

An Evidence Review of the Health Impacts of Takeaways

This document includes:

- Background information on the relevant national and local health and wellbeing needs and trends
- National and local policies that support action in relation to restricting food premises
- Local actions to improve 'Healthy Living' within the Wakefield District
- Published literature relating to the health and wellbeing impacts of takeaways compared with available local data:
 - Relationship between takeaway consumption and diet
 - Relationship between density of takeaway premises and diet
 - Relationship between concentration of takeaway premises around schools and areas where children live on consumption, diet and weight
 - Relationship between takeaway consumption and health outcomes
 - Relationship between density of takeaway premises and unhealthy weight
 - Relationship between takeaway consumption and other vulnerabilities/lifestyle factors
 - Relationship between density of takeaway premises and deprivation
 - Relationship between density of takeaway premises and wider accessibility to food
 - Relationship between density of takeaway premises and consumption with affluence
 - Relationship between proximity to takeaway premises and access
- Appendices – Mapped Data:
 - Appendix A – Diet (adults) and density of takeaway premises
 - Appendix B - Consumption of takeaway food (young people) and density of takeaway premises
 - Appendix C - Deprivation and density of takeaway premises
- References for evidence provided in this paper

Background

Health & Wellbeing Needs/Trends

- Whilst life expectancy is increasing locally and nationally, inequalities remain between the life expectancy of those living in the most deprived areas and those living in the least deprived areas (Public Health England 2015). However, within the Wakefield District life expectancy is poorer than the regional and national average and the inequality gap between the most and least deprived areas is wider.
- Estimates indicate that only 21.2% of adults in Wakefield meet government recommendations on healthy eating, compared to 28.7% regionally and 26.3% nationally (Wakefield Health Profile 2011, modelled estimate using Health Survey for England 2006-2008 revised).
- Just over half of people nationally do the recommended level of physical activity (56%) and this is poorer in the Wakefield District (48.2%) (Public Health England 2015).
- Levels of unhealthy weight (overweight & obesity) amongst children in Wakefield are not dissimilar to the national average, however over one fifth of 4-5 year olds (22.2%) and one third of 10-11 year olds (32.7%) have an unhealthy weight.
- Unhealthy weight gradually increases throughout the life-course and over two thirds of adults in Wakefield have an unhealthy weight (69.6%) which is higher than the national average (63.8%).
- The prevalence of obesity in England has more than doubled in the last twenty five years. It is estimated that by 2050 the prevalence of obesity is likely affect 60% of adult men, 50% of adult women and 25% of children (Foresight Report 2007).
- Locally, we know that around two thirds of people want a healthier lifestyle and this is greater for those who have a poor lifestyle or unhealthy weight (Wakefield Council 2009; Wakefield Council 2013b).

Trends in Consumption of Takeaway Food

- Over the recession there has been an 8.2% growth in fast food premises in the UK's top 10 cities (Our Life), and this may influence peoples' ability to make healthy choices.
- Evidence suggests that food prepared outside of the home is making up an increasing portion of the Western diet and there is no expectation that this trend will reverse or stop (Jaworowska et al 2013).
- There is no existing data for takeaway consumption in the UK, however a number of studies suggest that in the US 30%-50% consume fast food or takeaways outlets twice or more a week, (Bowman et al 2004; Paeratakul et al 2003; Patterson et al 2012; Bowman et al 2004; Smith et al 2013) with about 10% of children consuming fast food or drinks from takeaway outlets daily (Smith et al 2013).
- In the Wakefield District 31.8% of adults, 20.5% of primary school children and 10.6% of secondary school children eat takeaway food on 2 or more days of the week (Wakefield Council 2013a). Furthermore, over a third of primary school children (28%) and around half of adults (48.7%) and secondary school children (50.6%) eat takeaway food once a week (Wakefield Council 2013b).

Policy Context

It is widely recognised that the environment in which people live and work impacts on their health, wellbeing and lifestyle choices (Dahlgren and Whitehead 1991). The government acknowledges that in relation to unhealthy weight there are a range of social, economic, individual and environmental factors that contribute to the development of obesity (Foresight Report 2007). As obesity is a complex problem this requires action from individuals and society across multiple sectors, which includes those who have influence over the environmental factors. Creating healthy places is a priority at a national level as Public Health England's 'Healthy People, Healthy Places' Programme seeks to improve health through better planning and design. One of their publications highlights that modifying the environment so that it does not provide easy access to energy-dense food is one of the important actions that will help people to

make healthier choices (Public Health England 2014). This also highlighted that Local Authorities have a range of legislative and policy levers at their disposal, alongside influence over the wider determinants that impact on healthy lifestyles that can help to create places where people are supported to maintain a healthy weight. It urged Public Health professionals to work with departments across the Local Authorities to use these approaches to maximise health benefits.

The Health & Social Care Act 2012 established health and wellbeing boards as a forum where key leaders from the health and care system work together to improve the health and wellbeing of their local population and reduce health inequalities (The Stationery Office 2012). The priorities of the board must be informed by local health and wellbeing data in the Joint Strategic Needs Assessment and set out in their local Health and Wellbeing Strategy. The Wakefield Health and Wellbeing Strategy sets out 6 priorities one of which, 'Inequalities' highlights that "whilst health for most of our residents is improving and we are narrowing the gap between health outcomes for Wakefield and other parts of the country we are noticing a worrying trend of health outcomes deteriorating for those living in our most deprived areas...We want to see improvements for all residents, with those with greatest needs and disadvantage improving fastest" (Wakefield Council 2013c). This priority mirrors the two overarching outcomes set out in the national Public Health Outcomes Framework (Public Health England 2015). One of the other priorities, 'Healthy Living and Quality of Life', has strong links to creating health promoting places/environments. The outcome for this priority is that 'People are making healthier choices and having a good quality of life'. In relation to this the strategy states "We need to make sure that people are supported and encouraged where appropriate to make those choices, for example through creating health promoting environments which support and encourage people to make the healthy choice." The objectives recognise that supporting healthy living is a complex problem that requires a range of actions, one of which states that we will 'improve the wider factors that make healthy living easier and improve quality of life (e.g. working with partners to deal with the causes of the causes - environment, housing, workplaces, Local Development Framework)'. Delivering on this priority also helps to contribute towards two of the key district outcomes for the Wakefield Together Partnership - 'caring for our people' and 'caring for our places'.

