 2 - Example of strategic framework tool for mapping existing local healthy weight initiatives in Cambridgeshire for the elderly.


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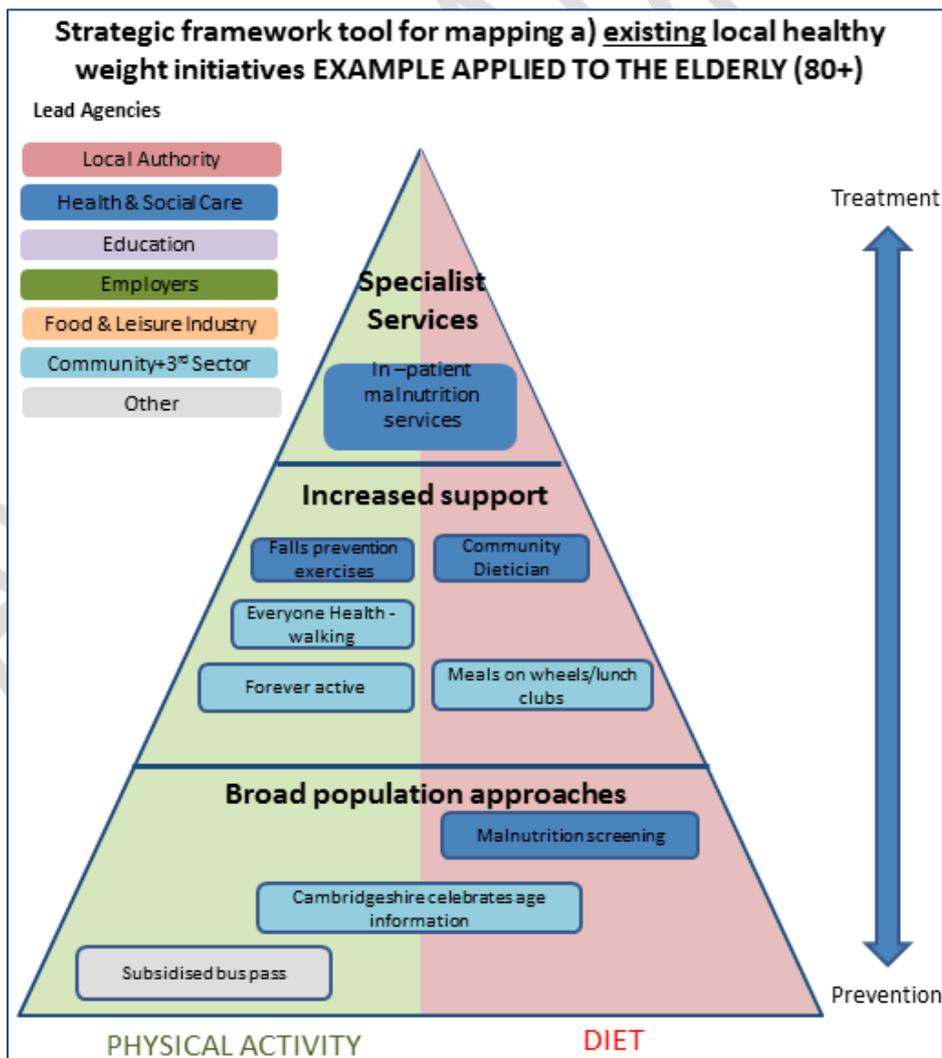
6   Unhealthy Weight – Why does it matter?

Being overweight or malnourished increases risk of poor health. Unhealthy weight has substantial implications for health, social care and the economy. Obesity has a significant impact to the individual and the wider society as it is wide spread and prevalence has continued to increase since 1993. Malnutrition is also estimated to be increasing, particularly with an increasingly ageing population.

Obesity reduces life expectancy by three years on average, increasing to eight to ten years in morbid obesity. It increases the risk of developing serious diseases, including diabetes, heart disease and some cancers. This places substantial demands on health and social care services. Childhood obesity also has serious physical and mental health consequences and increases the risk of being an obese adult. Health effects of malnutrition are also serious and makes people more vulnerable to disease, impacting on health, social care and the economy.
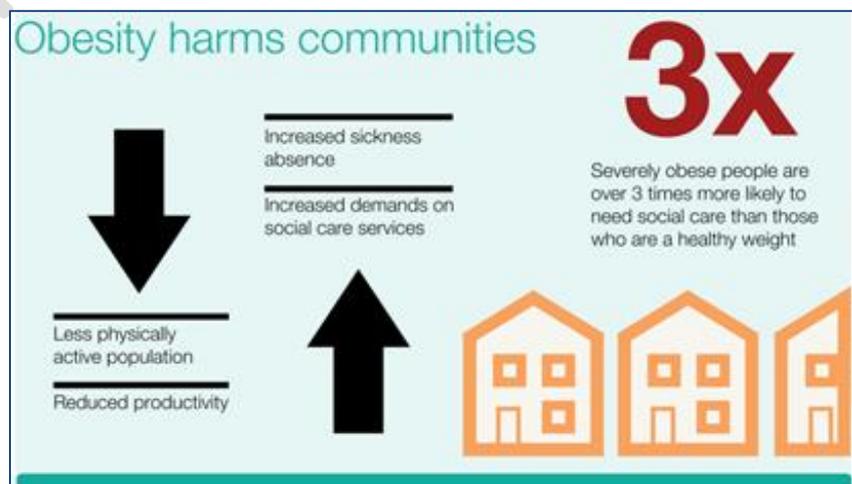
Figure 3 - Why is Obesity an Issue?
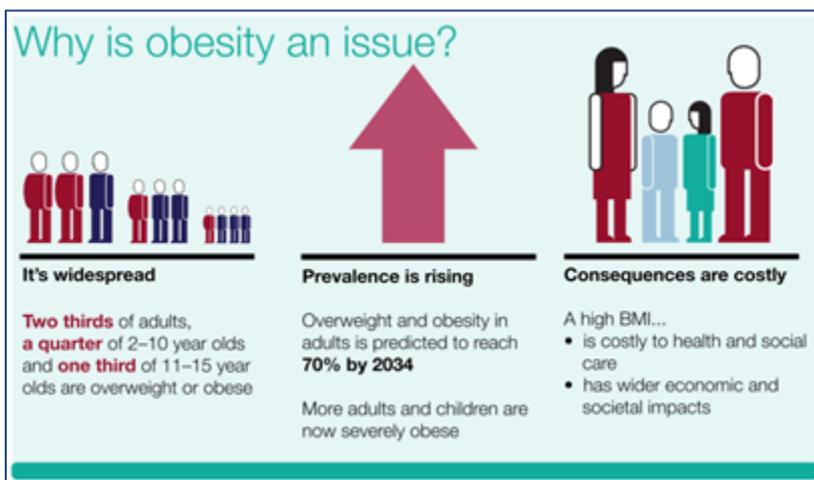
Source: Public Health England 2015, Making the case for tackling obesity.

Figure 4 - Obesity Harms Communities.

The direct costs of obesity on health services are well known, however, there are wide impacts on communities too which result in substantial additional costs.

7   The Costs of Unhealthy Weight

7.1   Cost of Obesity

Obesity incurs significant direct annual costs of £5.1 billion, with Public Health England (PHE) reporting further indirect costs including £27 billion to the wider economy[1].

> **Obese individuals have 30% higher health costs than healthy weight individuals[1].**
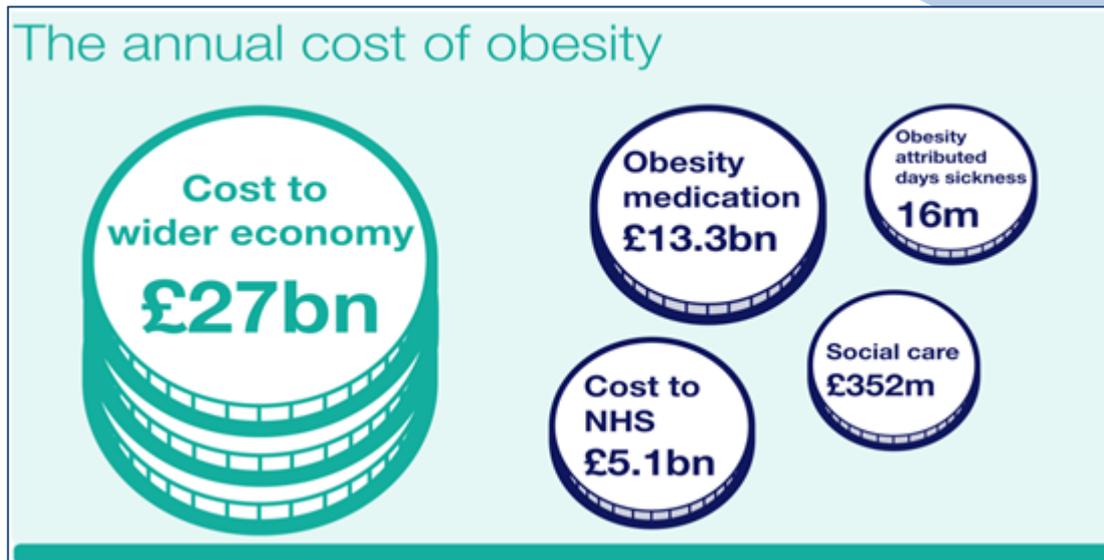
Figure 5 - Annual Cost of Obesity.

Source: Public Health England 2015, Making the case for tackling obesity.

The continuing increase in prevalence of excess weight will have a significant impact on the annual cost of obesity. An additional £2.51 billion a year in direct health costs alone are predicted by 2035[2]. This is for

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[1] Withrow, D., Alter DA. (2011) 'The economic burden of obesity worldwide: a systematic review of the direct costs of obesity'.

[2] Cancer Research UK and UK Health Forum Report. (2016). *Tipping the Scales: preventing obesity makes economic sense.* Available at: http://www.cancerresearchuk.org/sites/default/files/tipping_the_scales_-_cruk_full_report11.pdf (Accessed: 31 March 2016)

treatment for excess cases of coronary heart disease (CHD), type 2 diabetes, stroke and cancer resulting from increasing prevalence of obesity. By 2035 the indirect costs of excess weight are predicted to be £13.98 billion[2].

Diseases associated with excess weight relate to 16% of NHS costs. Of these diseases 60% relate to diabetes, coronary heart disease and stroke; 30% to osteoarthritis and 10% to cancers[3]. These diseases are complex and their causes are multi-factorial. While around 80% of the disease burden due to diabetes can be attributed to overweight or obesity, for heart disease and stroke the proportion is closer to one third and for osteoarthritis it is around 20%. No single disease accounts for the majority of obesity-related NHS costs.

Physical inactivity increases risk of obesity and costs the NHS £1.1 billion a year as a direct cost[4]. This increases to £8.2 billion when indirect costs to society are considered. Physical inactivity directly contributes to 1 in 6 deaths in the UK. Life expectancy is reduced by three years in people who are physically inactive compared to those who are active.

7.2 Cost of Malnutrition

Malnourished individuals require more GP visits, prescriptions and hospital admissions.

Malnutrition cost an estimated £19.6 billion in 2011/12 in England[5]. This included the associated costs of health care and social care primarily due to more frequent and expensive in-patient hospital stays, more primary care consultations and greater long-term care needs. Of the total figure, older adults accounted for 52%, younger adults for 42% and children for 6%.

Around two thirds of cases of malnutrition are not recognised; the impacts are an increased burden of disease and treatment costs. The estimated cost has increased significantly from the previous estimate of £13 billion in 2007[5]. The cost of malnutrition is anticipated to increase with an ageing population and rise in health and social care costs.

In 2013 The National Institute for Health and Care Excellence (NICE) identified malnutrition as the sixth largest source for potential NHS saving[6]. Savings to the NHS of £45.5 million a year could be made through early identification and treatment of malnutrition in adults, even after training and screening costs[7].

8 Factors that contribute to unhealthy weight

8.1 Obesity - Multi-Factorial

The influential Foresight Report (2007) provided clear evidence that unhealthy weight is associated with multiple factors which involve

No single influence dominates the cause of obesity; the causes are a complex system of biology and society.

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[3] Cambridgeshire and Peterborough CCG (2016). *Health system prevention strategy for Cambridgeshire and Peterborough.* Available at: http://cambridgeshireinsight.org.uk/health/healthcare/prevention (Accessed: 31 March 2016)

[4] All-Party Commission (2014). *Tackling Physical Inactivity – A Coordinated Approach.* Available at: https://parliamentarycommissiononphysicalactivity.files.wordpress.com/2014/04/apcopa-final.pdf (Accessed: 31 March 2016)

[5] BAPEN and National Institute for Health Research. (2015). *The cost of malnutrition in England and potential cost savings from nutritional interventions.* Available at: http://www.bapen.org.uk/information-and-resources/publications-and-resources/bapen-reports/cost-of-malnutrition-in-england (Accessed: 31 March 2016)

[6] National Institute of Clinical Excellence (2013). *Benefits of Implementation: Cost saving guidance.*

[7] National Institute of Clinical Excellence (2006). *National cost impact report to accompany CG32..*

many levels of interactions between people, their determinants and the social and physical environment.
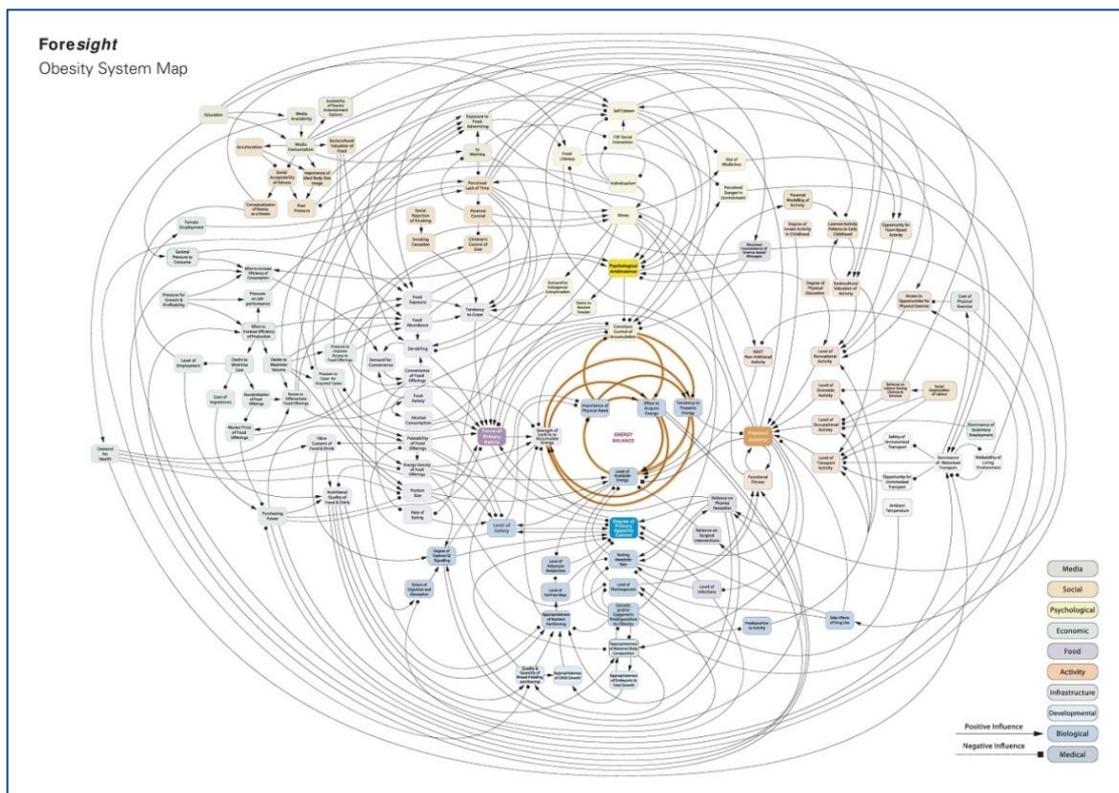
The complexity of these factors in contributing to obesity is depicted in the following map (Figure 6).

Figure 6 - The complex web of obesity influence.

The Foresight map (Figure 6) is divided into seven cross-cutting predominant themes that are key factors associated with obesity **(Figure 7)**.

Source: Foresight system map 2007, Reproduced by Public Health England 2015.

The Foresight Report calls for these seven cross cutting themes to be addressed if a healthy lifestyle is to be adopted and maintained.

8.2   Environmental Factors

The environment has an important influence on dietary choices and physical activity levels. It therefore has a key impact on healthy weight. Different populations will have different requirements of their environment, depending for example on their age, ethnicity or income.

The risk of malnutrition is increased when a person moves away from their usual environment and cultural norms are different. For example, the food environment in hospitals or care homes may not provide food meeting specific cultural or religious needs which therefore increases the risk of malnutrition. Or if the environment does not support a person to access local conveniences and supermarkets the risk of malnutrition will be higher. For example, where there is limited access to public transport to purchase food.

Environment (social, cultural and infrastructural) influences energy intake/expenditure which determines healthy weight.

The 'obesogenic environment' is thought to be a driving force behind high obesity prevalence, influencing both dietary and physical activity behaviours. This term refers to environmental factors and the role they may play in determining energy intake and energy expenditure. The environment affects dietary choices and behaviours, for example access to healthy food outlets. Physical activity is associated with availability, access, convenience, safety and supportiveness of the local environment.

8.3   Socio-Economic Factors

Societal inequalities increase poor health outcomes for individuals in lower social positions, including higher risk of unhealthy weight.

Social and economic conditions create inequalities between societal groups that result in health differences including prevalence of healthy weight. There is an unequal distribution of overall poor health between the rich and poor. In general, evidence shows that the lower an individual's socio-economic position the worse their health.

Certain socio-economic factors increase the risk of malnutrition including deprivation and social isolation. There is a close relationship between social inequalities and excess weight. Income and social deprivation in particular have an important impact on the risk of obesity[8].

The National Child Measurement Programme (NCMP) shows a strong correlation exists between deprivation and obesity in children. Child obesity prevalence in the most deprived areas is more than double that in the least deprived areas, with the deprivation gap having increased over time. In 2015/16 obesity in Reception children was 12.5% in the most deprived areas compared with 5.5% in the least deprived areas[9]. In Year 6 children these figures were 26% and 11.7% respectively.

Source: HSCIC 2016, Statistics on obesity, physical activity and diet (HSE 2014).
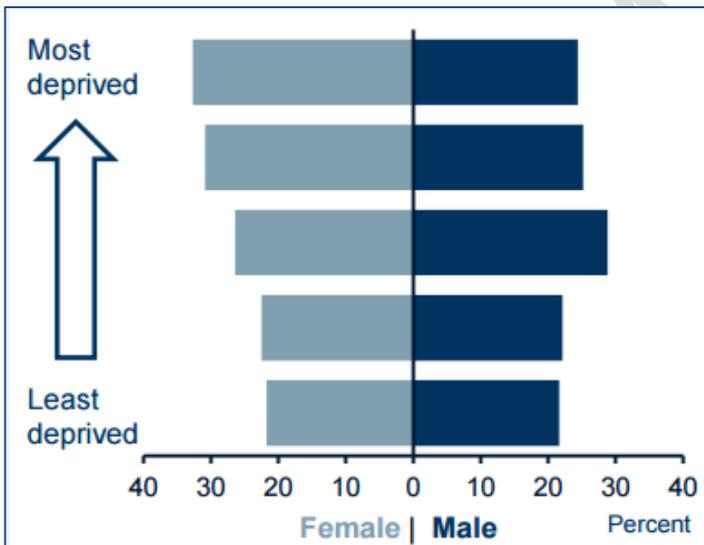
Figure 8: Adult obesity prevalence by deprivation.

Women in the highest household income group have the lowest level of obesity. Obesity prevalence in women increased by 11% from the least deprived to the most deprived areas (Figure 8). The association between socioeconomic deprivation and obesity prevalence is observed to be stronger for women than men.

Data from the Whitehall II Study showed that women who reported persistent financial hardships gained more excess weight compared to those who did not. EPIC-Norfolk data showed a greater likelihood of

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[8] The Marmot Review (2010). *Fair Society, Healthy Lives - Strategic Review of Health Inequalities in England Post-2010.*
[9] NHS Digital (2016). *National Child Measurement Programme: England, 2015/16 school year.* Available at:
http://content.digital.nhs.uk/catalogue/PUB22269/nati-chil-meas-prog-eng-2015-2016-rep.pdf

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obesity for older men and women who reported hardships. Financial hardships were also associated with less healthy eating in older women and men[10].

Poorer educational attainment is associated with higher risk of obesity. Child obesity prevalence is higher in schools in more deprived areas, and prevalence has increased over time between children attending schools in the most and least deprived areasError! Bookmark not defined.. In adults, those with fewer qualifications are more likely to be obese and those with no qualifications have the highest obesity levels. Less than a fifth of adults with degree level qualifications are obese compared to around a third of adults who leave school with no qualifications[11]. Adults in professional occupations have the lowest levels of obesity, while adults in lower income households are more likely to be obese.

8.4 Obesity and Age

Obesity generally increases with age; between children starting and finishing primary school, and through adult age groups.

Prevalence of excess weight changes with age, generally increasing as children and adults get older. Child obesity more than doubles between Reception (1 in 10 children) and Year 6 (1 in 5 children)Error! Bookmark not defined..

Adult obesity increases by around one fifth between the youngest age group (16-24 year olds) and the older age groups (45-74 year olds)[11] (Figure 9). This trend has continued over time. There is a decline in prevalence in the oldest age group of over 75 years, seen especially in men.

Figure 9 - Adult obesity prevalence by age and sex.
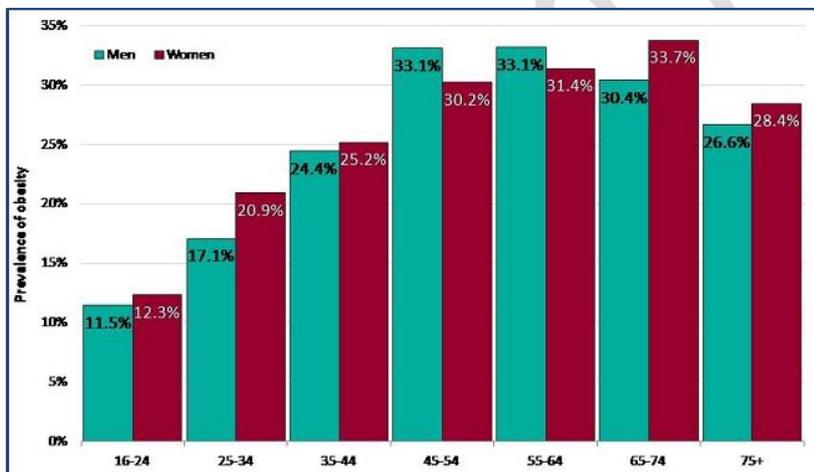
Source: PHE Obesity 2016 (data from Health Survey for England 2008-12).

8.5 Obesity and Ethnicity

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[10] Centre for Diet and Activity Research (2014). Financial hardships, diet & obesity - Findings from the Whitehall II and EPIC-Norfolk studies. Available at: http://www.cedar.iph.cam.ac.uk/resources/evidence/eb8-financial-hardships-diet-obesity/#sthash.dTYsT6Fh.dpuf (Accessed: 31 March 2016).

[11] Public Health England (2016). *Health Inequalities.* Available at: https://www.noo.org.uk/NOO_about_obesity/inequalities (Accessed: 31 March 2016).

There is variation in obesity prevalence in different ethnic groups. Child obesity is significantly higher in certain ethnic groups in both Reception and Year 6 (Figure 10). Obesity is highest in ethnic group 'Black or Black British' for both year groups[Error! Bookmark not defined.].

Figure 10 - Obesity prevalence by ethnic group, for children in Reception and Year 6 NCMP 2015/16.
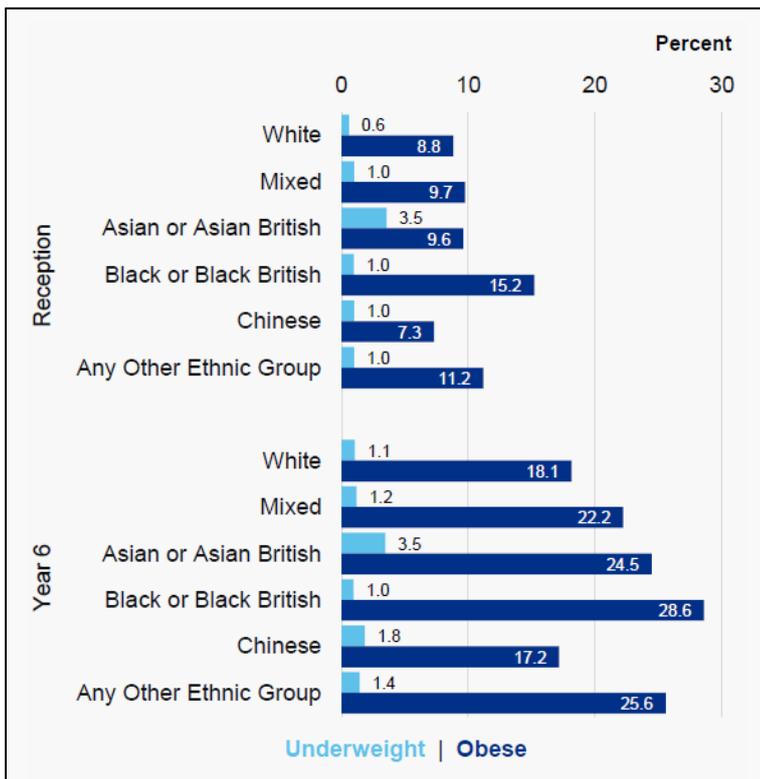
Source: NHS Digital 2016, NCMP England, 2015/16 school year.

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Figure 11 - Obesity prevalence by ethnic group, for adults in England.

Males
Females

Black Caribbean	25%	32%
Black African	17%	38%
Irish	25%	21%
Pakistani	15%	28%
Indian	14%	20%
Bangladeshi	6%	17%
Chinese	6%	8%
General population	23%	23%
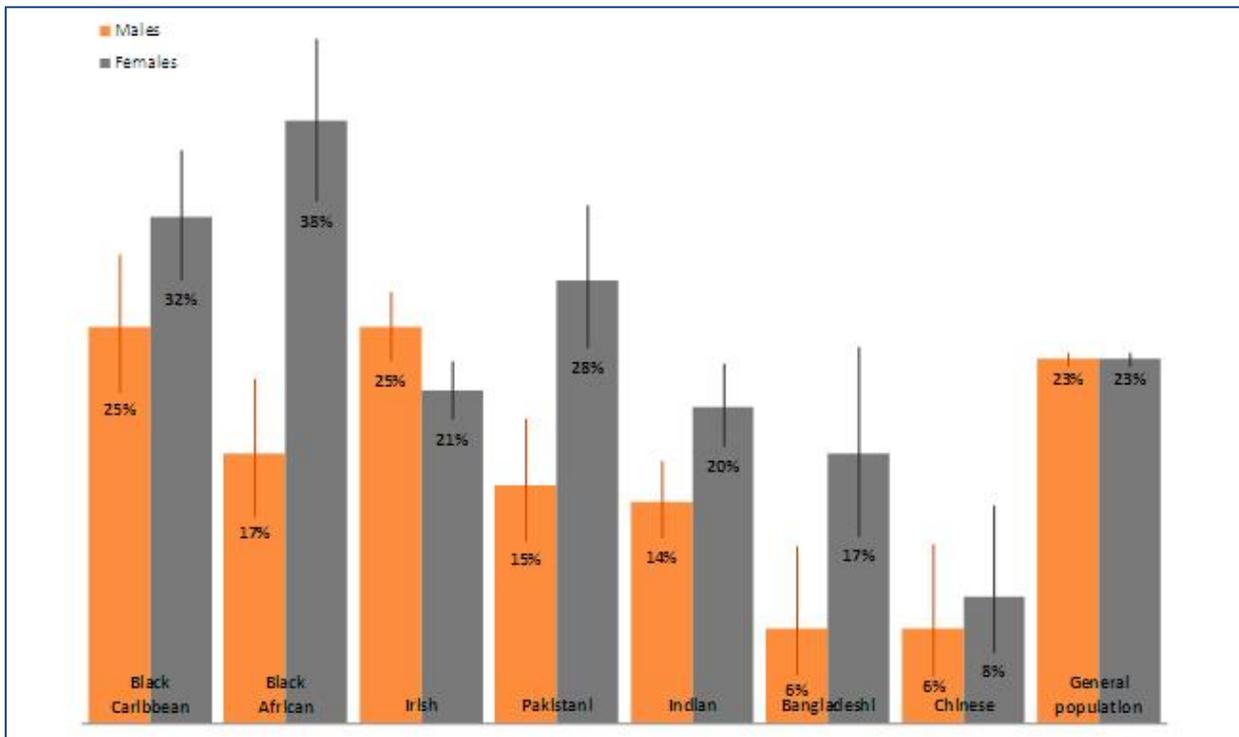
Source: Public Health England Obesity, 2016 (data Health and Social Care Information Centre 2004).

Adult ethnicity data also shows variation in obesity prevalence, with additional variations between men and women within ethnic groups (

Figure 11). Women have a higher prevalence of obesity in almost every minority ethnic group; this is highest in ethnic group 'Black African'[11]. However there is little nationally representative data on obesity prevalence in adults from minority ethnic groups in the UK.

8.6 Obesity and Disability

People with a disability are at higher risk of obesity and of having lower levels of physical activity than the general population[11]. People with a disability tend to be concentrated in more deprived areas as a result of lower incomes and the social housing allocations policy[12]. Children with a limiting illness are more likely to be overweight or obese, especially if they also have a learning disability[11]. Adults with a learning disability are more likely to be either malnourished or obese. In adults with a limiting long term illness or disability obesity rates were 12.9% higher than those without (Figure 12). However there is limited data on obesity and disability.
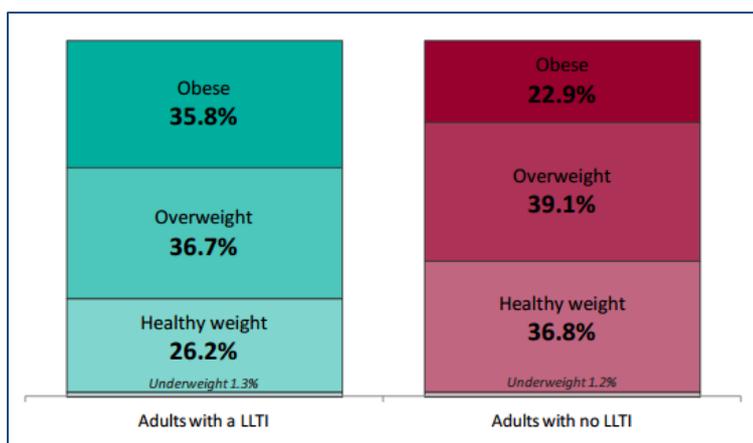
> **Obesity is more prevalent in adults with a disability than those without.**

Figure 12 - BMI category of adults (aged 18+) with and without a limiting long-term illness or disability (LLTI) in England.

Adults with a LLTI	Adults with no LLTI
Obese 35.8%	Obese 22.9%
Overweight 36.7%	Overweight 39.1%
Healthy weight 26.2%	Healthy weight 36.8%
Underweight 1.3%	Underweight 1.2%

Source: Public Health England Obesity 2016 (data Health Survey for England, combined data from 2006-2010).

8.7 Obesity and Mental Health

A complex relationship exists between mental health and obesity. An association between obesity and poor mental health is seen in teenagers and adults[13].

Children with excess weight are more likely to experience bullying and stigma, which can affect their self-esteem and school performance. Stigma also impacts obese adults.

> **Obesity prevalence among adults with severe mental illness has been reported to be as high as 55%.**
>
> People with serious mental illness have mortality rates up to three times as high as the general population. The primary cause of death in this group is cardiovascular disease, which is strongly associated with obesity.

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[12] Papworth Trust (2013). *Disability in the United Kingdom 2013 Facts and Figures* Available at: http://www.papworthtrust.org.uk/sites/default/files/Facts%20and%20Figures%202013%20web.pdf (Accessed: 31 March 2016).
[13] National Obesity Observatory (2011). *Obesity and mental health*. Available at: http://www.noo.org.uk/uploads/doc/vid_10266_Obesity%20and%20mental%20health_FINAL_070311_MG.pdf (Accessed: 31 March 2016).

Compared with the rest of the population, people with mental health have less healthy diets and make poorer dietary choices. They eat less fresh fruit and vegetables and are less likely to eat breakfast, compared to those with no mental health problems. Antipsychotic, mood-stabilizing and antidepressant medications can cause significant weight gain[14].

8.8 Risk Factors and Dietary Intake

Recommended dietary intakes are not met by children and adults for multiple food groups.

Poor diet is a contributing factor of unhealthy weight. A prolonged energy imbalance - where energy intake from food and drink exceeds energy expenditure through metabolism and physical activity – leads to fat accumulation and consequently weight gain.

Recommended dietary intake for a balanced diet in England is depicted by the Eatwell Guide[15]. Data from the National Diet and Nutrition Survey (NDNS) show dietary intakes are below recommendations for; fruit and vegetables; fibre and oily fish[16]. Intakes of saturated fat and sugar are above recommended amounts. Adult men also exceed red and processed meat. For most nutrients there has been little or no change in consumption between 2008/09-2009/10 (years 1/2) and 2012/13-2013/14 (years 5/6).

In 2012/13-2013/14 national intake of fruit and vegetables remain below the recommended 5-a-day in all age groups. Just 8% of 11-18 year olds meet the recommendation with and have a mean consumption of 2.8 portions. 27% of 19-64 year olds and 35% of 65 and overs meet the recommendation, average consumption is four portions and 4.2 portions respectively.

Children and adults (except women aged 65 and over) consume more than the maximum recommended level of non-milk extrinsic sugars (NMES) (no more than 11% food energy)[16]. Intake has reduced significantly in 4-10 year olds, although NMES intake remains highest in this age group (13.4%) and 11-18 year olds (15.2%). Intakes in 19-64 year olds are 12.3% and 11.1% in older adults. Current intakes of NMES greatly exceed the new 2015 guidance that free sugars should provide no more than 5% of total energy intake.

8.9 Risk Factors and Physical Activity

Regular physical activity is a key determinant in achieving a healthy weight and in reducing the risk of obesity. Activity levels have declined in England are now 24% less active than in 1961. Current trends predict people will become 35% less active by 2030[17].

Reduced physical activity and increased sedentary behaviour leads to unhealthy weight.

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[14] National Institute for Health and Care Excellence (2014). *Obesity: identification, assessment and management {CG*189}. Available at: https://www.nice.org.uk/guidance/cg189 (Accessed: 31 March 2016).

[15] Public Health England (2016). The *Eatwell Guide Booklet.* Available at: https://www.gov.uk/government/publications/the-eatwell-guide (Accessed 31 March 2016).

[16] Public Health England (2014). *National Diet and Nutrition Survey: Results from Years 5 and 6 combined of the rolling programme for 2013 and 2013 to 2013 and 2014.* Available at: https://www.gov.uk/government/statistics/ndns-results-from-years-5-and-6-combined (Accessed: 31 October 2016).

[17] All-Party Commission (2014). *Tackling Physical Inactivity – A Coordinated Approach.* Available at: https://parliamentarycommissiononphysicalactivity.files.wordpress.com/2014/04/apcopa-final.pdf (Accessed: 31 March 2016).

Two in ten (22%) 5-15 year olds meet recommended levels of exercise (23% of boys and 20% of girls in 2015) (See Appendix 2: Chief Medical Officer's recommended activity levels for children and adults.) The proportion of children meeting the weekly guidelines has fallen since 2008 (28%), though physical activity levels have improved from 2012. Activity levels decrease in older children, with girls more likely than boys to reduce their activity levels as they move from childhood to adolescence[18].

Just over half of all adults (57%) meet physical activity guidelines (67% of men and 55% of women). Physical activity in adults declines with increasing age for both genders (Figure 13). 'Active' adults achieving physical activity guidelines each week declines from 71% at age 16-25yrs, to 40% by age 65 and over. Certain ethnic groups have lower levels of physical activity than others; Asian populations are the least physically active. Participation in sport once a week declines from 39% of adults in higher socioeconomic groups compared to 26% in lower socioeconomic groups.

Figure 13: Physical Activity by Age Group Data.

Age Range		Time period			Measure: Active
		2012 (Mid-January 2012 to Mid-January 2013)	2013 (Mid-January 2013 to Mid-January 2014)	2014 (Mid-January 2014 to Mid-January 2015)	Time periods: 2012 (Mid-January 2012...), 2013 (Mid-January 2013...), 2014 (Mid-January 2014...)
	16 - 19	72.3%	70.9%	72.1%	Activity: All physical activities
	20 - 25	68.0%	67.4%	68.9%	Geography: England
	16 - 25	70.0%	69.2%	70.5%	Demographics: 16 - 25
	26 - 34	63.1%	62.5%	63.3%	16 - 19
	35 - 44	61.0%	61.3%	62.0%	20 - 25
	45 - 54	57.4%	58.5%	59.4%	26 - 34
	55 - 64	51.4%	52.3%	53.5%	+4 others
	65 and over	36.7%	37.9%	39.9%	

Source: Active People Survey, 2015.

Participation in activity is lower in those who are disabled; half of disabled people are likely to be active compared to non-disabled people. Only 7% of disabled adults participate in at least 30 minutes of moderate intensity sport three times per week compared to 35% of all adults. Over the course of a month just one in four people with learning disabilities take part in physical activity.

Over one in four women and one in five men are physically inactive.

Sedentary behaviour is a separate risk factor for obesity. It damages health; even in people who are physically active but spend long periods being sedentary there is an increased risk of obesity. Physical inactivity[19] is the fourth largest cause of disease and disability in the UK[5] and accounts for one in six deaths in the UK.

Children in poorer households are more likely to engage in sedentary behaviours. Just a third of children in the highest-income households have low levels of physical activity (defined as less than 30 minutes of daily physical activity), rising to nearly half

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[18] Statistics on Obesity, Physical Activity and Diet: England 2014, Health and Social Care Information Centre.
[19] Department of Health (2011). Start Active, Stay Active: A report on physical activity from the four home countries' Chief Medical Officers. Available at: https://www.gov.uk/government/publications (Accessed: 31 March 2016).

(48.0%) for children in households in the lowest income quintile[20]. The average time spent being sedentary was highest in 13-15 year olds.

Almost a fifth of men (19%) and over a quarter of women (26%) are considered to be physically inactive. Inactivity increases with age, being lowest in 16-24 year olds and highest in those 85 and over (8% men and 22% women vs 74% and 76% respectively)[17]. Inactivity is higher in adults in the lowest socioeconomic group compared to those in the highest group. The UK has much higher levels of physically inactivity than some other countries in the Western World (Figure 14).

(Figure 14 - International comparison of physical inactivity (at ages 15 and over).
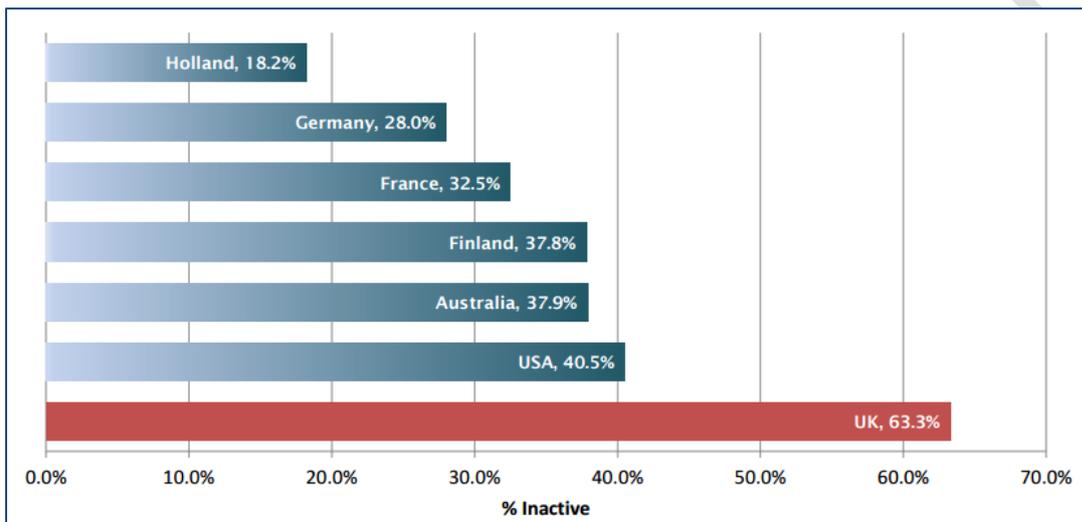
Source: Public Health England 2014, Everybody Active Everyday

8.10 Other Risk Factors of Obesity

Breastfeeding and good infant feeding practices are associated with reduced risk of obesity in later life. Breastfeeding can also offer support for a mother to lose weight after birth (breastfeeding expends around 500 calories per day). Breastfeeding rates in the UK are some of the lowest in the world.

> **Breastfeeding reduces the risk of obesity**
>
> **74.3% initiate breastfeeding in the first 48hours, this falls to 43.2% by 6-8 weeks.**

Parental obesity is the most significant predictor of child obesity. Children who have one or more parents who are obese are significantly more likely to become obese themselves. Maternal pre-pregnancy BMI is a risk factor for child overweight/obesity.

Looked After Children (LAC) have been found to be at higher risk of obesity. A study investigating the weight of LAC in the Midlands, UK found that LAC are more likely to be overweight and obese compared with standard norms, and there are a number of children (35%) whose BMI increases once in care[21].

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[20] Health and Social Care Information Centre (2012). *Health Survey for England 2012.*
http://content.digital.nhs.uk/catalogue/PUB13218
[21] Hadfield, S C., Preece, P M. (2008). *Obesity in looked after children: is foster care protective from the dangers of obesity?* Child: Care Health and Development , Vol 34 (6) 710-712.

The Foresight Report identifies the biological and societal factors that influence excess weight; this Strategy has highlighted a number of these key determinants. Age, gender and ethnicity have a role in determining an individual's weight classification. The environment has an important influence on diet and physical activity behaviours which enable people to achieve a healthy weight. Socio-economic status also has a critical influence on weight, as there is an association between increasingly poor health and increasing deprivation. By recognising and understanding these factors this Strategy can identify groups of people more likely to have an unhealthy weight than others. Through addressing some of these key determinants at a local level unhealthy weight prevalence can be addressed.

8.11 Risk Factors and Malnutrition

The risk of malnutrition increases with age. The higher risk is due to a combination of physiological changes and an increased burden of disease in older people. There are many medical, lifestyle and psychological factors which can increase the risk of malnutrition in the community, and which are more common in older people. Additionally, there are risk factors which can occur specifically in hospital settings and further increase the likelihood of malnutrition.
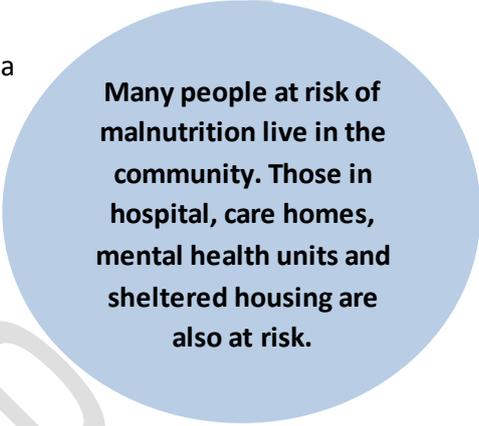
Many people at risk of malnutrition live in the community. Those in hospital, care homes, mental health units and sheltered housing are also at risk.

Some population groups at higher risk of malnutrition include;

- Older adults over 65 years living alone.

- Older adults over 65 years in a care home or admitted to hospital.

- People in the most deprived areas.

- People who abuse drugs or alcohol.

- Adults with a learning disability.

- People with long-term conditions, such as diabetes, kidney disease, chronic lung disease.

- People with chronic progressive conditions, such as dementia or cancer.

9 Unhealthy Weight – The National Picture

9.1 National Malnutrition Trends

Over three million people in the UK are thought to be malnourished[22] or at risk of malnutrition. Around 1.3 million older people aged over 65 years are estimated to be within this figure. The majority of these people are thought to be living in the community (93%) with a minority in care homes (5%) or in hospital (2%)[22].