Furthermore, the Health & Social Care Act 2012 gave local authorities new duties and responsibilities for health improvement and health protection and asked Local Authorities to use "all the levers at their disposal to improve health and wellbeing" (The Stationery Office 2012). Therefore, all Council departments have a responsibility to improve health and wellbeing in the District and the Health Improvement team have been working with council departments (including planning) to support them to fulfil this responsibility. The national Planning Practice Guidance supports this approach as this requires planners to take account of the Health and Wellbeing Strategy and obesity, healthy eating and physical activity strategies (Planning Practice Guidance 2014). They are also required to promote healthy communities, as set out in Section 8 of the National Planning Policy Framework, which includes creating an environment that promotes healthy weight (Communities & Local Government 2012). Controlling the number of takeaways in a given area is one of the actions identified by the Town & Country Planning Associations that will contribute towards creating a health promoting ('healthy weight') environment (Town & Country Planning Association 2014). The National Institute of Clinical Excellence (2010) also recommend that Local Authorities should "use existing powers to set limits for the number of take-aways and other food outlets in a given area. Directives should specify the distance from schools and the maximum number that can be located in certain areas". It also recommends that the Local Authority should "Help owners and managers of take-aways and other food outlets to improve the nutritional quality of the food they provide. This could include monitoring the type of food for sale and advice on content and preparation techniques". Our local Healthy Weight Charter (strategy) recognises the role that accessibility, affordability and skills have on food choices in the Wakefield District. Many people live in neighbourhoods with an abundance of cheap, low-nutrient, high-calorie food, but with limited access to affordable fresh food. Fresh foods are often more costly than calorie-dense foods of lower nutritional quality. Fewer people have sufficient cooking skills to cook healthier foods economically so are making poor choices and using fast and convenience foods. There is a lack of knowledge regarding portion size and portion sizes have increased in restaurants and takeaways. The charter identifies that to address unhealthy weight we need to ensure people in Wakefield have access to affordable healthy food and tackle the obesogenic environment. Our charter sets out some concepts based on lessons learned from successful tobacco control programmes: (1) Changing social norms – so that healthier choices are seen as normal and acceptable. (2) Changing the environment - tackling food availability such as

vending machines, workplace and school food, community food sales and work within partner organisations. (3) Increasing access to services – implementing preventative upstream initiatives before problems take hold promoting self-efficacy and self-responsibility.

Local Action

Healthy Living & Quality of Life Objectives - Wakefield HWB Strategy to & links to Wakefield Healthy Weight Charter:	Actions: The range of local actions that contribute towards 'Healthy Living and Quality of Life' objectives in Wakefield
<p>Increase awareness of healthy living – Health & Wellbeing Strategy</p> <p>Changing social norms - Healthy Weight Charter</p>	<ul style="list-style-type: none"> • Public Health Promotion campaigns and engagement (national and local) • Every Contact Counts training to frontline workers
<p>Support people to make healthy choices – Health & Wellbeing Strategy</p> <p>Increasing access to services - Healthy Weight Charter</p>	<p>Deliver programmes of work in areas of greatest need to promote healthy living and reduce health inequality:</p> <ul style="list-style-type: none"> • Unhealthy Weight Charter and action plan • Physical Activity Strategy and action plan • Cook & Eat Sessions to develop cooking / shopping skills • Wellbeing / Lifestyle Services to support behaviour change / weight loss • Change4Life schools – Encouraging evidence based action in schools • Wakefield Workplace Wellbeing Charter – supporting evidence action in workplaces • Healthy Living Pharmacy – development and recruitment of community pharmacies • EatWell Award – support to businesses to improve the nutritional quality of the food • Risk & Resilience Framework – developing competencies so that people have the skills they need to make healthy choices
<p>Improve the wider factors that make healthy living easier and improve quality of life (e.g. working with partners to deal with the causes of the causes - environment, housing, workplaces, Local Development Framework) – Health & Wellbeing Strategy</p> <p>Changing the environment - Healthy Weight Charter</p>	<p>Create healthy places, making the healthy choice the attractive and easy choice:</p> <ul style="list-style-type: none"> • Environmental improvements to living and working spaces (e.g. parks/outdoor spaces/built environments) • Health Impact Assessments on planning and transport schemes • EatWell Award – businesses promoting healthy eating through design (e.g. of menu/vending options/'eye line' products, healthy cooking methods, portion sizes) <p>Policies/Plans – Developing policies that contribute towards making the healthy choice being the easy choice:</p> <ul style="list-style-type: none"> • Local Development Framework • Taking action on hot food takeaways • Workplace health promotion policies • Representations to licensing applications

Evidence Review and Comparison with Available Local Data

Key Finding/Impact	Published Evidence	Wakefield Evidence/Data
<p>Takeaway food is generally unhealthier and those who consume more takeaways have a more unhealthy diet. This suggests that the consumption of takeaways among people that have a poor diet may have a cumulative impact on poor diet within the Wakefield District.</p>	<ul style="list-style-type: none"> • Generally there are differences between the nutritional make-up of takeaway meals and ready-to-eat meal options of a similar type (Jaworowska et al 2013). • People who eat more takeaway food had lower intake of vitamins A and C, milk, fruits and vegetables and higher intake of calories, fat, saturated fat, salt and fizzy soft drinks (Paeratakul et al 2003). • Those never eating fast food had a 2–3-times higher odds of having a healthy diet versus those eating fast food more than once a week (Moore et al 2009). • Children who ate fast food, compared with those who did not, consumed more total energy, fat, carbohydrates, sugars, sugar-sweetened beverages per gram of food and less fibre, fewer fruits and fewer non starchy vegetables. Children ate more total energy and had poorer diet quality on days with, compared with without, fast food. (Bowman et al 2004) • People eating takeaway food at least twice a week were less likely to meet dietary recommendation for vegetables, fruit, dairy, extra foods, breads and cereals (men only), lean meat and alternatives (women only) and overall met significantly fewer dietary recommendations (Smith et al 2009). • Those who eat more takeaways are also more likely to eat an unhealthy diet when cooking at home. Those who ate more takeaways also had a poor diet on the days when takeaway food was not consumed (Paeratakul et al 2003) • Those who ate more takeaways are more likely to have fizzy drinks and crisps in the home, less likely to have vegetables served with meals and more likely to consume salty snacks (Boutelle et al 2007). 	<ul style="list-style-type: none"> • Adults that eat takeaways on two or more days a week are more likely to say their diet is unhealthy, less likely to eat 4+ portions of fruit and vegetables a day, less likely to choose low fat options, more likely to eat crisps, sweets or chocolate and less likely to take into account food labels (Wakefield Council 2013a). • Primary school children that eat takeaways on two or more days a week are also less likely to eat fruit and vegetables frequently, more likely to drink fizzy drinks, more likely to eat crisps, sweets or chocolate daily. If they eat takeaway food on most days they are more likely to say they have an unhealthy diet or be unsure if their diet is healthy and less likely to want to eat a healthier diet (Wakefield Council 2013b). • Secondary school children that eat takeaways on two or more days a week are also less likely to eat fruit and vegetables frequently, more likely to drink fizzy drinks, more likely to eat crisps, sweets or chocolate, more likely to say they have an unhealthy diet or are unsure if their diet is healthy, less likely to want to eat a healthier diet and less likely to consider health when choosing what they eat (Wakefield Council 2013b).