Malnutrition increases the risk of disease for individuals, as well as poor psycho-social function. The many clinical effects of malnutrition include; impaired ability to fight infection; longer recovery time from surgery; increased risk of falls; specific nutrient deficiencies and depression or self-neglect.

Just under 2% of adults are estimated to be underweight according to the Health Survey for England (2013)[23]. Underweight children are identified through the National Child Measurement Programme (NCMP). In 2015/16 prevalence of underweight children in England was 1% in Reception (4-5 years) rising to 1.3% in Year 6 (10-11 years)[24]. National trends show an overall decline in prevalence of underweight in Reception between 2007/08 to 2015/16 (1.25% to 1%). 2015/16 saw a decline in prevalence of underweight (to 1.3%) in Year 6, after a slight overall increase between 2007/08 to 2014/15 (1.41% to 1.42%).

> Malnourished individuals in the community see their GP twice as often, had three times the number of hospital admissions and stayed in hospital more than three days longer, compared with well-nourished people.

The NCMP data for 2015/16 show a number of factors that influence the prevalence of underweight children. Underweight prevalence was higher in Year 6 than in Reception. It was highest amongst boys in Reception and girls in Year 6. There were higher numbers of underweight children in the most deprived areas for both year groups. Ethnicity also showed differences in prevalence of underweight. Children in

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[22] BAPEN (2016). *Introduction to Malnutrition.* Available at: http://www.bapen.org.uk/malnutrition-undernutrition (Accessed: 31 March 2016).

[23] Health and Social Care Information Centre (2014). *Health Survey for England – 2013.* Available at: http://digital.nhs.uk/catalogue/PUB16076 (Accessed: 31 March 2016).

[24] Health and Social Care Information Centre (2015). *National Child Measurement Programme: England, 2014/15 school year.* Available at: http://www.hscic.gov.uk/catalogue/PUB19109 (Accessed: 31 March 2016).

'Asian or Asian British' groups had a significantly higher prevalence, whereas those in 'White' groups had significantly lower prevalence.

9.2 National Obesity Trends

The majority of the adult population in England are overweight or obese (64.8% 2013-15[25]). Excess weight has continued to increase in the past 20 years. The proportion of healthy weight adults has declined, with 8% fewer men and 9% fewer women reporting a healthy BMI between 1993 and 2014.
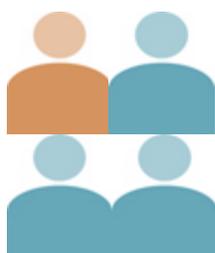
One in four adults are obese (24.4% 2013-15). This has increased from 14.9% in 1993 (Figure 15: Prevalence of obesity in adults aged 16 years and overFigure 15). After a steep rise in obesity prevalence between 1993 and 2000, the rate of increase has slowed since 2001 but continues to increase. Morbid obesity (the most severe category of obesity) has more than tripled in this time. Obesity prevalence is higher in women (27%) compared to men (24%) in 2014.

Absolute levels of obesity are very high and the UK ranks as one of the most obese nations in Europe. The UK has the highest obesity levels in Northern and Western Europe, above levels in countries such as France, Germany, Spain and Sweden[26].

Figure 15: of obesity in 16 years and
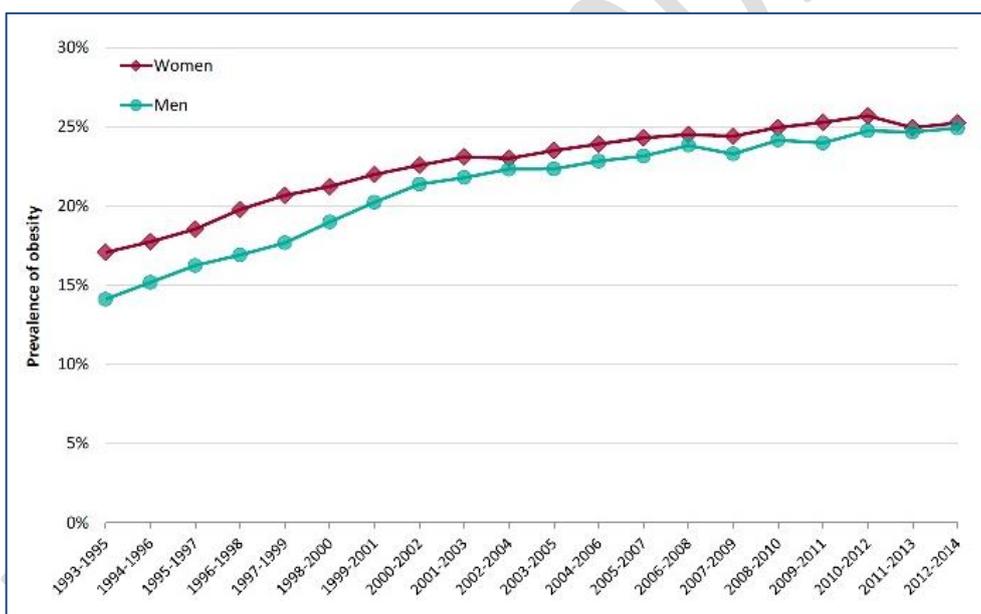
Prevalence adults aged over

Source: Public Health England Obesity 2016 (data HSE 1993-2014 (3-year average)

Excess weight has also risen rapidly in children in England over the past 10 years. In 2015/16 the NCMP data shows that 12.8% of Reception children are overweight and a further 9.3% are obese[24]. In Year 6 14.3% of children are overweight and an additional 19.8% are obese. Child obesity more than doubles between

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[25] Public Health England (2016). *Public Health Outcomes Framework.* Available at: http://www.phoutcomes.info/ (Accessed: 31 March 2016).

[26] Food and Agriculture Organization of the United Nations (2013). *The State of Food and Agriculture.* Available at: http://www.fao.org/economic/es-home/sofa/en/#.V7wTfVsrJMx (Accessed: 31 March 2016).

Reception (9.3%) and Year 6 (19.8%). The proportion of healthy weight children decreases between children starting and finishing primary school, from 76.9% to 64.6%.

Over one in five Reception children is overweight or obese, increasing to one in three Year 6 children.

Trend data for NCMP between 2006/07 to 2015/16 shows a downward trend in obesity in Reception boys and a stability in Reception girls. There is an upward trend in obesity in Year 6 for both boys and girls, although this is highest in girls. Year 6 obesity prevalence has remained relatively stable in the past five years.

More adults and children are classified severely obese than ever before, and prevalence continues to increase. Modelling suggests obesity levels could increase to 60% of men, 50% of women and 25% of children by 2050[27]. Using current trends adult overweight and obesity will reach 72% by 2035 - almost three in four UK adults[28].

Obesity doubles between Reception and Year 6 from one in 10 children to one in five.

10 The Local Challenge

10.1 Children's Unhealthy Weight Trends
Underweight

National Child Measurement Programme (NCMP) data 2015/16 shows the prevalence of underweight Reception children in Cambridgeshire (0.87%) is statistically similar to England (0.97%). Locally, prevalence appears to have increased year on year since 2013/14 (Figure 16).

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[27] Department of Health (2011). *Healthy Lives, Healthy People: A call to action on obesity in England*. Available at: https://www.gov.uk/government/publications/healthy-lives-healthy-people-a-call-to-action-on-obesity-in-england (Accessed: 31 March 2016).

[28] Cancer Research UK (2016). *Tipping the Scales: preventing obesity makes economic sense.* Available at: http://www.cancerresearchuk.org/sites/default/files/tipping_the_scales_-_cruk_full_report11.pdf (Accessed: 31 March 2016).

Figure 16: Reception Children Underweight Prevalence.
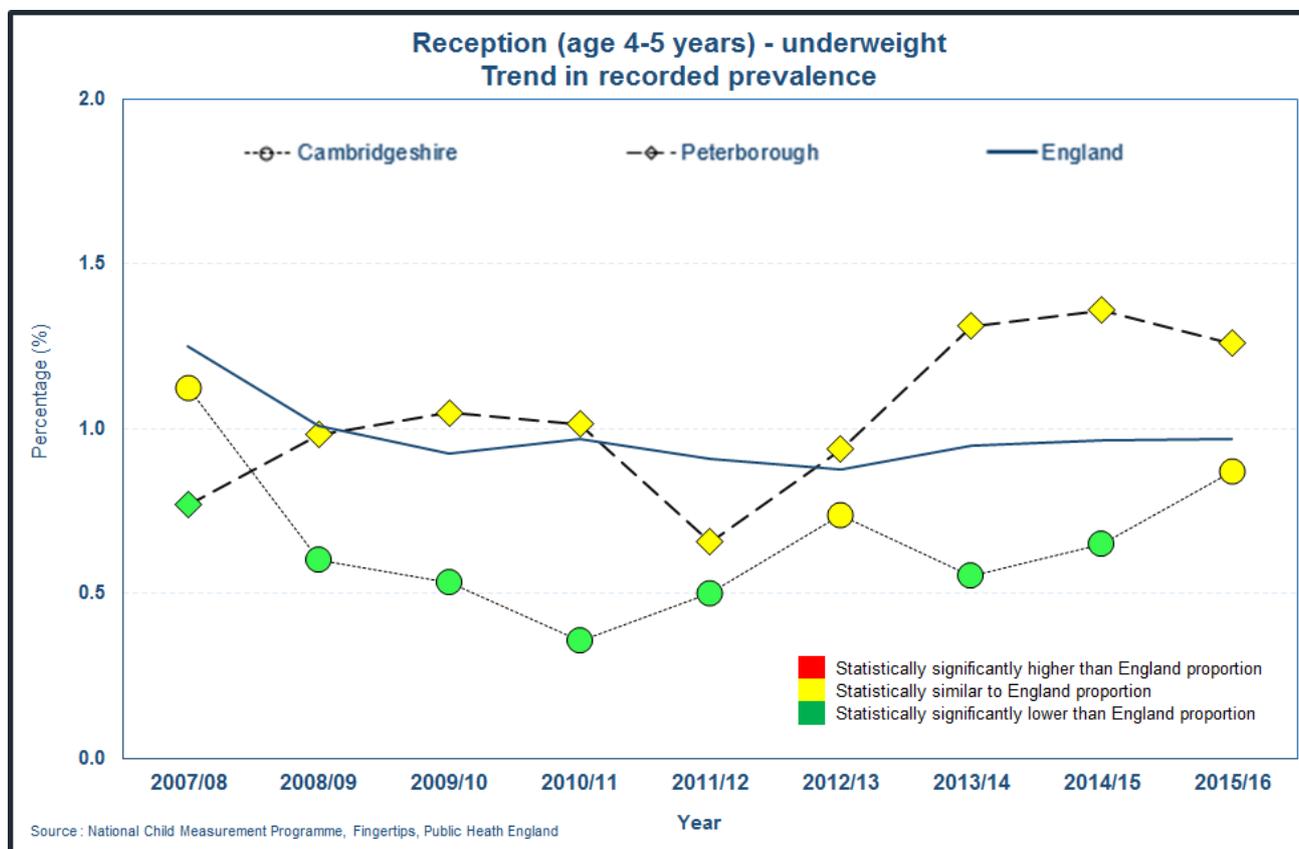
Source: National Child Measurement Programme, Fingertips, Public Health England.

Prevalence of underweight Reception children varies within Cambridgeshire. In Huntingdonshire prevalence of underweight children in Reception is generally better than England (0.46% vs 0.97% in 2015/16) and has been since 2012/13. In South Cambridgeshire prevalence of underweight children (1.22%) was similar to England in 2015/16, but there have been annual increases since 2013/14. There is not enough data to allow for trend comparisons in Cambridge, East Cambridgeshire or Fenland.

In Peterborough prevalence of underweight children in Reception is similar to England in 2015/16 (1.26% and 0.97%). This is a continuing trend with prevalence data similar to England since 2008/09 (Figure 16).

Year 6 children in Cambridgeshire show a similar prevalence of underweight to England (1.29% vs 1.32% 2015/16) (Figure 17) throughout the NCMP programme. In 2015/16 underweight prevalence in all of the Cambridgeshire districts show similar percentages to England.

Year 6 children in Peterborough have a similar prevalence of underweight to England (1.85% vs 1.32% 2015/16). In 2011/12 and 2013/14 prevalence peaked to be significantly worse than the national average, after a prior trend of being similar to England since 2008/09 (Figure 17).

Figure 17: Year 6 Children Underweight Prevalence.

Source: National Child Measurement Programme, Fingertips, Public Heath England

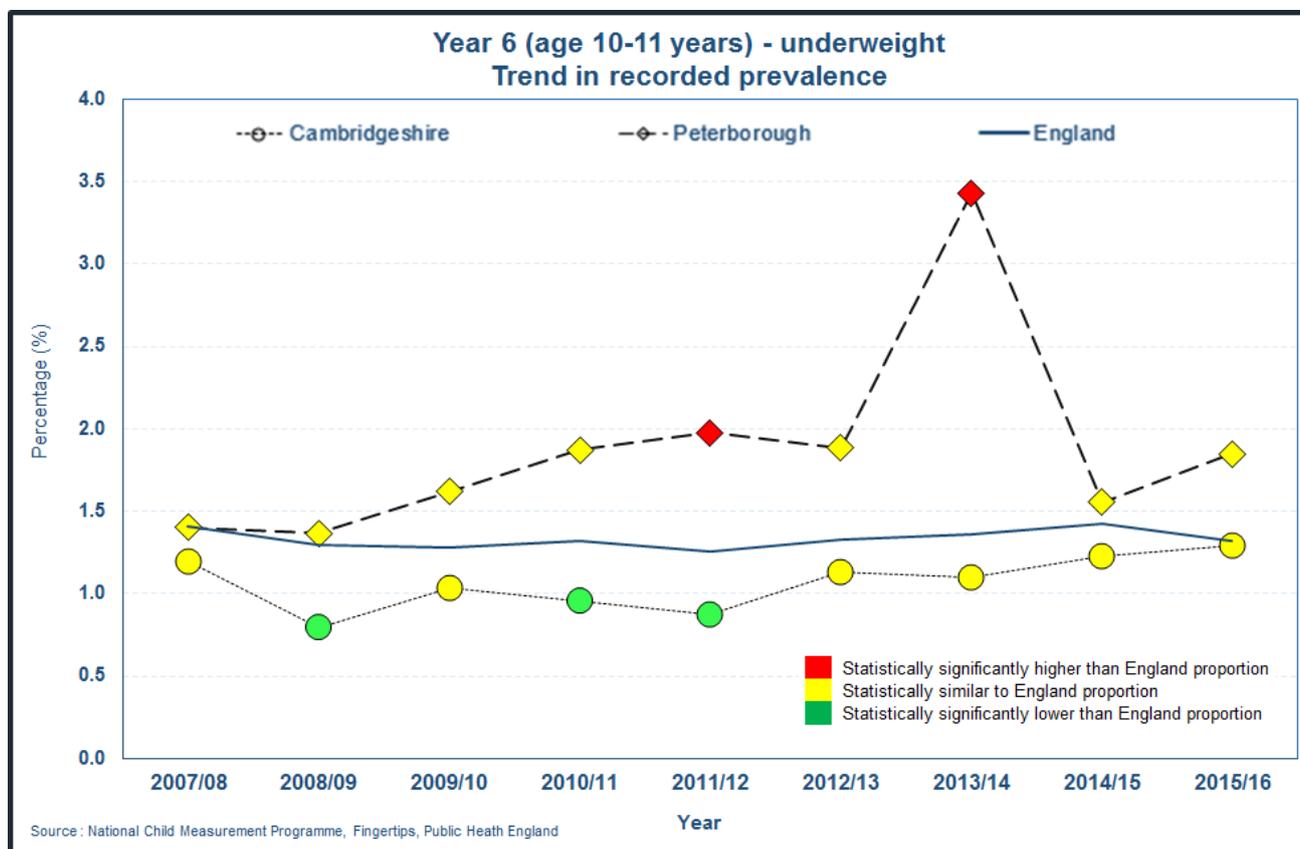**Source: National Child Measurement Programme, Fingertips, Public Health England**

Excess Weight – Overweight & Obesity

Nearly one in five Reception children in Cambridgeshire start school overweight or obese. Prevalence of excess weight in Cambridgeshire for this age group (18.7%) remains significantly better than England (22.1%) in 2015/16 (Figure 18). This trend has continued from 2007/08 to 2014/15. Prevalence data is more varied within Cambridgeshire districts.

Fenland continues to have the highest prevalence of excess weight year on year (21.4% 2015/16). The highest prevalence was seen in 2010/11 and was significantly worse than England (27.1% vs 22.6%). A noticeable decline is observed from 2010/11 to date, showing similar prevalence to England since 2013/14.

In 2015/16 excess weight in East Cambridgeshire (19.7%) remained similar to England and fairly stable throughout the data collection period. Huntingdonshire (19.0%) has showed a decrease in prevalence of excess weight since 2013/14 (22.2%).

In Cambridge, prevalence of excess weight continued to be significantly better than England since 2011/12. Prevalence has noticeably decreased by 7.7 percentage points between 2007/08 and 2015/16. South

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Cambridgeshire prevalence (17.3% 2015/16) showed a noticeable decrease from 2014/15 (18.8%) and has been consistently better than the England annual proportions.

Over one in five Reception children in Peterborough were overweight or obese in 2015/165. Excess weight in Reception children (22.8%) remains similar to the national prevalence (22.1%). This overall trend has generally continued in Peterborough since 2008/09 (Figure 18).

Figure 18: Reception Children Overweight and Obesity Prevalence.
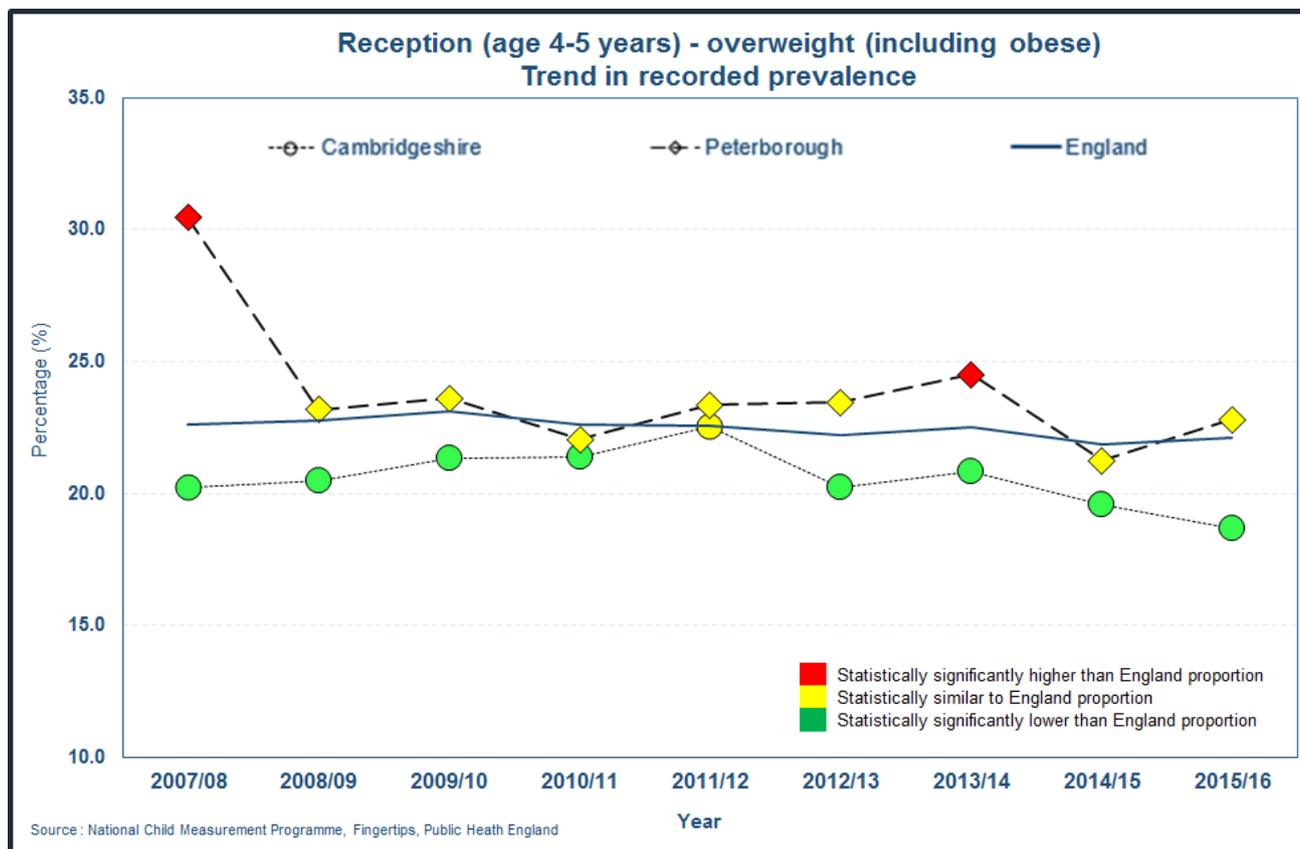
Source: National Child Measurement Programme, Fingertips, Public Health England

Over one in four Year 6 children in Cambridgeshire is overweight or obese. Year 6 prevalence of excess weight in Cambridgeshire has remained significantly lower than the national average since 2007/8 (28.2% vs 34.2% 2015/16) (Figure 19). There are variations in the data between the individual districts.

Prevalence of overweight and obesity in Fenland (33.9% 2015/16) continues to be the highest in the county, with data following the national trend in recent years.

In East Cambridgeshire (29.2% 2015/16) prevalence has been significantly better than England (34.2% 2015/16) since 2010/11. Prevalence in Cambridge (23.2% 2015/16) has shown notable decreases since 2012/13, with a decrease of 6.9 percentage points over this time period. In Huntingdonshire (30.0% 2015/16) prevalence of excess weight is also seen to be generally better than England, but there was an increase from 27.5% in 2014/15. South Cambridgeshire (25.1% 2015/16) levels have remained better than England since the start of the NCMP.

In Peterborough over one in three Year 6 children are overweight or obese. Prevalence of excess weight in Year 6 has remained similar or better than England since 2008/09 (Figure 19). In 2015/16 prevalence was 34.2%, the same as the national average.

Figure 19: Year 6 Children Overweight and Obesity Prevalence.

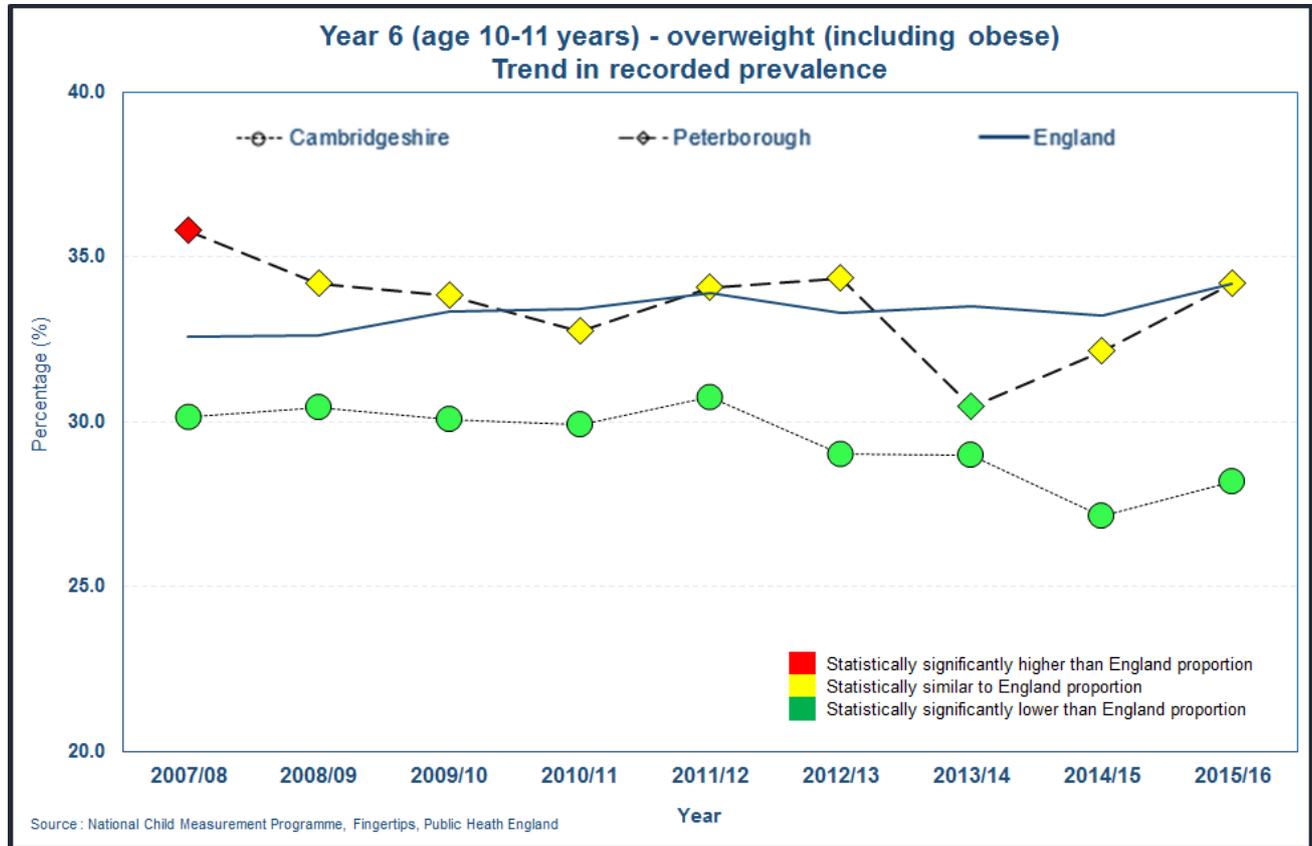Source: National Child Measurement Programme, Fingertips, Public Heath England

Source: National Child Measurement Programme, Fingertips, Public Health England

Excess weight - Obesity

In Cambridgeshire 6.9% of Reception children were obese in 2015/16. This declined from 8.0% in 2013/14. Obesity rates have been significantly better than England since NCMP data collection started (Figure 20).

In Peterborough, 9.3% of Reception children were obese in 2014/15, with annual decreases since 2013/14 (10.6%). Since 2008/09 prevalence rates have been similar to England (Figure 20).

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Figure 20: Reception Children Obesity Prevalence.

Reception (age 4-5 years) - obese
Trend in recorded prevalence

Source: National Child Measurement Programme, Fingertips, Public Heath England

Source: National Child Measurement Programme, Fingertips, Public Health England

Obesity prevalence in Year 6 children in Cambridgeshire was 16.2% in 2013/14 and declined to 14.9% in 2015/16. The data trend has remained significantly better than England since 2007/08 (**Figure 21**).

Year 6 obesity prevalence in Peterborough increased from 17.4% in 2013/14 to 19.8% in 2015/16, but remained statistically similar to England (**Figure 21**).

Source: National Child Measurement Programme, Fingertips, Public Health England

The obesity prevalence for both Reception and Year 6 is shown for the Cambridgeshire districts and Peterborough in Table 1. Fenland continues to show the highest prevalence in Cambridgeshire and Peterborough has slightly higher levels; both are above the rates for England.

Table 1- Recorded Obesity Prevalence in Cambridgeshire Districts and Peterborough 2015/16

Area	Reception (%)	Year 6 (%)
Cambridge	6.0%	11.3%
East Cambridgeshire	6.8%	15.3%
Fenland	8.7%	20.0%
Huntingdonshire	7.3%	15.8%
South Cambridgeshire	5.9%	12.6%
Cambridgeshire	6.9%	14.9%
Peterborough	9.3%	19.8%
England	9.3%	19.8%

Source: HSCIC, NCMP 2015/16

Local childhood obesity levels double between Reception and Year 6

10.2 Adults Unhealthy Weight Trends

There is a scarcity of local data about the prevalence of malnutrition, so local estimates are determined by applying national estimates to the population. It is estimated that 10-14% of the population in England aged 65 years and over are malnourished. It is therefore estimated that in Cambridgeshire and Peterborough there are 13,000 to 18,300 older residents who are malnourished[3].

In Cambridgeshire, an estimated 10,000 to 14,000 older residents (about one in fifty in the general population) are malnourished. By also considering lifestyle and psychosocial risk factors there may be an estimated 29,000 older people at increased risk of malnutrition in Cambridgeshire, as approximately 29% of older people in the county live alone. In Peterborough, an estimated 3,000 to 4,300 older people are indicated to be malnourished, with 15% of the population aged 65 years and over in 2016 (30,416 people).

In Cambridgeshire the majority of the adult population is either overweight or obese. In 2013-15 63.2% of local adults were classified as such. This is better than the England average of 64.8% and has declined slightly from prevalence similar to the national average in 2012-14 (63.6% vs 64.6% respectively).
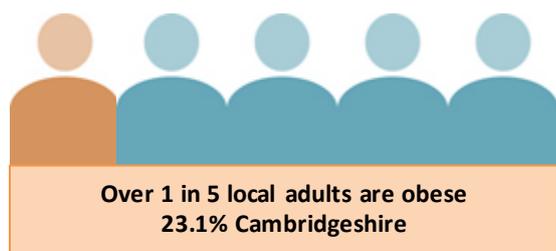
In Cambridgeshire over one in five adults (23.1%) are obese compared to 24.4% nationally. Being overweight carries a strong risk of becoming obese. The percentage of overweight adults is similar to England (40.1% vs 40.4%). Only around a third of Cambridgeshire adults (35.9%) are a healthy weight.

Over 1 in 5 local adults are obese 23.1% Cambridgeshire

In Peterborough over two thirds of adults are either overweight or obese. The percentage of overweight and obesity adults in Peterborough in 2013-15 is significantly worse than for England (70.8% vs 64.8% respectively). This has increased from 2012-14 when prevalence was 68.9% locally.

Adult obesity prevalence in Peterborough is over one in four (27.8%) and above England (24.4%). The percentage of overweight adults is also above the national average (43% vs 40.4%). Less than a third of Peterborough adults (28.7%) are a healthy weight.
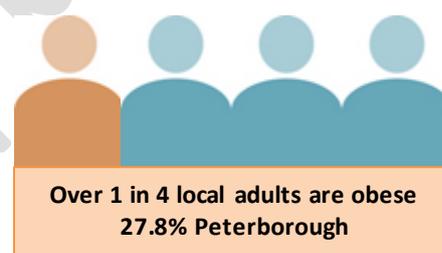
Over 1 in 4 local adults are obese 27.8% Peterborough

Prevalence of excess weight within Cambridgeshire districts varies. In 2013-15 Fenland had the highest percentage of adults with excess weight (72.9%) followed by East Cambridgeshire (68.1%) (Table 2). Cambridge (46.7%) is the only district to have lower estimated levels of excess weight than England (64.8%). Peterborough has the highest percentage of excess weight adults in the East of England region.

Table 2: Adult excess weight in Cambridgeshire & Peterborough.

Area	Fenland	East Cambridgeshire	Huntingdon-shire	South Cambridgeshire	Cambridge	Cambridgeshire	Peterborough	England
% unhealthy weight	72.9%	68.1%	67.6%	63.6%	46.7%	63.2%	70.8%	64.8%

Adult excess weight in England is predicted to reach 72% by 2035[2]. Local prevalence of overweight in Cambridgeshire and Peterborough is projected to rise from 65.1% in 2012 to 69.4% in 2031; there will also be an increase in obesity (Table 3). The greatest increase in obesity will occur in the 45-54 and over 75 age groups, while prevalence in adults aged 25-44 years will remain relatively stable. Table 3 and Table 4 show the

proportional increase and the number of people locally who are expected to be classified with excess weight.

Table 3 – Projected prevalence of obesity (BMI>30) and overweight (BMI>25) in Cambridgeshire and Peterborough (% of >16s).

	2012	2013	2014	2015	2016	2017	2018	2021	2026	2031
% adults with BMI >30	22.2	22.5	22.8	23.1	23.3	23.6	23.8	24.6	26.0	27.7
% adults with BMI >25	65.1	65.4	65.6	65.8	66.0	66.1	66.3	66.9	68.1	69.4

Source: Health system prevention strategy for Cambridgeshire and Peterborough, 2015.

Table 4 – Estimated number of obese people in Cambridgeshire and Peterborough by 2021.

2012 Actual	2013	2014	2015	2016	2017	2018	2019	2020	2021
165,820	167,839	171,389	174,991	178,687	182,265	185,789	189,287	192,874	196,502

Source: Health system prevention strategy for Cambridgeshire and Peterborough, 2015.

10.3 Physical Activity Trends

As a county Cambridgeshire has a similar percentage of active adults compared to England (58.6% vs 57%). There is variation within the county, Cambridge has the highest number of active adults (69.8%) (Table 5). Active adults in East Cambridgeshire, South Cambridgeshire and Huntingdonshire are all similar to the England average. While Fenland has the lowest number of active adults (47.9%), with less than half of all adults being active, and is lower than the national average (Table 5). Peterborough has similar numbers of adults who are physically active (54.7%) to England (Table 5).

Table 5 – Percentage of Active Adults in Cambridgeshire & Peterborough.

Area	Fenland	East Cambridgeshire	Huntingdon-shire	South Cambridgeshire	Cambridge	Cambridgeshire	Peterborough	England
% inactive	47.9%	53.8%	57.9%	59.5%	69.8%	58.6%	54.7%	57.0%

Source: Public Health Outcomes Framework 2015.

> **1 in 4 Cambridgeshire adults are inactive.**
>
> **While over 1 in 3 Peterborough adults are inactive.**
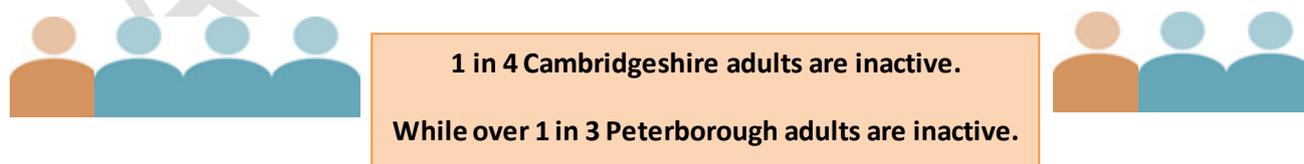
There are fewer inactive adults in Cambridgeshire (25.3%) compared to England (28.7%). While Cambridge has the lowest levels of physical inactivity (14.7%), East Cambridgeshire (29.7%) is close to the England average and Fenland (37.4%) has higher inactivity levels than the rest of the county and England average

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(Table 6). In Peterborough the percentage of inactive adults is worse than the England average (28.9% vs 27.7%).

Area	Fenland	East Cambridgeshire	Huntingdon-shire	South Cambridgeshire	Cambridge	Cambridgeshire	Peterborough	England
% inactive	37.4%	29.7%	25.6%	23.8%	14.7%	25.3%	34.3%	28.7%

Table 6 - Percentage of Inactive Adults in Cambridgeshire compared with England.

Source: Public Health Outcomes Framework 2015.

11 Local Healthy Weight and Health Inequalities

The relationship between prevalence of unhealthy weight and health inequalities have been highlighted. Social determinants have a critical impact on health inequalities and unhealthy weight. Poor health outcomes increase as social standing decreases. Biological differences such as gender, age and ethnicity are also related to weight classification.

The Strategy has identified certain individuals and groups within Cambridgeshire and Peterborough as a higher risk of being at an unhealthy weight. It is not an exhaustive list and different areas will be able to identify specific high risk groups. The Strategy will consider existing services and new interventions to support those groups at higher risk of unhealthy weight.

11.1 Deprivation

The Index of Multiple Deprivation (IMD) combines seven indices to measure deprivation, including; income, employment, education and health. The latest IMD data 2015 show Fenland is the most deprived district in Cambridgeshire (Figure 22). It is the only district where deprivation measures at Local Super Output Areas (LSOA) fall in the 10% most deprived nationally in 2015. Deprivation is then highest in Cambridge City, East Cambridgeshire, Huntingdonshire and South Cambridgeshire is the least deprived. Peterborough also shows the highest levels of deprivation against national rankings, with LSOA in the top 10%.

To address inequalities in Cambridgeshire and Peterborough, it is important that services and interventions target areas of higher deprivation.
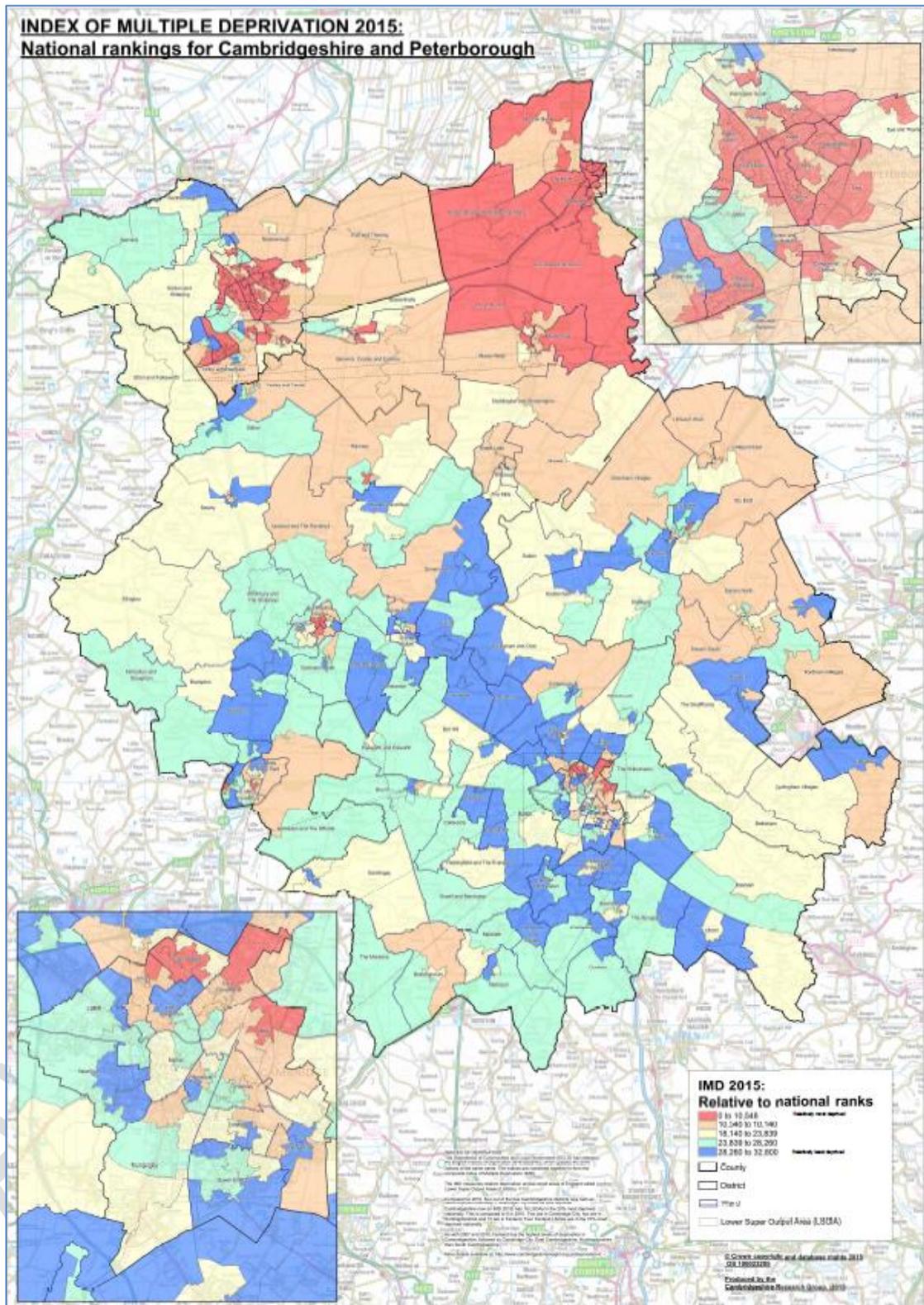
Figure 22 – Index of Multiple Deprivation 2015: National Rankings for Cambridgeshire and Peterborough.

Source: Cambridgeshire Insight.

The percentage of children under 16 who live in poverty is significantly fewer in Cambridgeshire than the national average (12.1% vs 18.6% 2013). In Fenland however more children live in low income families (20.3%) and is significantly worse than in England. More children in Peterborough live in poverty compared

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to in England (21.9% vs 18.6%). This is the highest percentage of children in low income families (under 16s) in the East of England.

Overweight and obesity prevalence is higher in certain areas, often in higher areas of deprivation. The following maps show excess weight by geographical area in adults and the distribution of recorded child obesity prevalence at Lower Super Output Area (LSOA) level.

Figure 23: Excess weight by geographical area for Adults (darker colour = higher % excess weight).
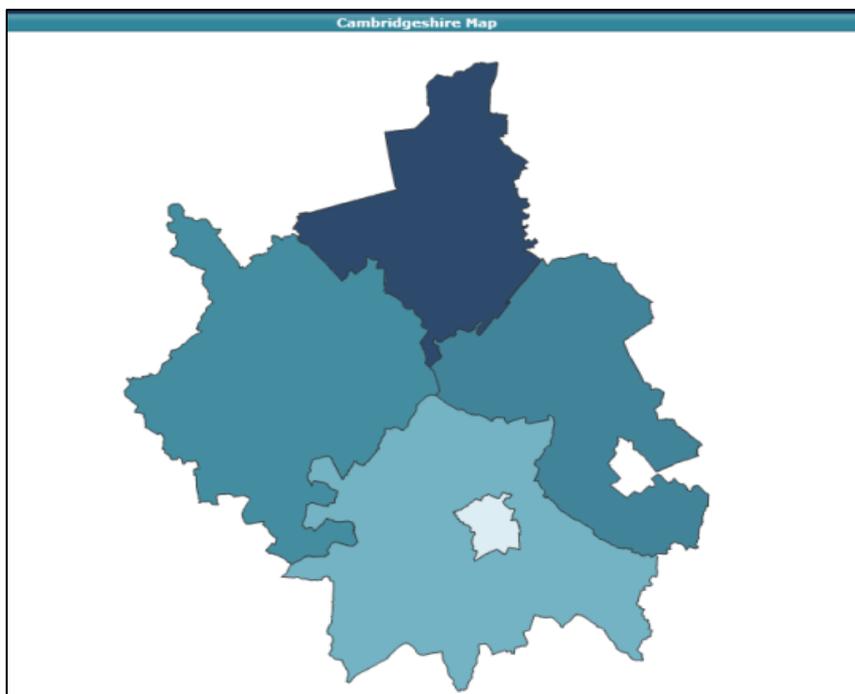
Source: Cambridgeshire Insight (data based on Public Health Outcomes Framework 2012-14)

Obesity prevalence in Cambridgeshire was statistically significantly higher in the three most deprived quintiles for Reception children and the second and third most deprived quintiles for Year 6 (Figure 24). In comparison the fifth least deprived areas had statistically significantly lower obesity prevalence for both year groups and the fourth least deprived areas were also statistically significantly lower for Reception pupils.

Figure 24: Child Obesity Prevalence at LSOA level in Cambridgeshire.