<p>Areas with more takeaway food premises have higher levels of people with an unhealthy diet. This suggests that the existence of takeaways in the Wakefield District may have a cumulative impact on poor diet and peoples' ability to make healthy choices.</p>	<ul style="list-style-type: none"> • Students with fast-food restaurants near their schools (within half a mile) consumed fewer servings of fruits and vegetables, consumed more servings of soda (Davis et al 2009). • In areas where there was a higher number of takeaway premises there were also lower levels of fruit and vegetable intake (Fraser et al 2010). • Children that lived near to fast food outlets or convenience stores or lived near to a high number of these premises were also less likely to consume two or more portions of fruit a day (Timperio et al 2008). 	<ul style="list-style-type: none"> • In areas where there was a higher number of takeaway premises there are also higher levels of adults with an unhealthy diet ($p=0.01$; $r=.171$) (See map Appendix A). However there was no link between these two factors for young people. • There is no relationship between the density of takeaway premises and fruit and vegetable intake amongst adults and young people in Wakefield.
<p>Takeaway food premises are concentrated within a short walking distance from schools and schools that have closer access to takeaways have high consumption of takeaway food, poorer diet and higher levels of unhealthy weight. Greater accessibility of takeaways near schools could potentially impact on consumption of takeaways and the health and wellbeing outcomes of children and young people in Wakefield.</p>	<ul style="list-style-type: none"> • Fast-food restaurants are concentrated within a short walking distance from schools, exposing children to poor-quality food environments in their school neighbourhoods (Austin et al 2005). • Over half of all students (55%) attended schools within half a mile of a fast food restaurant (Davis et al 2009). • Five of seven school studies in a review examined the proximity of convenience stores to schools, and all five studies reported convenient stores were located near schools (Fleischhacker et al 2011). • Schools within 800m of convenience stores and fast food outlets had higher rates of overweight students than schools located further away from these retailers (Howard et al 2011). • Students with fast-food restaurants near (within one half mile of) their schools were more likely to be overweight than were youths whose schools were not near fast-food restaurants (Davis et al 2009). • One study found that the distance from any school to the nearest fast-food restaurant was 0.52 km, a distance that an adult can walk in little more than 5 minutes, and 78% of schools had at least 1 fast-food restaurant within 800m. Fast-food restaurants were significantly clustered in areas within a short walking distance from schools, with an estimated 3 to 4 times as many fast-food restaurants within 1.5 km from 	<ul style="list-style-type: none"> • In areas where there was a higher number of takeaway premises there are higher levels of takeaway consumption amongst young people ($p=0.017$; $r=.165$) (Wakefield Council 2013b) (See map Appendix B). • Lower Super Output Areas that have 5-9 takeaways have a significantly higher (31%) than average (28%) level of unhealthy weight in Year Reception & Year 6 ($p=0.059$).

	<p>schools than would be expected if the restaurants were distributed throughout the city in a way unrelated to school locations (Austin et al 2005)</p> <ul style="list-style-type: none"> • In an area where takeaway food consumption was high amongst school children (more than half the participants of the study purchased food or drinks from fast food or takeaway outlets twice or more a week, with 10% of students visiting daily) there were more than 40 fast food outlets close to each of the two schools (Smith et al 2013). • Students with fast-food restaurants near (within half mile) their schools consumed fewer servings of fruits and vegetables, consumed more servings of soda, and were more likely to be overweight than were youths whose schools were not near fast-food restaurants (Davis et al 2009). • High fast food outlet density was significantly and positively correlated with student report of fast food purchases in the past week (He et al 2014) • A review in which ten papers measured associations between food outlets and consumption of foods high in fat, sugar or salt, found that out of 54 associations about half of studies found an association with food high in salt, fat or sugar. Also food outlets were associated with increased consumption. (Williams et al 2014) • A review which examined food outlets and consumption of fruits, vegetables found that out of a total of 32 associations about half found that exposure to food outlets was associated with increased consumption of fruit and vegetables. Only three of these associations were statistically significant (Williams et al 2014) • Schools with open campus policies were significantly more likely to eat lunch at a fast food restaurant than students at schools with closed campus policies (Fleischhacker et al 2011) 	
Those who consume	<ul style="list-style-type: none"> • Frequent consumption of foods from fast food outlets 	<ul style="list-style-type: none"> • There is a lack of robust local data relating to whether