Map 1: Cambridgeshire recorded obesity
prevalence, Reception, LSOA, 2012/13 to 2014/15
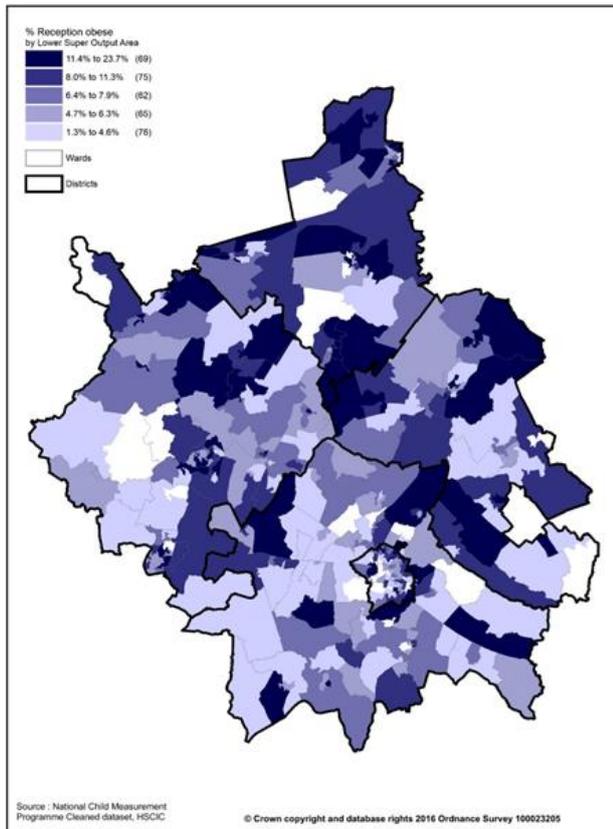
Map 2: Cambridgeshire recorded obesity
prevalence, Year 6, LSOA, 2012/13 to 2014/15
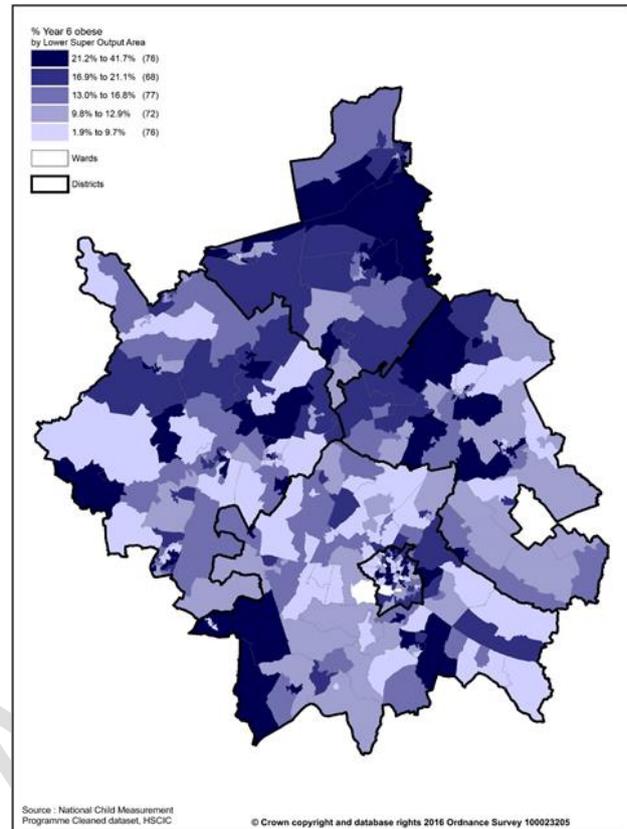
Source: 2011/12 to 2013/14 data from www.noo.org.uk and 2014/15 from National Child Measurement Programme (cleaned dataset), The NHS Information Centre

In Peterborough obesity prevalence was statistically significantly lower in the 20% least deprived areas for Year 6 pupils when compared to the Peterborough average. It was also lower in the 20% least deprived areas in Peterborough for Reception. The 20% most deprived areas and third most deprived areas had higher obesity prevalence for Reception pupils, when compared to the Peterborough average, and the 20% most deprived areas and second most deprived areas had higher prevalence for Year 6 pupils although not statistically significantly higher.

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Figure 25: Child Obesity Prevalence at MSOA level in Peterborough.

Map 3 : Peterborough recorded obesity prevalence Reception, MSOA, 2012/13 to 2014/15.

Map 4: Peterborough recorded obesity prevalence, Year 6, MSOA, 2012/13 to 2014/15.
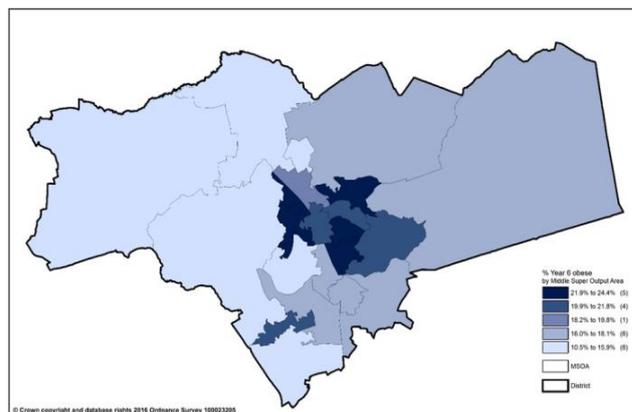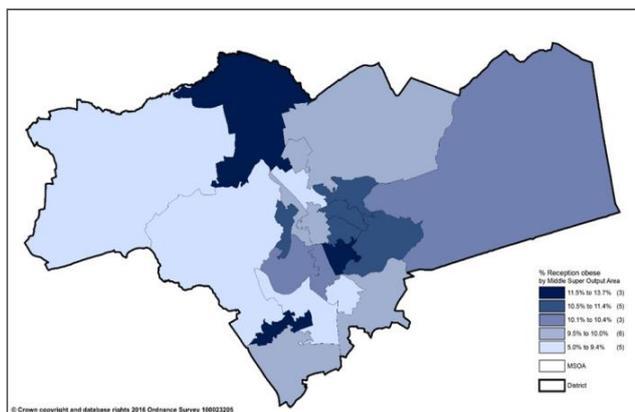
Source: 2011/12 to 2013/14 data from www.noo.org.uk and 2014/15 from National Child Measurement Programme (cleaned dataset), The NHS Information Centre.

11.2 Long Term Conditions

Obesity is associated with a number of Long Term Conditions (LTCs) including diabetes, cardiovascular disease and some cancers and can be a contributory factor to LTCs[29]. LTCs are more common in lower socio-economic groups. Multi-morbidity is also more common in higher areas of deprivation.

The Cambridgeshire JSNA: Long Term Conditions across the Lifecourse[30] found nearly a third of people in Cambridgeshire (31.7%) reported having at least one long term condition. Between 36,000 to 42,000 people in Cambridgeshire aged 18-64 years are estimated to have two or more long term conditions (Figure 26).

Figure 26 - Number and proportion of people with long standing illness aged 18-64 years, 2015, Cambridgeshire (Health Survey for

Number of illnesses	%	95% CI	Estimate of number of people in Cambridgeshire aged 18-64 years (2015) and range (95% CI)	
No longstanding illnesses	71.3	(70.1 - 72.5)	283,300	(278,500 - 288,100)
One longstanding illness	18.8	(17.8 - 19.9)	74,800	(70,800 - 79,000)
Two or more longstanding illnesses	9.8	(9.1 - 10.7)	39,100	(36,100 - 42,300)
Total	100			

England (2012) estimates applied to CCC Research Group 2012 based population forecast for 2015)

Source: Cambridgeshire Insight, Long Term Conditions across the Lifecourse JSNA 2015.

Obesity is more prevalent in people with a Limiting Long Term Illness (LLTI) than in those without a LLTI[29]. The 2011 census found that 90,420 people (15.1% of household residents) reported a long-term activity limiting illness in Cambridgeshire. The percentages reporting LLTI were highest in the oldest age groups.

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[29] Public Health England (2016). *Social care.* Available at: http://www.noo.org.uk/LA/impact/social (Accessed: 31 March 2016).

[30] Cambridgeshire Joint Strategic Needs Assessment: Long term Conditions across the Lifecourse 2015 http://www.cambridgeshireinsight.org.uk/JSNA/LTCs-across-the-lifecourse-2015

After adjusting for age, the percentage reporting long-term activity-limiting illness was statistically significantly higher than the England average in Fenland (15.5% v 14.4%)[31]. In all other districts and for Cambridgeshire as a whole these percentages were statistically significantly lower than the England average; the lowest percentages were seen in South Cambridgeshire.

Figure 27 - Directly Age Standardised Percentage of the Population with a Long-Term Activity-Limiting Illness, by ward, Cambridgeshire, 2011.
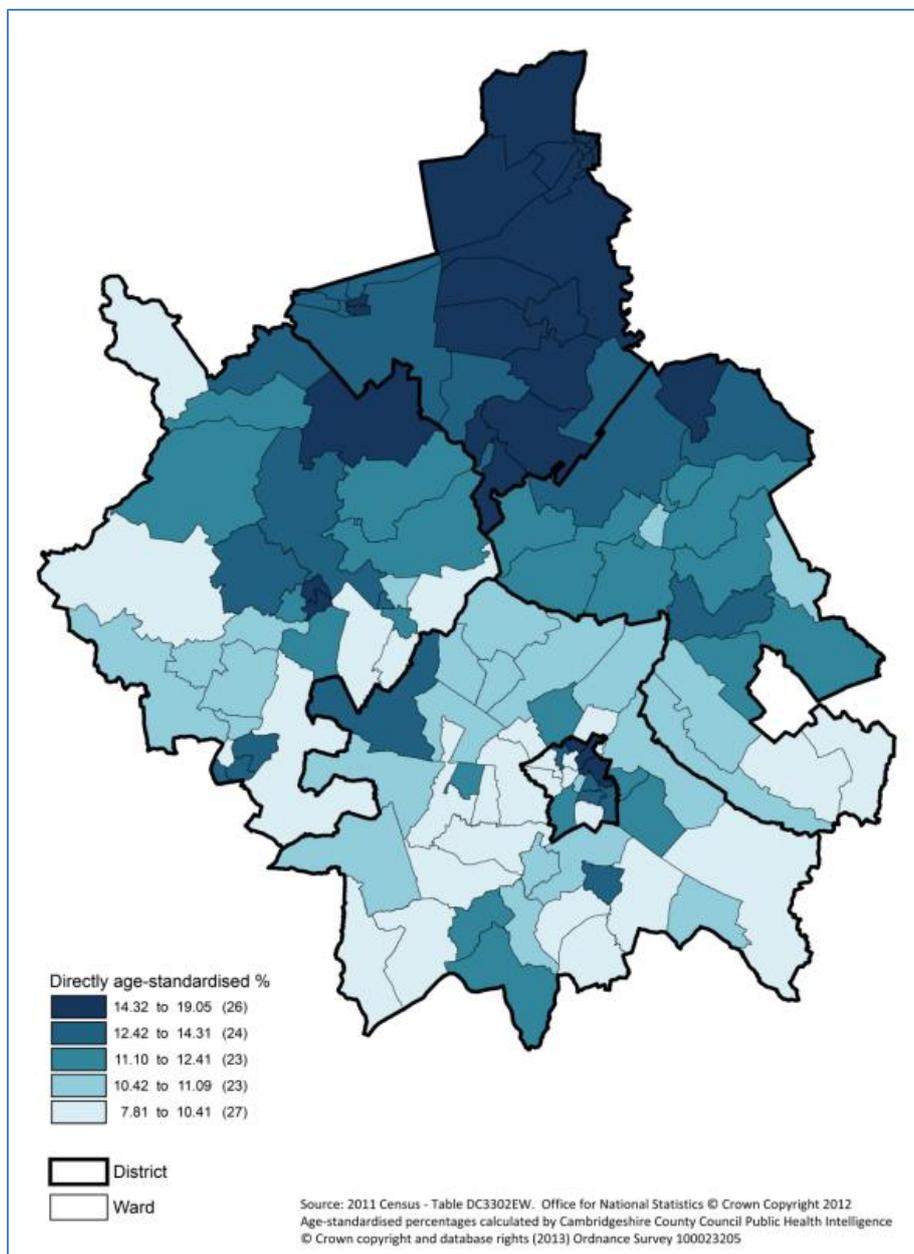
Directly age-standardised %

	14.32 to 19.05 (26)
	12.42 to 14.31 (24)
	11.10 to 12.41 (23)
	10.42 to 11.09 (23)
	7.81 to 10.41 (27)

District
Ward

Source: 2011 Census - Table DC3302EW. Office for National Statistics © Crown Copyright 2012
Age-standardised percentages calculated by Cambridgeshire County Council Public Health Intelligence
© Crown copyright and database rights (2013) Ordnance Survey 100023205

Source: Cambridgeshire Insight, Census 2011 - Age Standardised Health Data for Cambridgeshire, 2013.

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[31] Cambridgeshire County Council (2013). *Census 2011 - Age-standardised health data for Cambridgeshire (Report).* Available at: http://cambridgeshireinsight.org.uk/health/healthtopics/census (Accessed: 31 March 2016).

Figure 28 - Directly Age Standardised Percentage of the Population with a Long-Term Activity-Limiting Illness, by ward, Peterborough, 2011.
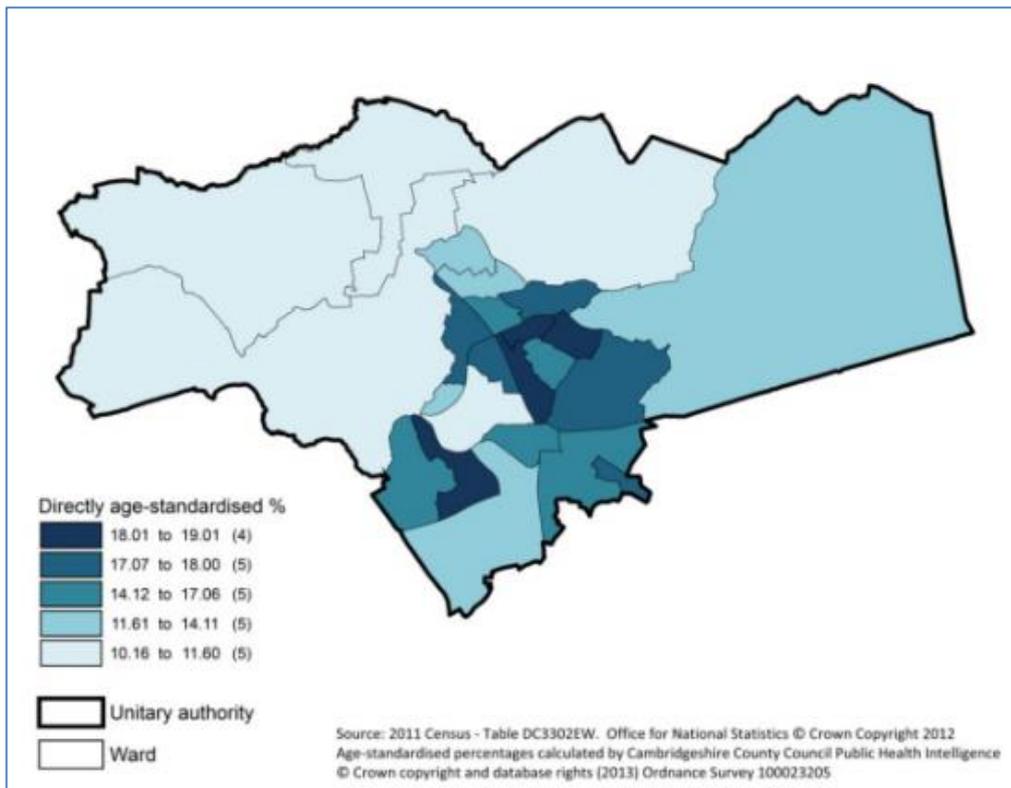
Source: Cambridgeshire Insight, Census 2011 - Age Standardised Health Data for Peterborough, 2013.

In Peterborough, 29,699 people (16.3% of household residents) reported a long-term activity limiting illness[32]. Although the percentages reporting long-term illness were highest in the oldest age groups, 51% of all people with a long-term illness in Peterborough are of working age (aged 16-64 years). After adjusting for age, the percentage reporting long-term activity-limiting illness was statistically significantly higher than the England average in Peterborough (15.1% v 14.4).

11.3 Disability

The Cambridgeshire JSNA: Physical and Learning Disability through the Lifecourse 2012-13[33] found in 2012 an estimated 11,066 children in Cambridgeshire met the Equality Act (2010) definition of disability. In February 2013, 868 children were receiving direct social care support, with needs beyond those of a non-disabled child of the same age. In Peterborough in 2016 an estimated 3,558 children had a disability, as defined in the Equality Act.

Within the Cambridgeshire adult population in 2012 11,424 adults (18+ years) were predicted to have a learning disability. 1,922 adults were on Cambridgeshire GP practice-based learning disability registers and 1,630 adults with learning disability received social care services.

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[32] Cambridgeshire County Council (2013). *Census 2011 - Age-standardised health data for Peterborough (Report).* Available at: http://cambridgeshireinsight.org.uk/health/healthtopics/census (Accessed: 31 March 2016).

[33] The Cambridgeshire Joint Strategic Needs Assessment: Physical and Learning Disability through the Lifecourse 2012-13

38,319 Cambridgeshire adults (18-64 years) were predicted to have a moderate or severe physical disability. The Countywide Physical Disability Team supported 808 adults with a physical disability in January 2013, plus a further 24 with HIV.

The Cambridgeshire JSNA: Physical and Learning Disability through the Lifecourse 2012-13 reported that people with disabilities may be less able to access leisure services, and people with learning disability and their carers may have poor knowledge of healthy eating. As the Cambridgeshire population grows and ages, the number of children and adults with disabilities is also expected to rise.

11.4 Looked After Children

Looked After Children (LAC) and young people are a particularly vulnerable group at greater risk of some health outcomes. Many LAC will already have experienced deprivation and poor health before coming in to care, and had fewer opportunities to access health promotion information. In March 2015 there were 535 LAC in Cambridgeshire[34]. In December 2014 there were 372 LAC in Peterborough[35].

In England, around 60% of children and young people who are looked after are reported to have emotional and mental health problems and a high proportion experience poor health, educational and social outcomes after leaving care (NICE, 2013). In Cambridgeshire, 48.6% of care leavers aged 19 years were in Education, Employment or Training (March 2015), compared to 85% of Cambridgeshire's general 19 year old population (December 2014).

11.5 Infants who are Breastfed

Rates of breastfeeding initiation were the highest recorded in Cambridgeshire at 83% in 2013/14, after a slight decline over the previous three years fairly static data. At 6-8 weeks after birth breastfeeding rates decline to 58.3% in Cambridgeshire. There has been a continuous increase locally in breastfeeding at 6-8 weeks after birth since 2011/12, with levels at the greatest since data was first reported. Breastfeeding rates remain higher than the overall trends for England in both incidences (Table 7: Breastfeeding rates in Cambridgeshire & Peterborough.).

Breastfeeding in Peterborough is similar to England for initiation and prevalence at 6-8 weeks after birth (Table 7). The trend in breastfeeding initiation remained similar to national averages since 2011/12. While prevalence at 6-8 weeks after birth has increased, this was significantly worse than England in 2012/13 and improved the following year from which prevalence similar to England has been maintained from 2013/14.

Table 7: Breastfeeding rates in Cambridgeshire & Peterborough.

	Cambridgeshire	Peterborough	England
Breastfeeding initiation (48 hours after birth)	83%	72.8%	74.0%
Breastfeeding prevalence 6-8 weeks after birth	56.2%	44.4%	45.8%

Source: Public Health Outcomes Framework 2013/14.

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[34] Cambridgeshire County Council Corporate Parenting Strategy 2015-2018
[35] Peterborough city Council Children & Young People Joint Strategic Needs Assessment June 2015

12 The Evidence Base, what should we be doing?

12.1 System Wide Approach

> **System Wide Approach – Join up policies and interventions across the whole system**

The inter-relationship between the environment, the settings in which people live and work and human behaviour is complex. Addressing unhealthy weight will not be achieved by single interventions (Foresight Report[36]). It requires a complex web of inter-related interventions focused upon the environment, different settings and human behaviour across the whole system. Evidence based interventions that address these factors and contribute to positive outcomes will be wide ranging and will include policy through to psychology.

The Foresight Report used a systems mapping approach using evidence from many disciplines to demonstrate the complexity of obesity. This approach indicates that weight is determined by a complex multifaceted system of determinants where four different influences upon weight were identified: physiological factors, eating habits, activity levels and psychosocial influences. Approaches are therefore complex and interrelated.

The report cites evidence for public policy change for food production, food manufacturing, healthcare, retail, education, culture, trade and opportunities for personal travel. The focus is that individual policies are not sufficient to have the influence and impact they need on different parts of the system.

The NICE Guidelines Obesity: working with local communities, PH42 [37] recommends that an integrated systems wide approach with clear leadership is necessary for the reduction of obesity. Although the supporting evidence[38] for the guidelines acknowledges that it is difficult to evaluate any of the system wide programmes but there are some examples of good practice.

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[36] The Foresight Report

[37] NICE Guidelines Obesity: working with local communities [PH42]: 2012 http://www.nice.org.uk/guidance/PH42

[38] The effectiveness of Whole System Approaches to prevent obesity: Hunt H.; Coelho H.F.; Garside R.; Batliss S.; Fry Smith A.; Systematic review undertaken by the Peninsula Technology Assessment Group (PenTAG) for NICE 2011

SHUDU is a cross agency group with the aim of 'creating healthy and sustainable places and communities in Sandwell'. Work of the group is in line with the Black Country Core Strategy (the local plan). Membership includes a number of local authority departments: public health, planning, environmental health, trading standards and economic regeneration. Objectives of SHUDU are to:

- Provide a formal route for engagement between health, local authority planning services and other stakeholders that have influence over the wider determinants of health.

- Develop healthy environments and places to support people in changing their behavior to a healthier lifestyle.

- Influence policy at local, regional and national levels.

Key areas of recent work include developing a supplementary planning document to control hot food takeaways; working with food policy colleagues to influence the provision of healthier food in hot food takeaway outlets; mapping of access to healthy food; exploring the development of 20mph zones across Sandwell and contributing to the national Town and Country Planning Association handbook on reuniting health and planning.

13 The Healthy Environment

Key Interventions

- **Local use of policy, legislative and planning levers with a consistent approach across Cambridgeshire.**
- **Evidence based interventions to increase walking and cycling e.g. Personalised Travel Plans.**
- **Minimise local promotion of unhealthy foods.**
- **Work effectively with local retailers to increase access to healthy food and drink.**

The environment in which people live affects what they eat and their physical activity levels. This applies to where they live, work and socialise[39].

Evidence-based policies and strategies are required to create and sustain an environment that supports a healthy weight. These need to impact upon transport, public open spaces, buildings and schools and access to healthy affordable food.