<p>takeaway food are more likely to have unhealthy weight/poor health outcomes. This suggests that the consumption of takeaways could further contribute to poor health outcomes within the Wakefield District.</p>	<p>or takeaways contributes to unhealthy weight (Boutelle et al 2007)</p> <ul style="list-style-type: none"> • Takeaway food consumption (twice a week/more) = 31% higher prevalence of moderate abdominal obesity in men and 25% higher prevalence in women (Smith et al 2009). • Frequent consumption of foods from fast food outlets or takeaways contributes to a variety of other negative health outcomes, including cardiovascular disease, insulin resistance and type 2 diabetes (Jaworowska et al 2013). • Increases in fast-food consumption was associated with weight gain and insulin resistance (which can lead to diabetes) (Pereira et al 2004) • Consumption of healthy/less healthy takeaway food was associated with greater BMI (Miura & Turrell 2014) 	<p>weight status in adults is related to frequency of takeaway food consumption.</p> <ul style="list-style-type: none"> • There is a lack of local data relating to whether weight status in young people is related to frequency of takeaway food consumption. • There is a lack of local data relating to whether other health outcomes (e.g. heart disease, diabetes) in adults and young people is related to frequency of takeaway food consumption (Wakefield Council 2013a) • Secondary school pupils that eat takeaways on two or more days a week are less likely to have good mental health and wellbeing (e.g. low self esteem scores and lower happiness) (Wakefield Council 2013b)
<p>There is not a clear consensus regarding the accessibility of food premises and levels of unhealthy weight in an area. Greater accessibility of takeaways could potentially impact on the levels of healthy/unhealthy weight in an area. This may impact on the ability to support people to make healthy choices in order to maintain or lose weight.</p>	<ul style="list-style-type: none"> • A review in which twenty papers looked at the relationship between food outlets and body weight found that of the 72 associations, 43 showed a positive relationship between body weight and exposure to food outlets (Williams et al 2014) • One review showed no clear relationship between the number of takeaways and levels of unhealthy weight (across 13 studies) (Fraser et al 2010). • One study showed a positive association between BMI and access to BMI-unhealthy food outlets (Stark et al 2013). • Accessibility to healthy/unhealthy food is associated with BMI and fruit and vegetable intake (Burgoine et al 2011). • In a review 22 studies 19 relations were identified that demonstrated links between the food environment and unhealthy weight. However there were as many studies that reported no evidence of association with obesity outcomes (Feng et al 2010) 	<ul style="list-style-type: none"> • There is no relationship between the density of takeaway premises and levels of unhealthy weight in adults in Wakefield. • Lower Super Output Areas that have 5-9 takeaways have a significantly higher (31%) than average (28%) level of unhealthy weight in Year Reception and Year 6 (p=0.059).
<p>Those who consume takeaway food have other</p>	<ul style="list-style-type: none"> • Males were more likely than females to consume takeaway food twice a week (Smith et al 2009) 	<ul style="list-style-type: none"> • People aged 16-24 and 25- 34 are more likely to consume takeaway food on two or more days of the week than older

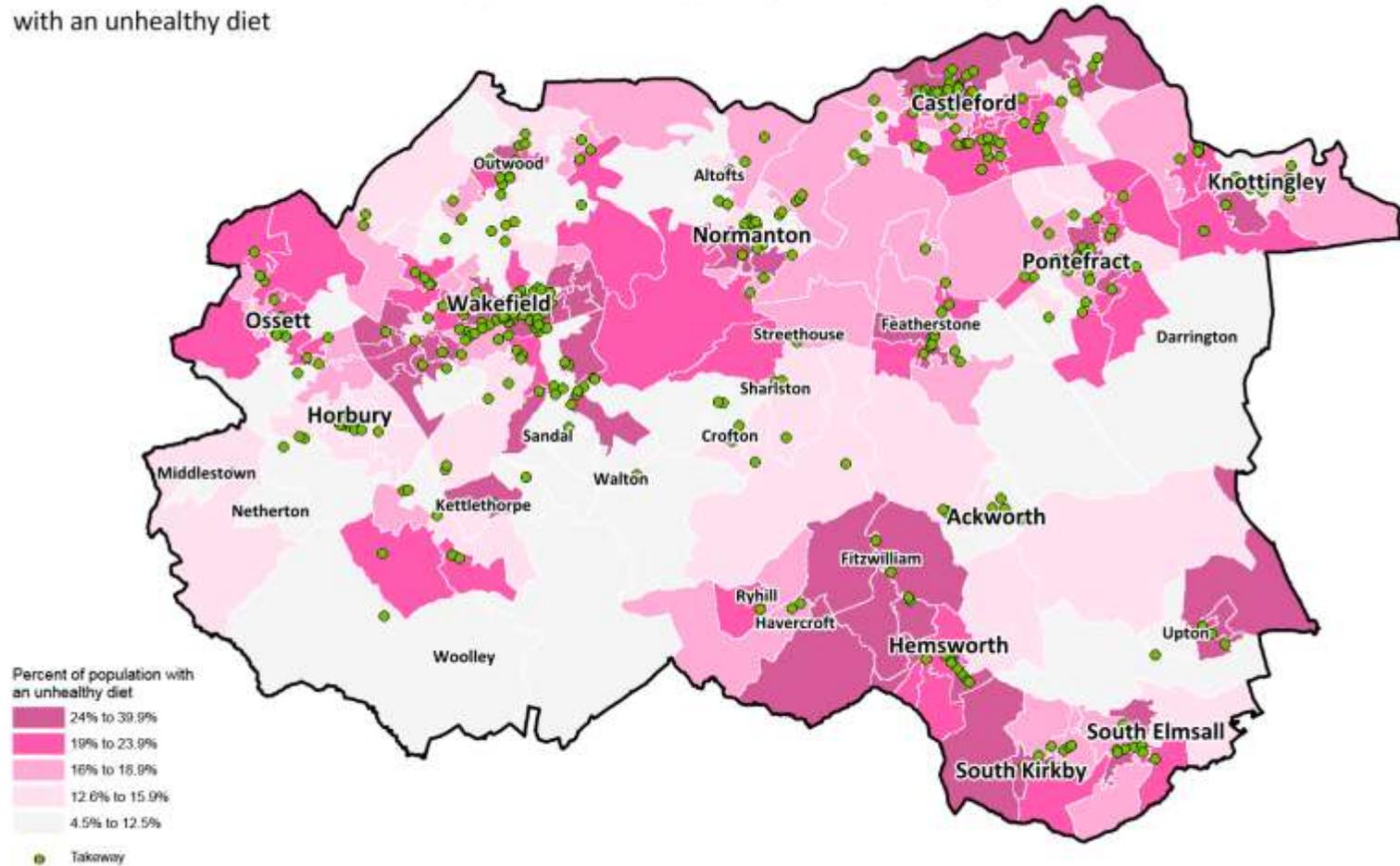
<p>vulnerabilities / risk factors for poor health and wellbeing. This suggests that consumption of takeaways may impact on those who experience greater health inequalities within the Wakefield District and may cumulatively impact on the risk of poor health and wellbeing of those with other poor lifestyle factors.</p>	<ul style="list-style-type: none"> • Males who consumed takeaway food frequently were more likely to smoke and be inactive (Smith et al 2009) • Increased fast-food consumption was associated with males, older age, black and minority ethnic groups (Bowman et al 2004) • Deprived men and women consumed a higher level of less healthy takeaway food (Miura & Turrell 2014) 	<p>age groups (Wakefield Council 2013a)</p> <ul style="list-style-type: none"> • Adult and young males are more likely than females to consume takeaway food on two or more days of the week (Wakefield Council 2013a; Wakefield Council 2013b) • Adult and young people who are not White British are more likely to consume takeaway food on two or more days of the week. (Wakefield Council 2013a; Wakefield Council 2013b) • Adults that consume takeaways on 2+ times a week are more likely to drink (2-4 times a month/most days of the week) and more likely to have used drugs, but less likely to smoke (Wakefield Council 2013a) • Secondary school pupils who consume takeaways more frequently are more likely to drink alcohol (occasionally/regularly), smoke (occasionally/regularly) and taken drugs.
<p>Deprived areas have a higher number of takeaways and closer access to takeaways. Greater accessibility of takeaways in deprived areas of Wakefield could potentially impact on the existing health inequalities, poor health and wellbeing outcomes that exist in those areas.</p>	<ul style="list-style-type: none"> • A couple of reviews found that 42% and 82% of studies (33 and 49 reviewed respectively) showed that more deprived areas had a higher number of takeaway premises (Fleischhacker et al 2011; Fraser et al 2010). • A couple of studies found that deprived areas had a higher density of or closer access to fast food outlets e.g. low income, renter-occupied, lone parent neighbourhoods and areas with less car ownership (Burns & Inglis 2007; Maguire et al 2015; Sharkey et al 2009; Smoyer-Tomic et al 2007) • Socioeconomic inequalities in takeaway food outlet density increased over time (Maguire et al 2015) 	<ul style="list-style-type: none"> • In areas where there was a higher number of takeaway premises there were also higher levels of deprivation (IMD Rank) ($p=0.01$; $r=-.178$) (See map Appendix C) • In areas where there was a higher levels of deprivation there were also higher levels of takeaway consumption amongst primary and secondary pupils (IMD Rank) ($p=0.0$; $r=-.283$) • There is a lack of local data relating to whether frequency of consumption of takeaway food in adults is higher / lower in areas with higher levels of deprivation
<p>There is not a clear consensus regarding the accessibility of supermarkets and levels of deprivation in an area. Poor accessibility to healthy food has the potential to impact on peoples' ability to make healthy choices.</p>	<ul style="list-style-type: none"> • Higher access to takeaways in more deprived areas is coupled with poorer access to supermarkets (Burns & Inglis 2007; Morland et al 2002; Smoyer-Tomic et al 2007) • Poorer access to supermarkets and grocery stores in deprived areas could contribute to people making unhealthy choices such as increased access to takeaways or generally a poor diet (Morland et al 2002; Sharkey et al 2009) 	<ul style="list-style-type: none"> • Local evidence relating to this is less clear/contradictory • There is no relationship between deprivation and access to supermarkets, convenience stores or cafes/restaurants • There is no relationship between the density of takeaway premises and density of supermarkets • In areas where there was a higher number of takeaway premises there were also a higher number of supermarkets/convenience stores (combined) ($p=0.00$; $r=.639$). Areas that have no or 1-2 takeaways have much