Local authorities have a range of legislative and policy levers at their disposal, alongside wider influences on healthy lifestyles that can help to create places where people are supported to maintain a healthy weight[40,41]. The most influential policy lever is the National Policy Planning Framework (NPPF) which makes it clear that local planning authorities (LPAS) have a responsibility to promote healthy communities. Local plans should "take account of and support local strategies to improve health, social and cultural wellbeing for all". NICE guidance[42] on physical activity and the environment emphasises that local authorities prioritise the creation and maintenance of environments that encourage people to be active. Doing this can bring added benefits, such as reduced traffic congestion, the revitalisation of local shops and services and increased community cohesion and social interaction. It identifies features of the environment that have an impact on physical activity, including:

- location, density and mix of land use;
- street layout and connectivity;
- physical access to public services, employment, local fresh food;
- safety and security;
- open and green space;
- affordable and energy-efficient housing;
- air quality and noise;
- resilience to extreme weather events;
- community interaction;
- transport.

An economic analysis[43] of interventions in the built environment that support physical activity found that for urban planning and design the QALY cost was £130-£1260. Cost for transport was £289-£2831 and for building design was £219-£2087.

13.1 Active Communities and the Environment

Walking and cycling is an easy way of increasing an individual's daily activity. There are broad health benefits with reduced incidence of type 2 diabetes, dementia, cerebrovascular disease (stroke), depression and cancer and reduced mortality[44]. Those who are the most inactive have the greatest benefit, even from small increases in physical activity. Wider benefits include reduced absenteeism, improved journey quality, reduced congestion and air pollution and improved road safety. The benefit cost ratios for active travel has

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[39] Evidence-based intervention in physical activity: lessons from around the world. Heath GW et al., 2012

[40] Dr Foster Intelligence and Land Use Consultants. Tackling the Takeaways: a new policy to address fast-food outlets in Tower Hamlets. London 2011.

[41] Department for Communities and Local Government. National Planning Policy Framework. London 2012

[42] NICE public health guidance 8. Physical activity and the environment 2008

[43] Beale, Bending, Trueman : An economic analysis of environmental interventions that promote physical activity (2007)

[44] Jarrett, J., et al, Effect of increasing active travel in urban England and Wales on costs to the National Health Service, Lancet, 2012 Jun 9;379(9832):2198-205. doi: 10.1016/S0140-6736(12)60766-1

been estimated by the Department for Transport (DfT) as being approximately 6:1[45] and in the long-term there is the potential for cost savings to the NHS. Cavill[46] also reports that they may be more cost-effective than other initiatives that promote exercise, sport and active leisure pursuits.

NICE PH Guidance 41 Physical Activity: walking and cycling 2012[47] identifies in the supporting evidence base specific planning considerations that need to be upheld to promote walking and cycling.

> - **Ensure planning applications for new developments always prioritise the need for people (including those whose mobility is impaired) to be physically active as a routine part of their daily life.**
>
> - **Ensure pedestrians, cyclists and users of other modes of transport that involve physical activity are given the highest priority when developing or maintaining streets and roads.**
>
> - **Plan and provide a comprehensive network of routes for walking, cycling and using other modes of transport involving physical activity.**
>
> - **Ensure public open spaces and public paths can be reached on foot, by bicycle and using other modes of transport involving physical activity.**

Local Transport Plans are being used to promote walking and cycling through creating an environment where people actively choose to walk and cycle as part of everyday life.

Jarrett (2012)[48] estimated the NHS costs that could be averted by a large shift towards active travel in England and Wales, based on reducing incidence of key diseases and therefore the costs of treating these conditions. A shift in walking from an average of 0.6 km/day to 1.6 km/day, and in cycling from an average of 0.4 km/day to 3.4 km/day (similar to current levels in Copenhagen) could result in changes in numbers of incident cases of type 2 diabetes, dementia, cerebrovascular disease, breast and colorectal cancer, depressions and ischaemic heart disease. The study estimated that over 20 years the NHS expenditure averted would be over £17 billion.

Levels of walking and cycling are influenced by both environmental and individual factors. Shorter distance, convenience, pleasant routes, tailored household/individual interventions all tend to increase levels of walking and cycling. Barriers include factors such as safety/perceived safety issues, parental behaviours and perceptions and availability of workplace car parking.

13.1.1 Interventions that increase levels of cycling and walking
Distance is one of the most consistent environmental influences on walking[49] and cycling[50]. Direct routes that are well connected are considered to be valuable. A Cambridge-specific study showed that convenient

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[45] Department for Transport, *Claiming the Health Dividend*, 2014. Available at
https://www.gov.uk/government/publications/economic-case-for-active-travel-the-health-benefits
[46] Cavill N. Increasing walking and cycling: a briefing for directors of public health. 2013. www.noo.org.uk/slide_sets/activity.)
[47] NICE PH Guidance 41 Physical Activity: walking and cycling 2012
[48] Jarrett, J., et al, Effect of increasing active travel in urban England and Wales on costs to the National Health Service, Lancet, 2012 Jun 9;379(9832):2198-205. doi: 10.1016/S0140-6736(12)60766-1
[49] Saelens B, Handy S, *Built Environment Correlates of Walking: A Review*. Medicine and Science in Sports and Exercise. 2008;40(7S):S550-S66.

cycle routes were found to predict uptake of cycling whilst pleasant routes predicted maintenance of walking to work[51].

A study by CEDAR[52] found that workplace car parking provision was a strong and consistent predictor of increased likelihood of car commuting[53] and decreased likelihood of incorporating walking or cycling into a longer car commuting journey and walking or cycling the entire journey (Panter 2011[54]).

However a key factor where there is well established infrastructure, are the personal perceived barriers. Interventions to promote walking which tailored to individuals or households are more effective than non-personalised methods targeted at larger populations (Ogilvie et al, 2007)[55].

Whether children actively commute to school may be determined by parents' perception of safety of the mode of transport, lack of time in the morning and social factors such as no other children to walk with[56]. Furthermore 'walk to school' interventions involving educational lessons and goal setting tasks aimed at eight to nine year olds have not shown to increase walking to school[57], highlighting the importance in influencing parents' behaviour and perceptions.

Personalised Travel Planning[58]

[50] Panter, J.R, Jones, A.P., van Sluijs, E.M. Griffin, S.J, *Attitudes, social support and environmental perceptions as predictors of active commuting behaviour in schoolchildren*. Journal of Epidemiology and Community Health, 2010;*64:41-48*.

[51] Panter, J., Griffin, S, & Ogilvie, D, *Active commuting and perceptions of the route environment: A longitudinal analysis,* Prev Med, 2014; 67: 134–140.

[52] Commuting and Health in Cambridge website http://www.cedar.iph.cam.ac.uk/research/directory/cahic/

[53] Goodman, A., et al, He*althy travel and the socio-economic structure of car commuting in Cambridge, UK: A mixed-methods analysis*, Social Science Medicine, 2012; 74(12): 1929–1938.

[54] Panter, J., Griffin, S, & Ogilvie, D, *Active commuting and perceptions of the route environment: A longitudinal analysis,* Prev Med, 2014; 67: 134–140.

[55] Ogilvie, D et al, *Interventions to Promote Walking: systematic review*, BMJ, 2007 Jun 9; 334(7605): 1204.

[56] Jo Salmon, Louisa Salmon, David A. Crawford, Clare Hume, and Anna Timperio, *Associations Among Individual, Social, and Environmental Barriers and Children's Walking or Cycling to School*. American Journal of Health Promotion, 2007: November/December 2007, Vol. 22, No. 2, pp. 107-113

[57] David McMinn et al, *Predicting active school travel: The role of planned behavior and habit strength*, International Journal of Behavioural Nutrition and Physical Activity, 2012;2012; 9: 65.

[58] NICE public health guidance 41 (2012) http://pathways.nice.org.uk/pathways/walking-and-cycling#path=view%3A/pathways/walking-and-cycling/walking-and-cycling-programmes.xml&content=view-node%3Anodes-personalised-travel-planning

In Cambridgeshire, Personal Travel Planning (PTP) is being used to overcome the habitual use of the car, enabling more journeys to be made on foot, bike, bus, train or in shared cars. This is achieved through the provision of information; incentives and motivation directly to individuals to help them voluntarily make more informed travel choices.

The Local Sustainable Transport Fund funded the Getting Cambridgeshire to Work programme – targeted at circa 21,000 households in Cambridgeshire between April 2013 and March 2015. An evaluation of the effectiveness of residential PTP projects in Cambridgeshire at Orchard Park and Kings Hedges in Cambridge indicated that the projects were successful in terms of raising awareness of sustainable travel modes, encouraging participation in the PTP process, increasing the sustainable travel choices made by residents and providing valuable feedback on local infrastructure barriers.

In support of PTP, Transport Planners encourage developers to produce Travel Plans as part of residential and business developments. Colleagues cross the region are developing monitoring mechanisms, fees and charges for the implementation of Travel Plans. Work is also being undertaken with employers to support PTP.

13.2 The Food Environment

The typical adult diet exceeds recommended dietary levels of sugar and fat. Less than a third of adults currently meet the five a day target and around one in five children aged five to 15 meets the target, with the average being just three portions a day[59]. Healthy eating is associated with a reduced risk of being overweight or obese and of chronic diseases, including type 2 diabetes, hypertension, and certain cancers[60].

13.2.1 National Policy

Evidence [61] [62] suggests that raising the price of foods and drinks such as sugar-sweetened beverages and fast food at a population level (for example, through taxation) appears to reduce their overall consumption, whereas nationally subsidising healthier foods such as fruits and vegetables appears to increase consumption of these foods. Fiscal and regulatory measures also appear to be cost effective in the long-term for preventing obesity.

13.2.2 The Sugar Effect

Current estimates of UK sugar intakes from the National Diet and Nutrition Survey programme (NDNS)[63] show that mean intakes are three times higher than the new 5% maximum recommended level in school-aged children and teenagers (14.7% to 15.6% of energy intake) and around twice the maximum recommended level in adults (12.1% of energy intake).

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[59] National Obesity Observatory. Determinants of obesity: child diet. 2012.
www.noo.org.uk/uploads/doc/vid_14864_NOOchilddiet2012.pdf
[60] Public Health England. About obesity 2013. www.noo.org.uk/NOO_about_obesity/lifestyle
[61] Lehnert T, Sonntag D, Konnopka A et al. (2012) The long-term cost-effectiveness of obesity prevention interventions: systematic literature review. Obesity Reviews 13: 537–53
[62] An R (2013) Effectiveness of subsidies in promoting healthy food purchases and consumption: a review of field experiments. Public Health Nutrition 16: 1215–28
[63] Bates B LA, Prentice A, Bates C, Page P, Nicholson S, Swan G. (Eds). (2014) National Diet and Nutrition Survey: Headline results from Years 1 to 4 (combined) of the rolling programme from 2008 and 2009 to 2011 and 2012. Online. Available from: https://www.gov.uk/government/statistics/national-diet-and-nutrition-survey-results-from-years-1-to-4-combined-of-the-rolling-programme-for-2008-and-2009-to-2011-and-2012

There is evidence that a high sugar intake is associated with deprivation. The NDNS found higher sugar intakes in adults in the lowest income compared to all other income groups. Consumption of sugary soft drinks was also found to be higher among adults and teenagers in the lowest income group.

There are potential health impact and wider cost savings to the NHS if the 5% sugar recommendations are met. After five years of working to achieve the target there should be a saving of £576 to the NHS from the associated health[64].

Consuming too much sugar and too many foods and drinks high in sugar can lead to weight gain[65] and is linked to tooth decay[66]. The Scientific Advisory Committee on Nutrition (SACN) report 'Carbohydrates and health' in July 2015[67] following a review of the evidence, concluded that the average population intake of sugar should not exceed 5% of total dietary energy for the population aged two years upwards and that consumption of sugar sweetened drinks should be minimised by both adults and children. Public Health England developed the SDAC review in its Sugar Reduction: evidence for action report (2015) that includes evidence based recommendations for action[68]. There are three key areas which are recommended for achieving a reduction in sugar intake in the report:

Influencers: This includes marketing and fiscal measures that can influence sugar intake. The review by PHE of a large number of research studies found evidence which suggests that increasing the price of high sugar foods and non-alcoholic drinks, whether through taxation or other means, is likely to reduce purchases of these products at least in the short term[69].

The food supply: This includes food purchased in retail outlets for home, in restaurants etc. the workplace and school canteens. Food choices are habitual and automatic. There is limited uptake of healthy food ranges and there is evidence that improved nutrition information on labels has limited influence unless a weight loss is being attempted or there is a particular health issue[70]. There is now more choice than ever in the food and drink market with the food environment being filled with food outlets and in real terms food is cheaper than ever [71] [72] [73].

Knowledge, education, training and tools: The Report refers to its own evaluation evidence that campaigns such as Change4Life, the childhood obesity campaign, influence healthy diet choices and improving

[64] Weight Management Economic Assessment Tool. Online. Available from:
http://www.noo.org.uk/visualisation/economic_assessment_tool
[65] The Scientific Advisory Committee on Nutrition. (2015) Carbohydrates and Health. Online. Available from:
https://www.gov.uk/government/groups/scientific-advisory-committee-on-nutrition
[66] Department of Health. (1989) Dietary Sugars and Human Disease. Report on the panel on dietary sugars, 37. London: HMSO.
[67] The Scientific Advisory Committee on Nutrition. (2015) Carbohydrates and Health. Online. Available from:
https://www.gov.uk/government/groups/scientific-advisory-committee-on-nutrition
[68] Public Health England Sugar Reduction: evidence for action report (2015)
[69] Joint Teeside University and Public Health England Sugar Reduction: The evidence for action
Annexe 2: A mixed method review of behaviour changes resulting from experimental studies that examine the effect of fiscal
measures
[70] Ips
http:
[71] Eat
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> 1. Reduce and rebalance the number and type of price promotions in all retail outlets.
> 2. Significantly reduce opportunities to market and advertise high sugar food and drink products to children and adults across all media and through sponsorship.
> 3. The setting of a clear definition for high sugar foods.
> 4. Introduction of a broad, structured and transparently monitored programme of gradual sugar reduction in everyday food and drink products, combined with reductions in portion size.
> 5. Introduction of a price increase of a minimum of 10-20% on high sugar products through the use of a tax or levy such as on full sugar soft drinks.
> 6. Adopt, implement and monitor the government buying standards for food and catering services (GBSF) across the public sector, including national and local government and the NHS to ensure provision and sale of healthier food and drinks in hospitals, leisure centres etc.
> 7. Ensure that accredited training in diet and health is routinely delivered to all of those who have opportunities to influence food choices in the catering, fitness and leisure sectors and others within local authorities.

knowledge in relation to the risks associated with consuming too much sugar. However campaigns are short term and consequently dietary changes run the risk of being short term. Any new behaviours are challenged by the ongoing promotion by the food and drinks industries. The UK food industry spent £256 million promoting 'unhealthy' foods sold in retail alone in 2014 compared to a total Change4Life spend the same year of just £3.9m. The provision of good clear information about the risks of sugar to the public, professionals, employers and the food industry to support practical steps that people can take to lower their own and their families sugar intake. The report makes a number of recommended actions for addressing these three areas but emphasises evidence that demands that a whole system approach is required.

These evidence based actions call for changes at national policy level but also local interventions that focus on promotion marketing, knowledge and training along with ongoing awareness raising are possible.

13.2.3 Fast Food Outlets

One of the dietary trends in recent years has been an increase in the proportion of food eaten outside the home, which is more likely to be high in calories[74]. Of particular concern are hot food takeaways, which tend to sell food that is high in fat and salt, and low in fibre, fruit and vegetables[75].

Figure 29 shows the density of outlets varies between 15 and 172 per 100,000 population. This data shows a strong association between deprivation and the density of fast food outlets, with more deprived areas having a higher proportion of fast food outlets per head of population than others.

Children who eat school meals tend to consume a healthier diet than those who eat packed lunches or takeaway meals[76]. However initiatives that have improved school food are only affecting four out of 10

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[74] Butland B, Jebb S, Kopelman P, McPherson K, Thomas S, Mardell J, et al. Tacking obesities: future choices – project report. London 2007.

[75] London Food Board and Chartered Institute of Environmental Health. Takeaways toolkit. A London Food Board and Chartered Institute of Environmental Health publication based on a consultancy report by Food Matters. London 2012.

[76] Stevens L, Nelson M. The contribution of school meals and packed lunch to food consumption and nutrient intakes in UK primary school children from a low income population. Journal of human nutrition and dietetics: the official journal of the British Dietetic Association. [Comparative Study Research Support, non-U.S. Gov't]. 2011 Jun;24(3):223-32.

children[77] [78]. In addition, uptake of school meals decreases when children move from primary to secondary school (46.3% compared to 39.8%), and in many cases secondary school pupils are allowed to leave the school premises at lunchtime. Improving the quality of the food environment around schools has the potential to influence children's food-purchasing habits, potentially influencing their future diets[79].

The research into the link between fast food availability and obesity is still relatively undeveloped. (Although there is some evidence that there is an association between fast food and obesity[80]. It is only in recent years that local authorities have started to use the legal and planning systems to regulate the growth of fast food restaurants, including those near schools. Consequently, there is an unavoidable lack of evidence that clearly demonstrates the relationship between fast food outlets and their proximity to schools. However, there are examples in England of local authorities using policy and regulatory approaches.

Fast Food Local Strategic Planning

> **Example of what could be included in a Fast Food Local Strategic Planning Document (SPD)**
>
> **No new fast food (Class A5 Hot Food) outlets:**
> - **Within a 400m radius of schools, youth centres, leisure centres and parks** *(very common).*
> - **In areas (e.g. wards) where more than 10% of year 6 pupils classified as obese.**
> - **In areas where the number of fast food per head already exceeds the UK national average per head of population.**
> - **Where on any one street takeaway use would exceed 5% of retail frontage** *(very common).*
> - **Where the proposed new location would be adjacent, within two non-food outlets, of an existing fast food outlet.**

Waltham Forest Borough Council has recorded that 83% of planning applications for fast food outlets have been rejected since implementation of their SPD in 2009. It also reports that applications for fast food outlets generally are down. This suggests that businesses have moved to alternative locations which would call for a consistent approach to policies across Cambridgeshire.

There are other statutory environmental and licensing levers that local authorities are able to use in addition to planning policies.

- street trading policies to restrict trading from fast food vans near schools;
- policies to ensure that menus provide healthier options;
- enforcement on other issues such as disposal of fat, storage of waste, and litter;
- food safety controls and compliance;
- restrictions on opening times;
- using Section 106 agreements and the Community Infrastructure Levy to contribute to work on tackling the health impacts of fast food outlets.

(However, it is important to note that taking action on hot food takeaways is only part of the solution, as it does not address sweets and other high-calorie food that children can buy in shops near schools.)

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[77] Butland B, Jebb S, Kopelman P, McPherson K, Thomas S, Mardell J, et al. Tacking obesities: future choices – project report. London 2007.

[78] School Food Plan. 2013. www.schoolfoodplan.com/

[79] School Food Trust. Take up of school lunches in England 2011-2012. London 2012.

[80] Kruger DJ, Greenberg E, Murphy JB, Difazio LA, Youra KR. Local concentration of fast food outlets is associated with poor nutrition and obesity. American journal of health promotion: AJHP. 2013 Aug 13.
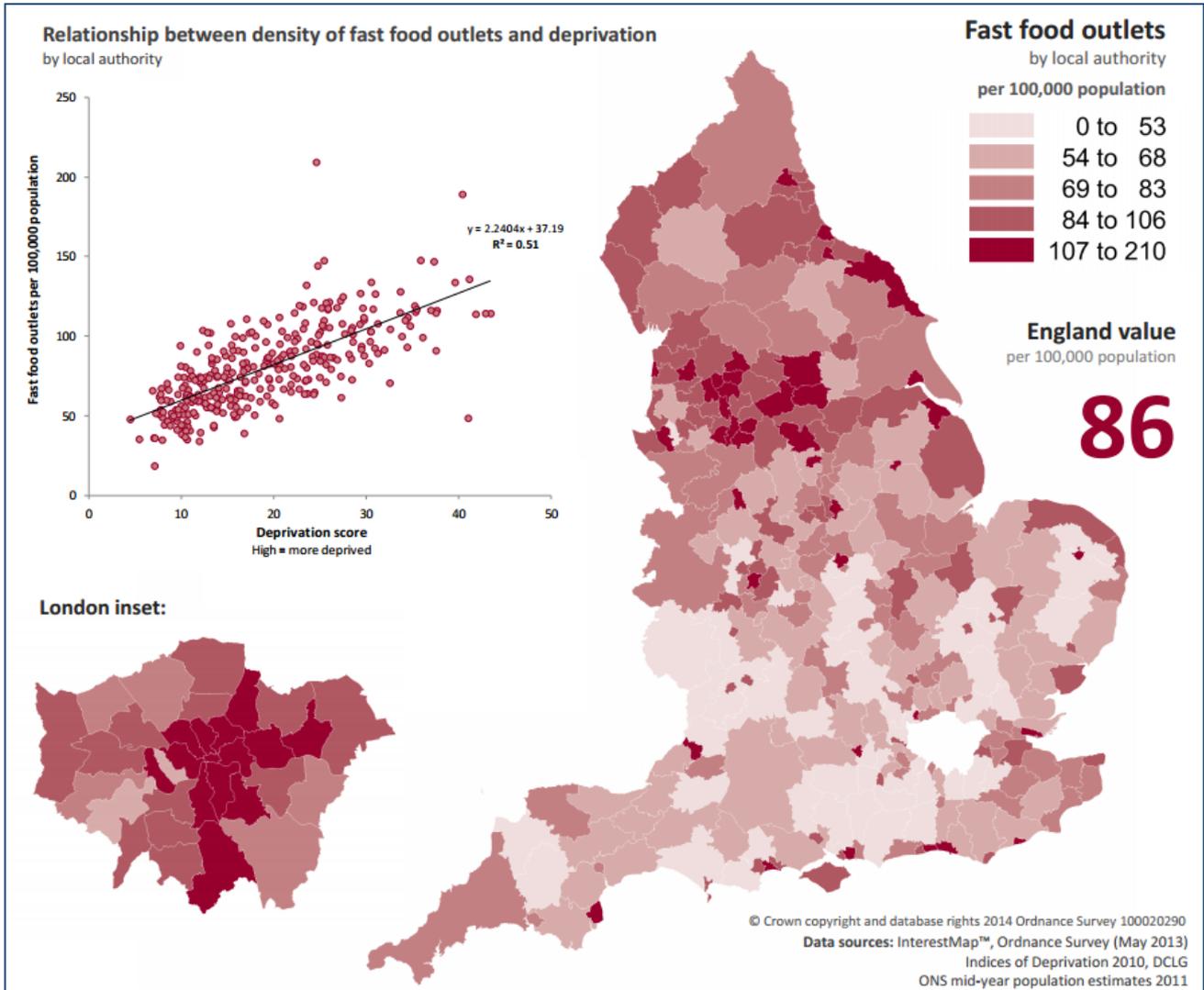
Figure 29- Fast Food Outlets and the Index of Multiple Deprivation.