	<ul style="list-style-type: none"> • Supermarket presence was not associated with area-level deprivation (Maguire et al 2015) 	<p>fewer convenience stores/supermarkets</p> <ul style="list-style-type: none"> • In areas where there was a higher number of takeaway premises there was a lower number of convenience stores ($p=0.04$; $r=-.14$) • There is no relationship between the density of takeaway premises and density of cafés / restaurants
Affluent areas have closer access to takeaways and higher levels of use	<ul style="list-style-type: none"> • One study found that residents in neighbourhoods with increased deprivation had fewer fast food restaurants within 1 mile and 3 miles and had to travel a significantly greater distance to the nearest fast food restaurant (<i>Sharkey et al 2009</i>). • One study found that there were higher levels of unhealthy BMI and BMI-unhealthy takeaway outlets in more affluent areas (Stark et al). • Two studies found that takeaway food was purchased more regularly by high-income householders and those with higher levels of education (Bowman et al 2004; Turrell & Giskes 2007). 	<p>Local data is contradictory to this:</p> <ul style="list-style-type: none"> • In areas where there was a higher number of takeaway premises there were also higher levels of deprivation (IMD Rank) ($p=0.01$; $r=-.178$) • In areas where there was a higher levels of deprivation there were also higher levels of takeaway consumption amongst primary and secondary pupils (IMD Rank) ($p=0.0$; $r=-.283$) • There is a lack of local data relating to whether frequency of consumption of takeaway food in adults is higher / lower in areas with higher levels of deprivation
Proximity to and density of takeaway premises does not impact on accessibility. This is potentially because access to takeaways is not solely related to proximity due to home delivery.	<ul style="list-style-type: none"> • Number of takeaways in the local food environment, and road distance to the closest takeaway shop, were largely unrelated to the purchase of takeaway food (Turrell & Giskes 2007) 	<ul style="list-style-type: none"> • In areas where there was a higher number of takeaway premises there are higher levels of takeaway consumption amongst young people ($p=0.017$; $r=.165$) (Wakefield Council 2013b). • There is a lack of local data relating to whether accessibility of takeaway premises is related to frequency of takeaway food consumption amongst adults.
Many studies have highlighted the potential areas for influencing future planning policy and areas for further research	<p>Policy:</p> <ul style="list-style-type: none"> • There is potential for land use policies to have an influence on the location of new fast food outlets (Fraser et al 2010) • The authors of this review proposed that a requirement be implemented that fast food restaurants locate a minimum distance from schools and limit the total number of per capita fast food restaurants in a community (Fleischhacker et al 2011) <p>Research:</p> <ul style="list-style-type: none"> • There is a lack of data regarding the nutrient content in takeaway meals (Jaworowska et al 2013). 	