Source: Public Health England, 2016.

13.3 Public Health Responsibility Deal (PHRD)

The PHRD (2011)[81] aims to utilize the potential for businesses and other organisations to contribute to improving public health through a supportive environment. The PHRD encourages voluntary action from businesses and organisations to commit to addressing alcohol, food, health at work and physical activity to reduce health inequalities. Action includes collective pledges for action within a given sector, for example all major supermarkets and the over 70% of the major retail market agreed to removing artificial trans fat s, while over 75% of the retail market and over 60% of caterers pledged to reduce salt[82]. Organisations within a sector can also make individual pledges to support change.

The PHRD recognises that healthier employees have an increased productivity and reduced costs of sickness absence. Changes can be economically stimulating for businesses as these can be cost saving and could

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[81] Department of Health (2011). *The Public Health Responsibility Deal.* https://responsibilitydeal.dh.gov.uk/wp-content/uploads/2012/03/The-Public-Health-Responsibility-Deal-March-20111.pdf

[82] Department of Health (2013).*Localising the Public Health Responsibility Deal – a toolkit for local authorities.* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/193106/130408-RD-Toolkit-Web-version.pdf

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potentially widen customer base by appealing to a broader market. Healthier choices for customers can also help to reduce the cost of poor health on society and the economy.

Local businesses are recognised for their potential to contribute to the aims of the PHRD too. Engagement with small local businesses is thought to be best led through local authorities at a local level. Local schemes can encourage small businesses to make their products healthier, including by reducing salt, using healthier oils and increasing fruit and vegetables.

The Responsibility Deal in Cambridgeshire – Healthier Options Project

Healthier Options is a locally branded initiative which aims to improve the healthfulness of food offered in local food businesses. It is a collaboration between the County Council and District and City Councils, delivered by Environmental Health Officer teams, which harnesses the potential for businesses to support customers to make healthier choices.

This involves restaurant and takeaway sector businesses changing their existing menu (e.g. reducing salt) and increasing healthy choice options (e.g. adding fruit or vegetables). Businesses pledge to improve the nutritional content of food and increase the availability and promotion of healthier food choices. The project targets food businesses that concentrate on the lunchtime food economy, to make healthier food options more available and raise the awareness of consumers to the types of foods available.

The pilot has tested the model in different geographical locations and socio-demographic profiles across the county to assess whether the model can be effective within different environments. The brand is widely promoted through social media channels. Healthier Options aims to engage with existing and potential customers through these channels. And support of the initiative from the local community is encouraged through Healthier Options Ambassadors. The initiative has been independently evaluated by the University of Hertfordshire.

14 Healthy Settings

Key Interventions

- **Ensure that policies and practice are established to support infant feeding in all relevant settings.**
- **Increase in schools and nurseries "whole settings" approach using policy and interventions to promote physical activity and healthy diet.**
- **Engage employers across Cambridgeshire in the adoption of a healthy workplace programmes.**
- **Engage communities in taking a leadership role and whole community approach to promoting physical activity and a healthy diet.**
- **Ensure all relevant settings have local guidelines in place to prevent malnutrition in high risk groups.**

the implementation of comprehensive strategies and provides an infrastructure for improving health. It

lends itself to the life course approach often targeting a certain population group such as the Healthy Schools or Healthy Workplace Programmes. Though it can also be used to target whole communities such as Healthy Village or Healthy Town Programmes.

14.1 Under 5s Settings

14.1.1 Baby Friendly Settings

Decisions around infant feeding influence body weight as infants progress through childhood and in to adulthood. Infants who are breastfed are less likely to become obese later in life. Mothers who breastfeed expend around 500 additional calories per day, and can offer support to them to lose weight. A multi-faceted approach across a range of settings should be adopted to increase breastfeeding rates. Breastfeeding peer support programmes should be among the services provided. UNICEFs Baby Friendly Initiative provides the minimum standard to encourage breastfeeding. The Department of Health recommend exclusive breastfeeding for up to six months, and then continued breastfeeding (with the introduction of appropriate complementary food) for up to one year and beyond. In England, approximately 1% of babies are exclusively breastfed at six months. For mothers who chose not to breastfeed, there should also be access to independent advice around infant formula. Settings should ensure that an infant feeding policy is in place.

Baby Friendly at The Rosie Hospital, Addenbrookes

> The Rosie Hospital, Addenbrookes provides breastfeeding support and information to mothers and families through implementation of the UNICEF Baby Friendly Initiative. In October 2015 The Rosie achieved Stage 2 accreditation which focuses on educating staff in implementing the Baby Friendly standards. The hospital setting is now continuing to work towards the third and final stage, ensuring that standards are implemented for all pregnant women and new mothers.

14.1.2 Early Years Settings

Unhealthy weight in the pre-school years can impact throughout the life course. Obesity and excessive weight gain in the pre-school years are independently associated with higher blood pressure, recurrent wheezing, and other adverse physical and psychosocial health conditions in childhood. Nearly two-thirds of UK children under five years of age are routinely cared for outside of the home, organised childcare has become an important setting for the promotion of a healthy weight and key to the prevention of obesity. Research has indicated that policies which support healthy eating and physical activity in pre-school settings such as nurseries are associated with obesity prevention ([83]CEDAR). The challenge is to identify how policies can be effectively applied in practice and there are examples which indicate the key levers for influencing behaviors.

Early Years Physical Activity and Nutrition (EYPAN) Programme - Cambridge[84]

> The EYPAN created a new staff role in nurseries and pre-school settings, The Physical Activity and Nutrition Co-ordinator (PANCo), which took a similar role to the SENCo (Special Educational Needs Coordinator) i.e. improving early years workers' knowledge of children's physical activity and diet to enable them to promote it in their settings focusing upon:
>
> - building practitioner skills and confidence by providing training support and continuous professional development;
> - supporting the wellbeing of children, families and staff by developing a framework and knowledge base using current research and national guidelines;
> - work collaboratively with others by establishing close working relationships with a

[83] CEDAR   ractices-
survey/#
Space: S
[84] CEDAR

14.1.3 Physical activity and children and young people.

Emerging evidence[85] is revealing factors that influence children to be more physically active e.g. the type of play equipment. Locally in Cambridgeshire the voluntary organization Living Sport is piloting a physical activity programme in pre-school settings. Children's Centres are another pre-school setting which affords the opportunity of creating a whole settings approach where children, their families and carers can engage in different activities. In Cambridgeshire the whole settings approach has been adopted in some Children's Centres.

St. Neots Children's Centre Group

St Neots Children's Centre group is a cluster of three Children's Centres covering St Neots, Eaton Socon and rural communities around St Neots.

The children's centre group has adopted a whole Centre approach to promoting healthy lifestyles and includes a range of drop-in activities, such as Little Explorers, On the Move, Physical Fun and Shake & Wiggle at various locations. Activities are family based and involve parents/carers and children together, promoting physical activity and showing parents that physical activity does not require specialist equipment or going to organised leisure facilities. The centre offers buggy walks – 'Strut & Stroll', delivered in partnership with Everyone Health. They are also running cookery courses, 'Cook Together', using resources available through the Change 4 Life campaign and aimed at some of the more vulnerable families living in the area. Food for these cookery sessions is provided by the local Tesco supermarket.

The centre provides healthy snacks at all activities and has occasional visits from Dental Health staff, to promote good dental health. The centre makes a small charge for these activities to cover costs but low-income families receive free places.

The Programme is linked to the diet and physical activity assessment which is part of the holistic Family Common Assessment Framework and the Early Years Foundation Stage. Where necessary, support is offered to families to advise then on diet and physical activity, with the aim of enabling families to feel confident in joining in with other community activities.

[85] CED
http:/

14.2 The School Setting

Alongside the physical and mental health benefits of physical activity for children and young people there is a clear link with academic attainment. Research has shown physical activity provides cognitive benefits for children with disabilities by turning on the attention system including sequencing, working memory, the ability to prioritise. One study (Corder et al) has found [86] an inverse relationship between time spent being sedentary at age 14 years and GCSE results by age 17.

A recent review of the evidence [87] (CEDAR for the Department of Health) for addressing physical activity in the school setting identified the need for supportive policies that influence the physical features of the school and its surrounding area, the wider culture and ethos as being the key to improvement.

> **Recommendations for addressing physical activity in the school setting, schools need to ensure that policies support the following:**
>
> - **Specific settings and sufficient space for physical activity that are seen as adequate and accessible by students - both in the physical education (PE) environment and at the whole school level.**
>
> - **Teaching behaviours within and beyond PE that create a positive climate for physical activity promotion - including enthusiasm and social support for physical activity, and the presence of role models.**
>
> - **The wider 'culture' of physical activity promotion within the school - including the extent to which physical activity and health is prioritised and teaching behaviours which requires good leadership.**
>
> - **Changes to the wider school environment involve consulting with students and allowing them to design and lead initiatives taking into account gender and ethnic differences.**

However the CEDAR evidence review found limited evidence base for interventions that increase physical activity in school settings and those found are mostly from primary schools. Yet it identified some characteristics of interventions that have been found to be influential:

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[86] Corder K, Atkin AJ, Bamber DJ, Brage S, Dunn VJ, Ekelund U et al (2015) Revising on the run or studying on the sofa: prospective associations between physical activity, sedentary behaviour, and exam results in British adolescents. International Journal of Behavioral Nutrition and Physical Activity, 2015; 12 (1) DOI: 10.1186/s12966-015-0269-2
[87] Department of Health/CEDAR
Creating Active School Environments for Adolescents - Evidence Review (2016)
http://www.cedar.iph.cam.ac.uk/resources/evidence/eb-11-making-the-case/#schoolenv

- For adolescents, programmes that include a PE component should be targeted at boys and girls separately. Evidence shows that when targeted at both girls and boys together, they are only effective in promoting physical activity in boys. However, programmes with a PE component increase physical activity in girls where they have been targeted alone.
- Physical activity programmes in children under 12 years do not appear to have different effects on boys and girls.
- There is no consistent evidence to suggest that children and adolescents of different ethnicity, socioeconomic status, or initial weight status respond differently to school-based physical activity programmes. However, those with lower initial physical activity levels do often respond better to programmes.

Areas that need further development based on qualitative research are:

- Increasing the length of break time, and improving access to physical activity facilities and equipment during breaks.
- Making changes to the school uniform policies, such as less restrictive uniforms and fewer clothing rules that discourage activity during break times.
- Active travel policies to promote walking or cycling.

Public Health England [88] has identified eight promising principles that schools should embed in any interventions designed to improve the levels of physical activity amongst its students, their families and carers (Figure 30).

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[88] Public Health England: What Works in Schools and Colleges to Increase Physical Activity https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/469703/What_works_in_schools_and_colleges_to_increas_physical_activity.pdf (2015)
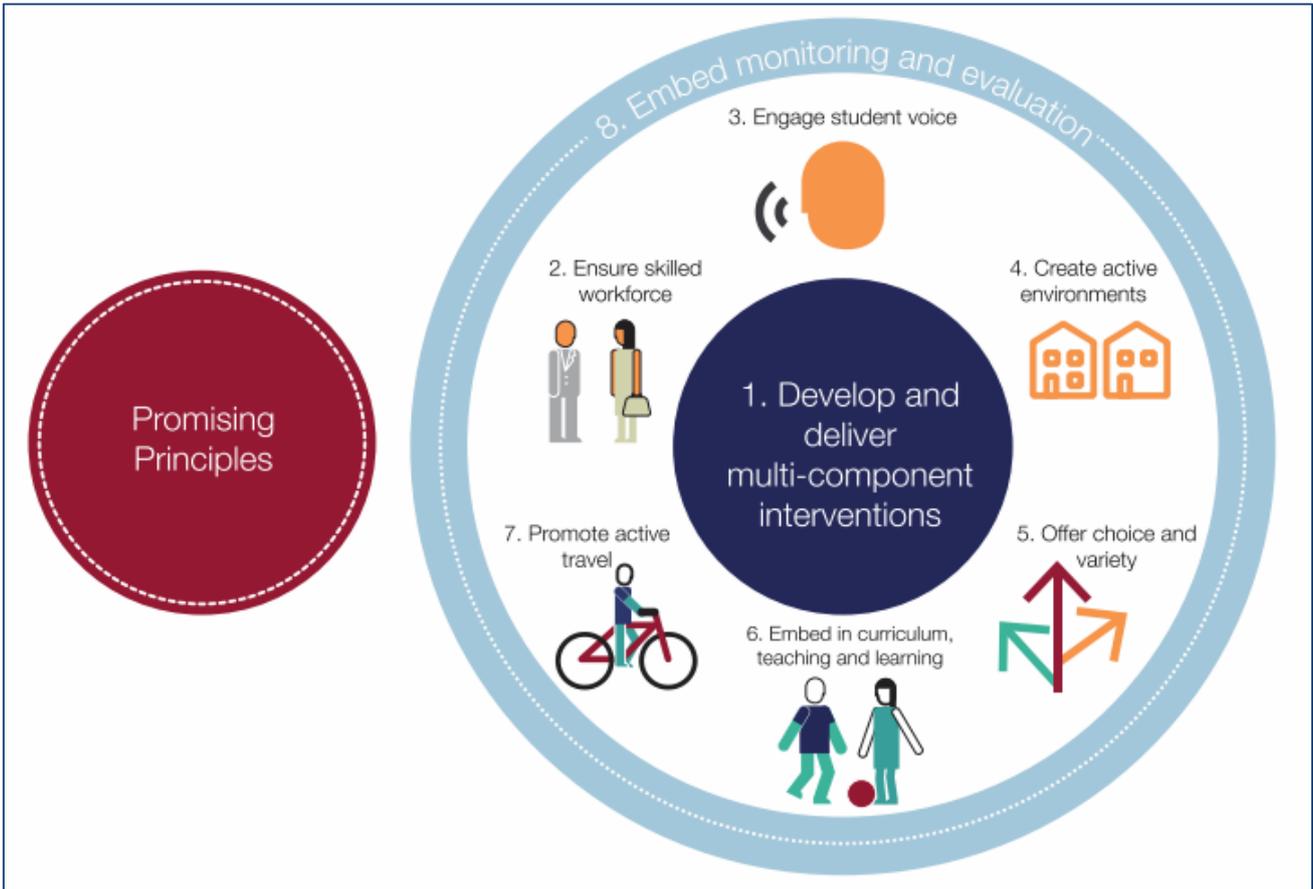
Figure 30 - Promising principles for practice: what works in schools and colleges to increase physical activity.

Source: Public Health England, 2015.

Across the country and in Cambridgeshire there are some promising examples of interventions that have an impact on levels of physical activity in schools that reflect these principles.

Change4Life Sports Club: A Multi-Component Approach[89]

> The Featherstone Primary School in Birmingham with 278 students used the Change4Life Sports Club programme to develop its "Activ8" concept that is targeted at the least active children and their parents. By developing a unique and inspiring club environment it has been able to provide engaging and fun activities that build the confidence and competence of children to be more physically active.
>
> The club helped engender a positive partnership with families, helping them to understand the wider benefits of physical activity and the links with learning. This has led to opportunities for parents and young people to be leaders in the club. The club is seen as an integral part of the wider curriculum offer for pupils, alongside the school food and PE curriculum and the school is now evaluating the impact on pupil achievement and attainment.
>
> Positive reported outcomes include improvements in pupil attendance and behaviour, as well as greater levels of parental engagement and support for their children's learning. The children are increasing their levels of physical activity and self-esteem/resilience; they are making more progress in writing and reading, and are engaging more proactively with PE and after school clubs. Some children are also putting themselves forward for school council roles. The school is now developing the concept of its club to include celebration events and award ceremonies and is planning to expand the reach of the club to more year groups.

In Cambridgeshire there are a number of examples of physical activity interventions in the school setting. Cambridgeshire's County Sports Partnership – Living Sport, in partnership with Cambridgeshire County Council Public Health are delivering Change4life after-school clubs similar to the Featherstone School example. Schools with high obesity figures as recorded by the National Child Measurement Program (NCMP) are targeted. The clubs strive to create an exciting and inspirational environment for children to engage in school sport. Living Sport deliver an initial 10 weeks of sessions and provide training for school staff members to empower them to continue delivering these clubs themselves, with ongoing mentoring support.

14.2.1 Schools as a Healthy Food Environment
A number of school factors have been found to be effective in improving the diet of children[90].

> - **Interventions need to be wide ranging reflecting a wide definition of the environment e.g. the curriculum or the locating of vending machines in schools.**
> - **Adhering to National School Food Standards help provide children with a good overall diet. Nationally 85% of students reportedly eat school meals at lunchtime.**
> - **Combining teaching about food in the curriculum and the use of school gardens has been shown to have positive effects of children's food consumption.**

School lunches have been identified as important in providing children with a good diet and should meet national school standards. [91]

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[89] www.starttomovezone.com
[90] CEDAR: http://www.cedar.iph.cam.ac.uk/resources/evidence/eb-diet-and-schools-web/#sthash.q0pMdIYV.dpuf (2012)

Speedy Study - CEDAR

> The SPEEDY Study led by CEDAR used food diaries for identifying the benefits of school lunches. It found that food choices at school lunchtime made a significant contribution to overall diet, providing around a third of daily energy intake among children of primary school age. On average those usually taking school meals met current food-based standards for school lunches, whilst the food choices of packed lunch eaters were typically less healthy.

Vending machines can be used to influence children's snacking habits. The type of foods that should be available from vending machines is covered by the national standards, and pricing has been shown to influence purchases.

Nutritional education coupled with practical gardening lessons in a school garden has been seen to increase children's preference for fruit and vegetable intake. One study reported total fruit and vegetable consumption increasing from 1.9 to 4.5 servings following a combined intervention.

Studies which have changed the food provided by schools as well as implementing additional health education have seen decreases in percentage energy intake from fat.

"Top Grub"[92] an innovative approach to improving children's knowledge of food

> Researchers developed a healthy eating curriculum for primary schools that included a card game 'Top Grub'. The game comprises cards featuring different foods, their nutritional values and fun food facts. The result showed improvement in nutrition knowledge as well as diet, children enjoyed playing the game and teachers considered it to be useful.

Soil Association Food for Life (FFL)[93]

In Cambridgeshire the Food for Life Programme operates in a number of primary schools and offers a wide ranging programme. It is now piloting interventions in a number of nurseries.

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[91] CEDAR http://www.cedar.iph.cam.ac.uk/resources/evidence/eb-diet-and-schools-web/#sthash.q0pMdIYV.dpuf
[92] Lakshman R.R., Sharo J., Ong K.K., Forouhi N.G. A novel school-based intervention to improve nutrition knowledge in children: cluster randomised controlled trial (2010)
[93] Food for Life Programme http://www.foodforlife.org.uk/what-is-food-for-life/our-impact

The Soil Association Food for Life Programme (FFL) is an evidence-based programme which across the country works in early year's settings, schools, hospitals and care homes helping them build knowledge and skills through a whole setting approach.

It adopts a practical approach focusing upon making good food the norm for everyone, reconnecting people with where their food comes from, teaching them how it is grown and cooked and championing the importance of well sourced ingredients.

It aims to engage professionals and the wider community in championing for long-term change.

All schools can enrol online for FFL membership or awards packages but in Cambridgeshire FFL is commissioned to provide 20 funded support packages to targeted schools in areas of higher need in the county. FFL schools benefit from a positive food culture across the whole school community.

14.3 The Workplace

The Workplace is an excellent setting to target the working age population, and provide interventions that promote physical activity and a healthy diet. Being active and having a healthy diet reduces the risk of ill health in all ages. Recent evidence from NICE [94] indicates a healthy lifestyle in those aged between 40 and 6O, forming part of the workforce, is especially effective at reducing the risk of ill health in later life including dementia. The workplace is identified as an area where support should be offered to this age group.

Workplace programmes can help promote a healthy lifestyle and weight and is seen as a key setting for preventing and managing obesity. On average obese people take four extra sick days per year leading to considerable costly losses in productivity. For example in an organisation of 1000 employees who work the national average week of 39.1 hours and are paid the national average hourly wage of £15.52 there would be a loss of £126,000 per annum in productivity.

There is evidence that creating healthy workplace policies, leadership, champions, management framework, culture and interventions can create an environment that can improve employee health [95].

Workplace Programmes include a variety of interventions that support a healthy lifestyle and weight e.g. access to healthy food, physical activity programmes. The most robust evidence is for physical activity and mental health interventions. Mental health is associated with the adoption of a healthy lifestyle in terms of improving confidence and self-esteem which may be enabling for some individuals to make behavioural changes.

Both physical activity and mental health programmes in the workplace can be effective and cost saving. Increased levels of physical activity they are associated with increased productivity. The NICE Return on Investment (ROI) Tool found that a programme to increase physical activity amongst the inactive by 10% is able to produce savings [96]. Typical programmes are the previous mentioned travel plans, walking and cycling campaigns, a health check and brief interventions.

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[94] NICE guidelines NG 16: Dementia, disability and frailty in later life – mid-life approaches to delay or prevent onset (2015) https://www.nice.org.uk/guidance/ng16
[95] Nice Guidelines NG 13: Workplace health: management practices 2015. https://www.nice.org.uk/guidance/ng13
[96] NICE Physical Activity ROI Tool

The NICE[97] tool for promoting mental health at work found that for an organisation of 1000 employees the annual cost of mental ill health was £835,000. Identifying problems and putting in interventions early is associated with savings of 30%. Typical programmes are the evidence based Mental Health First Aid and ACAS Training for managing a return to work after long term sickness.

There is an emerging evidence base of interventions to promote physical activity in the workplace which includes, for example, behavioural change approaches and different physical activities taking place in the workplace.

County Sports Partnership Network (CSPN) Workplace Challenge

The CSPN Workplace Challenge is a national programme supported by Sport England which aims to engage workplaces in sport and physical activity.