	<ul style="list-style-type: none">• Further research should incorporate good quality data on fast food consumption, weight and physical activity (Fraser et al 2010)• Further work is needed to understand if and how fast food access impacts on diet and health outcomes (Fleischhacker et al 2011)• Future school-based studies could collect more student-level data to gather information on whether students eat at the restaurants near their schools (Fleischhacker et al 2011)• Further work is needed to understand if fast food access has socioeconomic, race/ethnicity and age associations (Fleischhacker et al 2011)• Future research should think about using proximity (distance) and accessibility (clustering) to map access to food premises (Charreire et al 2010)• Future research should look at food access (availability, accessibility, affordability, accommodation, acceptability) as well as GIS (mapping) (Caspi et al 2012)	
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Appendix A – Diet (adults) and density of takeaway premises

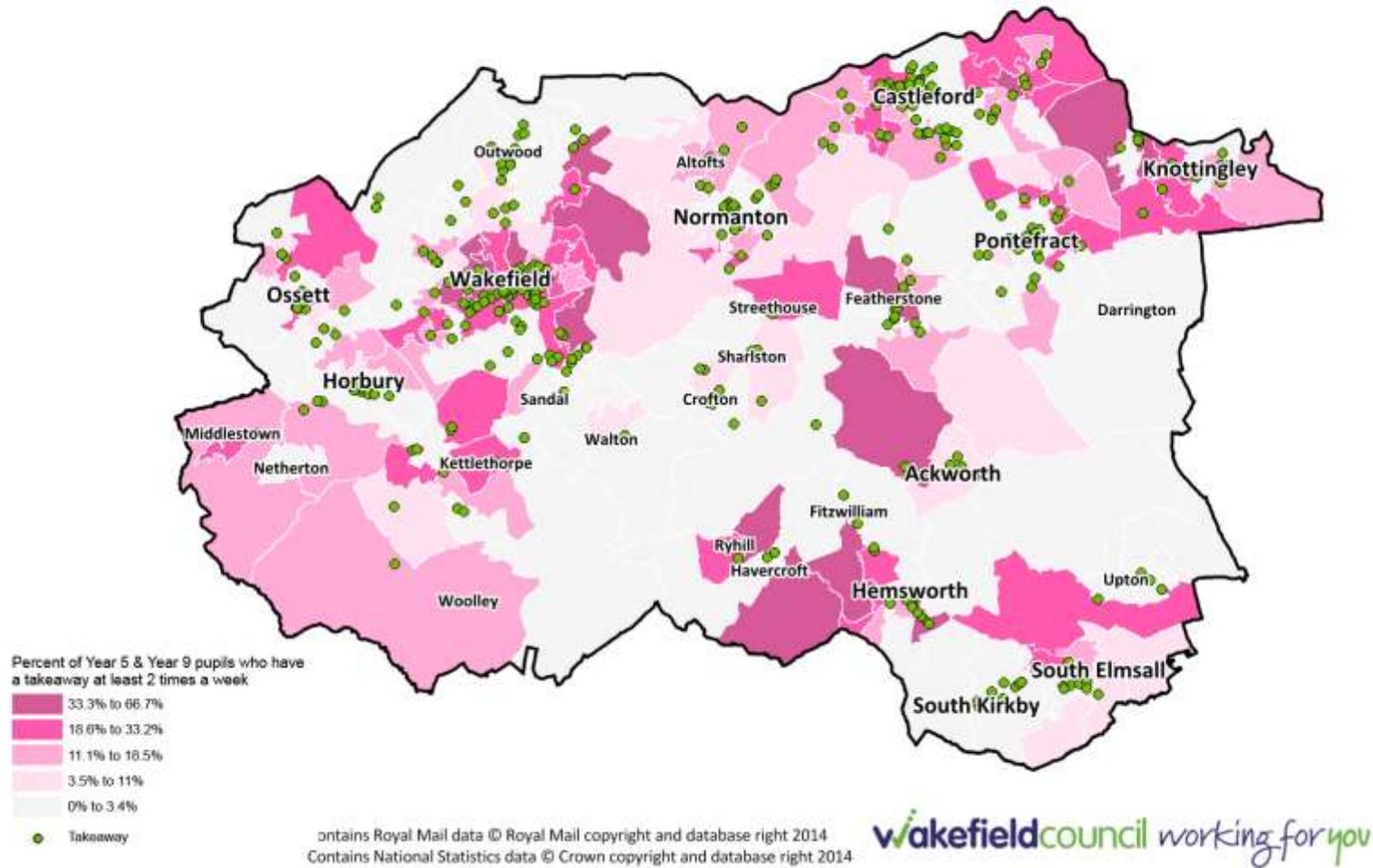
Wakefield District - location of takeaways (07/10/2014) mapped against the percentage of the population with an unhealthy diet