A motivational tool is used to encourage participants to be more active through online activity and the promotion of offline opportunities for participation.

The evaluation found that it had increased the uptake of physical activity amongst inactive individuals, increased communication in the workplace and motivated participants to try new activities.

In Cambridgeshire there is a Workplace Health Programme that involves Local Authorities, the NHS and the private sector. Workplaces are offered a number of interventions that includes those addressing physical activity. For example Travel Planning and Living Sport is offering workplaces a similar scheme to the CSPN Workplace Challenge

Cambridgeshire Workplace Challenge

Companies and organisations across Cambridgeshire and Peterborough are invited to take part in the 'Workplace Challenge'. The aim of the programme is to promote sport, physical activity and health improvements across the UK's workplaces. The Workplace Challenge is being delivered locally by Living Sport – Cambridgeshire's County Sports Partnership Network on a phased national roll out.

Businesses can sign up to record their sport and physical activity online to receive points – and points make prizes! But it's not about winning; 'spot prizes' are offered during the national eight week Activity Log challenge as part of a draw simply by taking part. During March 2015 to April 2016, the Cambridgeshire and Peterborough Workplace Challenge saw over 12,000 activities logged covering 54,000 miles 'travelled' in 13,000 hours across hundreds of different users and workplaces.

14.4 The Community Setting

Creating a whole community culture and ethos for a healthy lifestyle where individuals and communities take responsibility for their health requires building community capacity and skills. It is about creating a

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[97] NICE Mental Health Business Tool

social environment that supports and enables community members to adopt healthy behaviours. People are more likely to be active if it is seen as 'normal', and if their friends and peers are also active.[98]

Actions that promote collaboration between community members have been found to be effective for promoting and the adoption of being physically active and healthy eating. A recent comprehensive series of evidence reviews found they have been especially effective where women and low income families have been involved.[99] [100] It also indicated that approaching health holistically and not focusing on one specific topic has been effective for engaging communities. However it should be noted that the evidence base for health outcomes from community engagement approaches is relatively undeveloped.

Key factors for engaging communities in health[101] [102]

- **Provision of support to build community partnerships and infrastructure for community engagement and delivery of interventions.**

- **Community-led or community collaboration projects which design, deliver and evaluate health interventions are associated with larger behavioural outcomes. Peer or lay delivery were especially effective.**

- **Good communications that support collective decision making.**

- **Professional support for training to build capacity and enable community delivery of interventions.**

- **Building and understanding of health issues in communities which could be through events.**

14.4.1 Physical Activity

Large, community-wide campaigns have been effective in increasing physical activity but only when supported by local level community activities.[103] These may be using local community venues to promote messages. Notices encouraging people to walk upstairs instead of taking a lift have been effective[104].

There are examples of evidence based interventions of which some are being offered in Cambridgeshire.

Parkruns

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[98] Bauman AE, Reis RS, Sallis JF, Wells JC, Loos RJF, Martin BW (2012) Correlates of physical activity: why are some people physically active and others not? The Lancet 380: 258 - 271

[99] Brunton G., Caird J., Stokes G., Stansfield C., Kneale D., Richardson M., Thoms J., Community engagement for health via coalitions, collaborations and partnerships A systematic review Institute of Education EPPI-Centre report Review 1(2016)

[100] Brunton G. Caird J., Kneale D., Thomas J., Richardson M. A systematic review Institute of Education EPPI-Centre report Review 2(2016)

[101] Bagnell AM., South J., Trigwell J., Kinsella K., White J., Harden A.: Community engagement – approaches to improve health: map of the literature on current and emerging community engagement policy and practice in the UK. Centre for Health Promotion Research, Leeds Beckett University and Institute for Health and Human Development, University of East London . NICE Review 4 (2016)

[102] Harden A., Sheridan K., McKeown A., Dan-Ogos I., Bagnall AM. Evidence review of barriers to, and facilitators of, community engagement approaches and practices in the UK Review 5 (2016)

[103] Heath GW, Parra DC, Sarmiento OL, Andersen LB, Owen N, Goenka S, Montes F, Brownson RC (2012) Evidence-based intervention in physical activity: lessons from around the world. The Lancet 380: 272-81

[104] NICE (2008) Physical activity and the environment: NICE public health guidance 8.

Parkruns are organized, free, weekly, 5km timed runs around the world and there are a number in Cambridgeshire. They are open to everyone and are safe and easy to take part in.

These events take place in pleasant parkland surroundings and encourage people of all abilities to take part; from those taking their first steps in running to Olympians; from juniors to those with more experience.

Once established, these events are run wholly by volunteers and generate huge local community support, and interest to participate from those who would not normally look to join a running club.

In Cambridgeshire there are already a growing number of parkrun events, including Cambridge, Huntingdon, and Wimpole Estate each with hundreds of participants every week.

Walking that is linked to appropriate infrastructure should also be encouraged through community level walking programmes, promotions and events such as mass participation walking groups, community challenges and group community led walks[105].

Other interventions that have been found to be effective are free community classes such as fitness/ aerobics or fun activity sessions for children and young people. These have found to be especially effective for more deprived areas and older adults[106]. Cycling for transport and recreational purposes has been found to be effective if linked to national and local initiatives[107].

14.4.2 Healthy Eating in the Community

NICE[108] recommends working with shops, supermarkets, restaurants, cafes and voluntary community services to promote healthy eating choices that are consistent with existing good practice guidance and to provide supporting information. Local partnerships should encourage all local shops, supermarkets and caterers to promote healthy food and drink, for example by signs, posters, pricing and positioning of products.

There are examples of peer working to promote healthy eating though the creation of groups led by local community members. It is well evidenced that breastfeeding has a positive effect upon nutrition and health; it is also considered to be protective against obesity in childhood. It has been estimated that if 45% of babies were breastfed for four months and 75% breastfed on discharge from hospital £17 million could be saved per annum in treatment costs.

The strongest evidence for interventions to promote and increase breastfeeding uptake is for peer led support groups. Studies in Wigan and Bristol found breastfeeding rates had increased through the

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[105] NICE (2012) Walking and cycling: local measures to promote walking and cycling as forms of travel or recreation NICE public health guidance 41.

[106] Heath GW, Parra DC, Sarmiento OL, Andersen LB, Owen N, Goenka S, Montes F, Brownson RC (2012) Evidence-based intervention in physical activity: lessons from around the world. The Lancet 380: 272-81

[107] NICE (2012) Walking and cycling: local measures to promote walking and cycling as forms of travel or recreation

[108] Obesity: working with local communities Public Health Guidelines 42 (2012)
https://www.nice.org.uk/guidance/ph42

introduction of peer led interventions[109]. Another study found that a net investment of £20,000 in a peer support scheme resulted in £5,500 in net societal benefits[110].

Cambridgeshire Breastfeeding Peer Groups

Currently there are Peer Breastfeeding Support Groups in Fenland, East Cambridgeshire and Huntingdonshire where there are lower rates of breastfeeding.

The peer supporters are voluntary lay women, recruited from the local community who have breastfed themselves and successfully completely additional accredited breastfeeding training that is provided by professionals. Trained peer supporters go on to recruit new members and form their own peer support groups.

In addition to supporting mothers to breastfeed. the peer programme also increases social networking opportunities, provides opportunities for the peer supporters to undertake further education or training and other voluntary roles in the community. It also builds relationships with professionals making them more aware of the contribution that the peer supporters make to the number of women who successfully breastfeed.

14.4.3 Disadvantaged Communities

Those with lower socioeconomic status are more likely to be overweight and obese. Research from CEDAR found that financial hardship (not having enough money to meet your needs or difficulty paying bills) is also associated with less healthy diets and obesity. The study part of the EPIC-Norfolk study focuses on the over 50s who experience economic hardship. Older people in particular were found to be vulnerable to financial hardships, commonly resulting from events they are more likely to experience such as divorce, death of spouse, or job loss. This could make them more susceptible to unhealthy diets leading to unhealthy weight. CEDAR recommends that well as wider strategies to tackle general health inequalities, interventions such as fuel assistance and money management programmes may be required to reduce the impact of financial hardships on health[111].

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[109] https://www.nice.org.uk/sharedlearning/wigan-breastfeeding-network-peer-support-service
[110] https://www.nice.org.uk/guidance/ph11/evidence/economic-report-modelling-the-cost-effectiveness-of-breast-feeding-369849855
[111] http://www.cedar.iph.cam.ac.uk/resources/evidence/eb8-financial-hardships-diet-obesity/#sthash.dTYsT6Fh.dpuf

15 Information and Skills for Healthy Behaviours

> **Key Interventions**
>
> - **Embed behavioural change techniques into interventions to promote physical activity and healthy diet e.g. brief interventions, motivational interviewing.**
> - **Ensure that professionals, voluntary sector workers and community members have the skills to make behavioural change interventions to support healthy behavioural changes.**
> - **Secure and embed social marketing intelligence into the design and implementation of campaigns and other promotional interventions.**

Central to the whole systems approach to healthy weight is behaviour change. Creating a supportive built and natural environment along with facilitative settings does not always result in the required behavioural changes in levels of physical activity and healthy eating. Evidenced based interventions for behavioural change focus upon the role of communications and professionals. They reflect underlying psychological models of human behaviour[112] that describe the interface between knowledge, attitudes and behaviour.

Changing behaviours at the individual, targeted/community or whole population level are addressed in the evidence to support behavioural change interventions. In NICE Guidance 6[113] a number of interventions were found to be effective in promoting behaviour change/encouraging positive behaviour across different health behaviours. These were counselling, physician advice, motivational techniques and mass media interventions.

15.1 Behavioural Change Interventions

The underpinning evidence in the NICE Public Health Guidance 49 identified learning, observational opportunities and problem solving interventions as being effective to promote the adoption of healthier eating habits. Tailoring interventions were found to be particularly important for pregnant women along with the provision of written materials and ongoing support[114].

Looked After Children and Community Chef

> The Community Chef enterprise has been commissioned to work with Carers in Fostering and Adoption in Cambridgeshire to support healthy eating for Looked After Children (LAC).
>
> Community Chef provides fun interactive cookery workshops and demonstrations to carers of LAC in Cambridgeshire. Adults have the opportunity to improve their cookery and nutrition skills. The session also provides them with the knowledge and confidence to prepare healthy food for their families. They get to eat the food prepared in the session too!
>
> The three hour workshop is a chance to engage with other carers and understand the importance of supporting themselves and LAC to achieve a healthy diet. First delivered locally in 2015, the workshops proved to be popular and are being offered again in 2016.

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[112] https://www.nice.org.uk/guidance/ph6/chapter/Appendix-C-the-evidence
[113] https://www.nice.org.uk/guidance/ph6/evidence/behaviour-change-review-1-effectiveness-review-369664525
[114] https://www.nice.org.uk/guidance/ph49/evidence/evidence-reviews-430402861

There are a range of interventions promoting physical activity that have behavioural change components. The NICE Public Health Guidance evidence indicates that they may include one or a combination of brief intervention, motivational techniques, specialist support, formal measurement and monitoring. Associated factors are the duration of the interventions and the level of support. There is also support although still equivocal for the use of pedometers in increasing physical activity[115].

The strongest evidence is for brief interventions in primary care there is also good evidence for home-based, group-based, and educational physical activity interventions on increasing physical activity among older people. Brief interventions are considered to be cost effective against doing nothing at cost of £20.19 to £19.44 per QALY[116].

Let's Get Moving Programme

'Let's get moving' is an evidenced based programme based on the provision of brief interventions in primary care to increase physical activity. The Department of Health developed and launched the 'Let's get moving' physical activity care pathway in 2009. This care pathway endorses use of the general practitioner physical activity questionnaire (GPPAQ) to identify inactive patients in primary care. It includes a brief intervention based on the principles of motivational interviewing to help all those classified as less than active to change their behaviour along with a referral to an appropriate physical activity programme.

Most of Cambridgeshire has an exercise referral scheme which is targeted at those with an underlying medical condition. See below for Treatment Interventions

Making Every Contact Count (MECC) [117] is based on behavioural change theory. Its approach is to utilize interactions that organisations and individuals have with other people to support them in making positive changes to their physical and mental health and wellbeing. MECC enables the opportunistic delivery of consistent and concise healthy lifestyle information and enables individuals to engage in conversations about their health at scale across organisations and populations.

Cambridgeshire Behaviour Change Training Programme

In Cambridgeshire there is MECC or Behaviour Change Training Programme (BCTP) that is embedded within the countywide Lifestyle Service, provided by Everyone Health. The training incorporates MECC along with other behaviour change models and theories.

BCTP is open to professionals and non-professionals across Cambridgeshire. In particular any front-line staff – those in direct contact with the general public - are a key group to attend training. It is based around healthy lifestyles and encourages people to motivate others to change through very brief interventions which fit easily alongside their full-time role.

The BCTP will also be further developed to offer a Train-the-Trainer approach. This will create an opportunity to train a wider number of people and thus reach a greater number to elicit positive lifestyle changes. BCTP is a three hour session with signposting to further, more specific topics via e-learning.

[115] N
[116] h
[117] Public Health England Making Every Contact Count (MECC): implementation guide (2016)

15.2 Campaigns and Communications
Social Marketing

The use of social marketing techniques for changing health behaviour has become increasing common and reflects a supportive evidence base. Social marketing is used in the design and implementation of interventions usually using segmenting techniques. They identify what are motivating factors for people and the different channels and activities that could be used to elicit behaviour change. Reviews [118] of social marketing have found that its principles can be effective. Although the evidence for social marketing techniques influencing physical activity is deemed to be less effective than the strong evidence that it can increase fruit and vegetable consumption and improve dietary knowledge and psychosocial factors associated with diet.

There is also evidence that interventions have had some effects on the behaviour of retailers, and to have encouraged adoption of policies and other environmental-level changes.

16 Recommended Actions

A range of actions are needed to address unhealthy weight and to reduce the current levels of obesity. Whilst some action requires national intervention the Strategy actions will focus on local interventions.

Strategic support for the recommended actions will be secured from local boards. An implementation plan will be developed with and agreed by partners and resource identified.

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[118] Stead M., McDermott L., Hastings K. & A. & G.: Marketing Review Stirling University for NICE 2006

17 Glossary

Active Adult: Adults doing at least 150 minutes moderate activity per week.

Body Mass Index (BMI): Body mass index is defined as a person's weight in kilograms divided by the square of their height in metres and is reported in units of kg/m2. Specific cut-off points are used to assess whether a person is; underweight, healthy weight, overweight or obese.

In adults the following table shows the cut-off points for adult weight classifications.

Classification	BMI (kg/m^2)
Underweight	Less than 18.5
Heathy Weight	18.5 – 24.9
Overweight	25 – 29.9
Obese	30 or more

In children and young people BMI centiles are used to indicate weight classifications. Cut-off points for weight classifications are calculated related to age and gender using UK 1990 BMI charts for children.

Excess weight: Excess weight includes overweight and obese persons. Excess weight in adults is a Body Mass Index (BMI) of 25 kg/m2 or more. In children this is a BMI greater than or equal to 85 centile on UK 1990 BMI charts for children.

Healthy Weight: Healthy weight in adults is classified as a Body Mass Index (BMI) between 18.5 kg/m2 to 24.9 kg/m2. In children healthy weight BMI centiles are between the 2nd and 85th centile using UK 1990 BMI charts for children.

Inactive Adult: Adults not achieving at least 30 minutes moderate activity per week.

Malnutrition: For the purposes of this Strategy malnutrition refers to under nutrition (consuming too few nutrients). An adult is considered to be malnourished if they have any of the following;
- A BMI of less than 18.5kg/m2.
- Unintentional weight loss greater than 10% within the last three to six months.
- A BMI of less than 20kg/m2 and unintentional weight loss greater than 10% within the last three to six months.

In Children underweight is below the 2nd centile using UK 1990 BMI charts for children.

National Child Measurement Programme (NCMP): The National Child Measurement Programme (NCMP) measures the weight and height of children in Reception (aged four to five) and Year 6 (aged 10 to 11) in England on an annual basis. The aim is to assess the prevalence of obesity and overweight among children of primary school age by local authority area. These data can be used at a national level to support local public health initiatives and inform local services for children.

Obesogenic Environment: This term refers to environmental factors and the role they may play in determining nutrition and physical activity.

Overweight or Obese Adults: Body Mass Index (BMI) is commonly used to assess adult weight. The following table shows the cut-off points for adult weight classifications; underweight, healthy weight, overweight and obese.

Overweight or Obese Children: More than one classification system is used in the UK to define

whether children are overweight or obese.

The National Child Measurement Programme (NCMP) for primary care states that Body Mass Index (BMI) should be plotted onto a gender-specific BMI chart for children (UK 1990 chart for children older than four years). Children over the 85th centile and on or below the 95th centile are categorised as overweight. Children over the 95th centile are classified as obese. Other surveys such as the Health Survey for England also use this system.

In clinical practice the 91st and 98th centiles may be used to define 'overweight' and 'obese' respectively. Children on or above the 98th centile may also be described as very overweight. See Public Health England's 'A simple guide to classifying body mass index in children'.

Physical Activity: The full range of human movement, from active hobbies, walking, cycling and the other physical activities involved in daily living, such as walking upstairs, gardening and housework to competitive sport and exercise. (**See Appendix 2**).

Physical Inactivity: 'Inactive' is defined as not currently meeting the Chief Medical Officer's recommendation for physical activity as outlined in 'Start active, stay active: a report on physical activity from the four home countries' Chief Medical Officers (Department of Health, 2011). (**See Appendix 2**).

Sedentary Behaviour: Sedentary behaviour describes activities that do not increase energy expenditure much above resting levels. Sedentary activities include sitting, lying down and sleeping. Associated activities such as watching television are also sedentary.

18.1 Appendix 1: Strategic Framework Tool

18.1.1 Strategic Framework Tool Blank

Strategic framework tool for mapping
a) existing local healthy weight initiatives BLANK

Lead Agencies

- Local Authority
- Health & Social Care
- Education
- Employers
- Food & Leisure Industry
- Community+3rd Sector
- Other

Specialist Services

Increased support

Broad population approaches

Treatment

Prevention

PHYSICAL ACTIVITY   **DIET**

Key stages across the life course

Early Years	Children & Young People	Adults	Mid life Adults	Older Adults	Elderly
0-5 years	- 5-11 years	19-39	40-64	65-79 years	80+ years
	- 12-18 years				

Awaiting Approval: DO NOT COPY

Strategic framework for mapping a) existing local healthy weight initiatives and b) potential gaps in the current provision
EXAMPLE APPLIED TO THE ELDERLY (80+)

Lead Agencies

- Local Authority
- Health & Social Care
- Education
- Employers
- Food & Leisure Industry
- Community+3rd Sector
- Other

Specialist Services

In –patient malnutrition services

Increased support

Falls prevention exercises

Community Dietician

Everyone Health - walking

Forever active

Meals on wheels/lunch clubs

Broad population approaches

Malnutrition screening

Cambridgeshire celebrates age information

Subsidised bus pass

PHYSICAL ACTIVITY   **DIET**

Gaps
- Community knowledge around health weight in the elderly
- Primary care knowledge and identification
- Dental health and identification of malnutrition
- Nutrition and dementia
- Hospital discharge support
- Local, easy access shops

18.2 Appendix 2: The Chief Medical Officer's Guidelines on Physical Activity[119]

For early years (under-fives)

1. Physical activity should be encouraged from birth, particularly through floor-based play and water-based activities in safe environments.

2. Children of pre-school age who are capable of walking unaided should be physically active daily for at least 180 minutes (three hours), spread throughout the day.

3. All under-fives should minimise the amount of time spent being sedentary (being restrained or sitting) for extended periods (except time spent sleeping).

These guidelines are relevant to all children under five, irrespective of gender, race or socio-economic status, but should be interpreted with consideration for individual physical and mental capabilities.

For children and young people (five to 18 years):

1. All children and young people should engage in moderate to vigorous intensity physical activity for at least 60 minutes and up to several hours every day.

2. Vigorous intensity activities, including those that strengthen muscle and bone, should be incorporated at least three days a week.

3. All children and young people should minimise the amount of time spent being sedentary (sitting) for extended periods.

Based on the evidence, the guidelines can be applied to disabled children and young people, emphasising that they need to be adjusted for each individual based on that person's exercise capacity and any special health issues or risks.

For adults:

1. Adults should aim to be active daily. Over a week, activity should add up to at least 150 minutes (2.5 hours) of moderate intensity activity in bouts of 10 minutes or more – one way to approach this is to do 30 minutes on at least five days a week. Alternatively, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or a combination of moderate and vigorous intensity activity.

2. Adults should also undertake physical activity to improve muscle strength on at least two days a week.

3. All adults should minimise the amount of time spent being sedentary (sitting) for extended periods.

Based on the evidence, the guidelines can be applied to disabled adults, emphasising that they need to be adjusted for each individual, based on that person's exercise capacity and any special health or risk issues.

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[119] Department of Health (2011). *Start Active, Stay Active: A report on physical activity from the four home countries'* Chief Medical Officers. Available at: https://www.gov.uk/government/publications/start-active-stay-active-a-report-on-physical-activity-from-the-four-home-countries-chief-medical-officers

Most of the interventions highlighted have been shown to be effective and achievable Everybody active, every day – the evidence (PHE (2014) From evidence into action: opportunities to protect and improve the nation's health. PHE)

For older adults (65-plus years):

1. Older adults who participate in any amount of physical activity gain some health benefits, including maintenance of good physical and cognitive function. Some physical activity is better than none, and more physical activity provides greater health benefits.

2. Older adults should aim to be active daily. Over a week, activity should add up to at least 150 minutes (two hours) of moderate intensity activity in bouts of 10 minutes or more – one way to approach this is to do 30 minutes on at least five days a week.

3. For those who are already regularly active at moderate intensity, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or a combination of moderate and vigorous activity.

4. Older adults should also undertake physical activity to improve muscle strength on at least two days a week.

5. Older adults at risk of falls should incorporate physical activity to improve balance and coordination on at least two days a week.

6. All older adults should minimise the amount of time spent being sedentary (sitting) for extended periods.

Based on the evidence, the guidelines can be applied to disabled older adults emphasising that they need to be adjusted for each individual based on that person's exercise capacity and any special health or risk issues.