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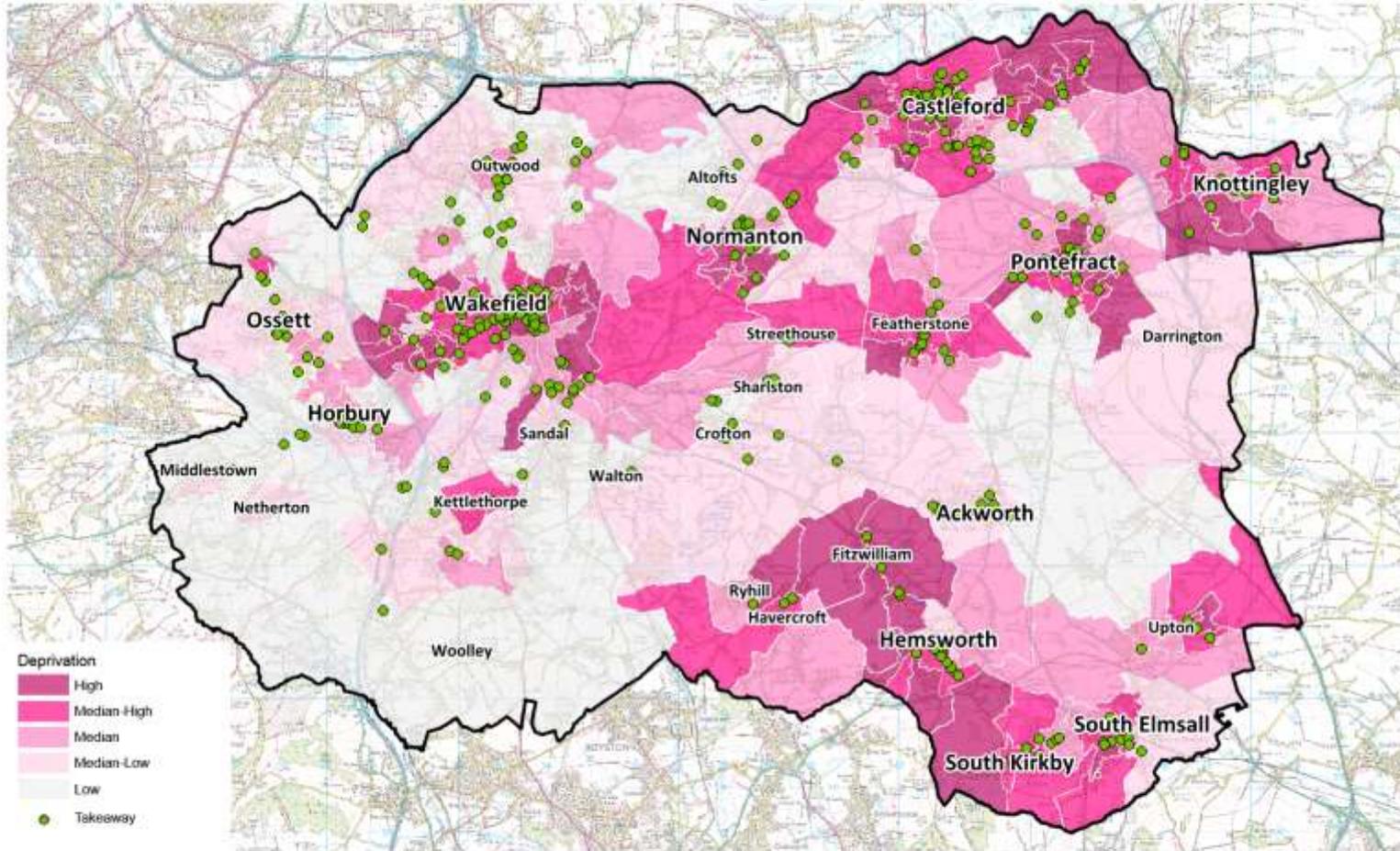
Appendix B - Consumption of takeaway food (young people) and density of takeaway premises

Wakefield District - location of takeaways (07/10/2014) mapped against the percentage of Year 5 & Year 9 pupils who have a takeaway at least two times a week



Appendix C - Deprivation and density of takeaway premises

Wakefield District - location of takeaways (07/10/2014) mapped against deprivation (Index of Multiple Deprivation)



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Reference List

- Austin, Melly, Sanchez, Patel, Buka, Gortmaker. 2005. Clustering of Fast-Food Restaurants Around Schools: A Novel Application of Spatial Statistics to the Study of Food Environments. *American Journal of Public Health*. Vol 95, No. 9 I.
- Boutelle, Fulkerson, Neumark-Sztainer, Story and French. 2007. Fast food for family meals: relationships with parent and adolescent food intake, home food availability and weight status *Public Health Nutrition*: 10(1), 16–23
http://journals.cambridge.org/download.php?file=%2FPHN%2FPHN10_01%2FS136898000721794Xa.pdf&code=8a8db83c247273e3e4a6c55bf429b91c
- Bowman, Gortmaker, Ebbeling, Pereira, Ludwig. 2004. Effects of Fast-Food Consumption on Energy Intake and Diet Quality Among Children in a National Household Survey. *Pediatrics* Vol. 113 No. 1 January 1.pp. 112 -118
- Burgoine, Alvanides, Lake. 2011. Assessing the obesogenic environment of North East England. *Health Place*. May;17(3):738-47
<http://www.ncbi.nlm.nih.gov/pubmed/21450512>
- Burns & Inglis. 2007. Measuring food access in Melbourne: access to healthy and fast foods by car; bus and foot in an urban municipality in Melbourne *Health & Place* Volume 13, Issue 4, December, Pages 877–885. <http://www.sciencedirect.com/science/article/pii/S1353829207000263>
- Caspi CE, Sorensen G, Subramanian SV, Kawachi I. 2012. The local food environment and diet: a systematic review. *Health Place*;18:1172-87.
- Charreire, Casey, Salze, Simon, Chaix, Banos, Badariotti, Weber and Oppert. 2010. Measuring the food environment using geographical Communities & Local Government. 2012. National Planning Policy Framework
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf
- Dahlgren G & Whitehead M.1991. Policies and strategies to promote social equity in health. Institute for Future Studies, Stockholm.
- Davis and Carpenter. 2009. Proximity of Fast-Food Restaurants to Schools and Adolescent Obesity. *American Journal of Public Health*. Vol. 99, No. 3, pp. 505-510.
- Feng J, Glass TA, Curriero FC, Stewart WF, Schwartz BS. 2010. The built environment and obesity: a systematic review of the epidemiologic evidence. *Health Place*;16:175-90. <http://www.sciencedirect.com/science/article/pii/S1353829209000987>
- Fleischhacker SE, Evenson KR, Rodriguez DA, Ammerman AS. 2011. A systematic review of fast food access studies. *Obesity Rev*. 12:460-71.
<http://onlinelibrary.wiley.com/doi/10.1111/j.1467-789X.2010.00715.x/full>
- Foresight Report. 2007. Tackling Obesities: Future Choices – Project Report
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/287937/07-1184x-tackling-obesities-future-choices-report.pdf
- Fraser LK, Edwards KL, Cade J, Clarke GP. 2010. The geography of fast food outlets: a review. *Int J Environ Res Public Health*; 7:2290-308.
- He M, Tucker P, Irwin JD, Gilliland J, Larsen K, Hess P. 2012. Obesogenic neighbourhoods: the impact of neighbourhood restaurants and convenience stores on adolescents' food consumption behaviours. *Public Health Nutr* 2012; **15**: 2331–2339.
- Howard, Fitzpatrick; Fulfron. 2011. Proximity of food retailers to schools and rates of overweight ninth grade students: an ecological study in California *BMC. Public Health*. Jan 31; Vol. 11.

information systems: a methodological review .Public Health Nutrition: 13(11), 1773–1785

Jaworowska A¹, Blackham T, Davies IG, Stevenson L. 2013. Nutritional challenges and health implications of takeaway and fast food. Nutrition Reviews Volume 71, Issue 5, pages 310–318, May.
<http://onlinelibrary.wiley.com/doi/10.1111/nure.12031/abstract;jsessionid=B013376F281F42B1F0C9304D04C0B496.f03t02>

Joseph R Sharkey^{12*}, Scott Horel³, Daikwon Han³ and John C Huber³ 2009 Association between neighbourhood need and spatial access to food stores and fast food restaurants in neighbourhoods of Colonias International Journal of Health Geographics 2009 Volume 8

Maguire, ER., Burgoine, T. & Monsivais, P 2015. Area deprivation and the food environment over time: A repeated cross-sectional study on takeaway outlet density and supermarket presence in Norfolk, UK, 1990–2008. Health & Place. Vol 33: 142–147.

Miura, K & Turrell, G. 2014. Reported consumption of takeaway food and its contribution to socioeconomic inequalities in body mass index. Appetite. Vol 74:116–124

Moore, Diez Roux, Nettleton, Jacobs and Franco. 2009. Fast-Food Consumption, Diet Quality, and Neighborhood Exposure to Fast Food Am. J. Epidemiology. 170 (1): 29-36.

Morland K, Wing S, Diez Roux A, Poole C. 2002. Neighbourhood characteristics associated with the location of food stores and food service places <http://www.ncbi.nlm.nih.gov/pubmed/11777675> Am J Prev Med. Jan;22(1):23-9.

National Institute of Clinical Excellence. 2010. Prevention of cardiovascular disease. <https://www.nice.org.uk/guidance/ph25>

Obesogenic urban form: Theory, policy and practice [Abstract]

Our Life Policy Briefing <http://ourlife.org.uk/silo/files/takeaways-factsheet.pdf>

Paeratakul S¹, Ferdinand DP, Champagne CM, Ryan DH, Bray GA 2003. Fast-food consumption among US adults and children: dietary and nutrient intake profile J Am Diet Assoc. 2003 Oct;103(10):1332-8.<http://www.ncbi.nlm.nih.gov/pubmed/?term=Fast-food+consumption+among+US+adults+and+children%3A+dietary+and+nutrient+intake+profile>

Patterson R, Risby A, Chan M-Y. 2012. Consumption of takeaway and fast food in a deprived inner London with childhood obesity. BMJ Open2012;2.

Pereira, Kartashov, Ebbeling, Van Horn, Slattery, Jacobs Jr, Ludwig. 2005. Fast-food habits, weight gain, and insulin resistance (the CARDIA study): 15-year prospective analysis. Lancet. 2005 Jan 1-7;365(9453):36-42.

Planning Practice Guidance. 2014. What is the role of health and wellbeing in planning? <http://planningguidance.planningportal.gov.uk/blog/guidance/health-and-wellbeing/what-is-the-role-of-health-and-wellbeing-in-planning/>

Public Health England. 2014. Obesity and the environment: regulating the growth of fast food outlets https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296248/Obesity_and_environment_March2014.pdf

Public Health England. 2015. Public Health Outcomes Framework <http://www.phoutcomes.info/>

Smith, Cummins, Clark and Stansfeld. 2013. Does the local food environment around schools affect diet? Longitudinal associations in adolescents attending secondary schools in East London. BMC Public Health, 13:70.

- Smoyer-Tomic, Spence, Raine, Amrhein, Cameron, Yassenovskiy, Cutumisu, Hemphill, Healy. 2008. The association between neighbourhood socioeconomic status and exposure to supermarkets and fast food outlets) <http://www.ncbi.nlm.nih.gov/pubmed/18234537>; Health Place. Dec;14(4):740-54.
- Stark JH, Neckerman KM, Lovasi GS, Konty K, Quinn J, Arno P, et al. 2013. Neighbourhood food environments and body mass index among New York City adults. J Epidemiol Community Health;67:736-42. <http://jech.bmj.com/content/67/9/736.abstract>
- The Stationery Office. 2012. Health & Social Care Act 2012. <http://www.legislation.gov.uk/ukpga/2012/7/contents/enacted>
- Timperio, Ball, Roberts, Campbell, Andrianopoulos, Crawford. 2008. Children's fruit and vegetable intake: associations with the neighbourhood food environment) Preventive Medicine Volume 46, Issue 4, April 2008, Pages 331–335
<http://www.sciencedirect.com/science/article/pii/S0091743507004914>
- Town & Country Planning Association. 2014. Planning healthy weight environments.
http://www.tcpa.org.uk/data/files/Health_and_planning/Health_2014/PHWE_Report_Final.pdf
- Townshend T, Lake AA. Obesogenic urban form: theory, policy and practice. Health Place 2009;15:909-16.
- Turrell⁸ & Giskes. 2008. Socioeconomic disadvantage and the purchase of takeaway food: A multilevel analysis). Appetite. Volume 51, Issue 1, July, Pages 69–81. http://ac.els-cdn.com/S0195666307004308/1-s2.0-S0195666307004308-main.pdf?_tid=27ec8a12-f09c-11e3-9efa-00000aab0f26&acdnat=1402404102_212784cb283a95a87657affd3d15e7a1
- Wakefield Council. 2009. Wakefield Health & Lifestyle Survey.
- Wakefield Council. 2013a. Multiple Health Behaviours Research.
- Wakefield Council. 2013b. Wakefield School Health Survey.
- Wakefield Council. 2013c. Wakefield Health & Wellbeing Strategy 2013-2016. <http://www.wakefield.gov.uk/about-the-council/partnership-working/health-and-well-being-board>
- Williams, J., Scarborough, P., Matthews, A., Cowburn, G., Foster, C., Roberts, N. & Rayner, M. 2014. A systematic review of the influence of the retail food environment around schools on obesity-related outcomes. Obesity Reviews. Vol 15, Issue 5:359-374.