

# Barriers to Healthy Food



Unhealthy diets are a common and costly source of poor health and premature death in the UK, but opportunities to improve the situation are numerous. This POSTnote reviews current diets and barriers to healthier food including price, marketing, skills and location. It then outlines current initiatives to improve diets, including education, planning, labelling, procurement, reformulation, resizing and financial measures.

## UK Diets and Health Consequences

The average British adult (aged 19-64) consumes:

- 4.1 portions of fruit and vegetables per day. Children consume around 3. Overall, 7% of girls, 10% of boys, 30% of adults and 41% of older adults (65 and over) consume the recommended 5 or more a day.<sup>1</sup>
- An estimated 18 g a day of fibre, compared to the recommended 30 g a day.<sup>2</sup>
- 52-54 g of oily fish a week, compared to the recommended 140 g per week.<sup>3</sup>
- 8.1 g of salt per day, compared to the 6 g maximum. 80% of men and 58% of women exceed the guidelines, as do most children.<sup>4</sup>
- 12% of their energy from sugar compared the recommended 5% (met by 13% of adults).<sup>5</sup>
- 13% of their energy from saturated fat (11% is the recommended amount).<sup>6</sup>
- An estimated excess of 200 to 300 calories per day.<sup>7</sup>

These averages mask a wide range of diet types. This consumption profile falls short of the requirements for a healthy diet and is too high in salt, sugar and saturated fat and too low in fibre, fruit, vegetables, and oily fish. Higher levels of income and education are associated with greater consumption of fruits and vegetables and oily fish, and less red meat and sugar<sup>8</sup>, while lower income households

## Overview

- British diets include insufficient fruit and vegetables, fibre and oily fish, and too much added sugar, salt and saturated fat.
- Lower levels of income and education are associated with less healthy diets. While diet is a problem for the population as a whole, there are also several potential barriers to healthy food that are more pronounced for these groups.
- There are numerous opportunities to improve diets, including educating and informing, improving school meals, food reformulation, restricting portion size, and regulating advertising and the availability of fast food.
- Evidence suggests that there is no single best approach, but a range of potential strategies that may improve diet.

consume less fruit and vegetables than the average.<sup>9</sup> Research in Scotland suggests that those on lower incomes eat more energy dense food (red meat as opposed to vegetables) which may contribute to obesity.<sup>10</sup> The health effects of diet are unevenly distributed (see Box 1).

### Obesity

67% of men and 57% of women are obese or overweight; and around a quarter of men and women are obese.<sup>11</sup> Rates of obesity – defined as having a body mass index (BMI) of over 30 – are at or above 20% across all income groups.<sup>12</sup> However, higher status jobs, greater levels of education and higher incomes are associated with lower levels of obesity, although this relationship is more consistent in women than men.<sup>13</sup> Children living in the most deprived communities are roughly twice as likely to be obese as those in the least deprived, and average obesity rates for children double from 9% to 19% between the ages of 5 and 11.<sup>14</sup>

## Barriers to Healthy Diets

### Economic Barriers

Food prices have increased, with costs currently 8% higher in real terms than they were in 2007.<sup>15</sup> Since 2008, the price of food has risen 10% more than other goods.<sup>16</sup> Excluding food bought out of the home, the average household spends

**Box 1. The Effects of Unhealthy Diets on Health Inequalities**

- **Health Inequalities and Diets.** Obesity currently costs the NHS £5-6bn a year<sup>17</sup> and food-related ill health is responsible for about 10% of morbidity and mortality.<sup>18</sup> Around a third of all cancer deaths are related to diet.<sup>19</sup> Mortality from cardiovascular disease, also partially influenced by diet, is higher among the most deprived groups.<sup>20</sup> Poor diets contribute to type 2 diabetes, which is two and a half times more common in the most deprived groups<sup>21</sup> and costs £10bn a year.<sup>22</sup> Reducing health inequalities is a focus for the Department of Health and now a statutory duty of the Secretary of State for Health.<sup>23</sup>
- **Interventions and Inequality.** Few evaluations consider the effects of dietary interventions on health inequalities. Those that do, show that efforts to encourage voluntary choices, like dietary counselling or health education, may widen health inequalities compared to those, like reformulation and pricing, that do not require individual effort.<sup>24</sup> While there are examples, like the '5 A Day' campaign, which had a greater impact on the more deprived, evidence suggests that information and behaviour change campaigns are less effective for the less well-off compared to multi-component interventions that were community based and structural (for example, changing school menus has a larger effect on less well-off groups than school based nutritional education).<sup>25</sup>

11% of their income on food. This is 16% for low-income households, who now spend 23% more on food than they did in 2007, compared to the average increase of 18%. It has been estimated that a healthy diet for a single pregnant mother would cost £30.34 per week, which is 57% of Jobseeker's Allowance for those under 25.<sup>26</sup>

The effects of pricing are complex, as shopping is influenced by a range of concerns about taste, value, convenience and social acceptability and the preferences of partners and children.<sup>27</sup> However, price is the most important feature in buying food for over a third of customers,<sup>28</sup> and is a commonly cited barrier to consuming a healthier diet.<sup>29</sup> Research suggests that healthier foods are up to three times the cost per calorie of unhealthy food<sup>30</sup> and it has been estimated that spending per calorie has dropped 5% since 2008. Frozen food and ready meal sales increased 11% and 25% respectively between 2011 and 2013,<sup>31</sup> while fruit and vegetable purchases have decreased since 2007.<sup>32</sup>

*Food Insecurity*

'Food insecurity' is the inability to dependably afford sufficient or adequate food. 36% of the respondents to the 2005 Low Income Diet and Nutrition Survey said they could not afford to eat balanced meals.<sup>33</sup> While the full extent of food insecurity is unknown, the use of food banks has been subject to increased political attention in recent years.<sup>34</sup> The EFRA Select Committee and the APPG on Hunger have recommended that 'food insecurity' is nationally monitored.<sup>35</sup> While the number of those living with food insecurity is likely to be higher than the number accessing food banks,<sup>36</sup> in 2013, an estimated 500,000 people relied on emergency food aid.<sup>37</sup>

**Knowledge and Skill Barriers**

Most people are aware of the Government's main health messages concerning diet.<sup>38</sup> While most want to improve their diet,<sup>39</sup> 21% of obese people believe they are a healthy weight and 36% believe they are only overweight.<sup>40</sup>

*Lack of Cooking Skills*

There is little evidence demonstrating a widespread or concentrated lack of cooking skills. Nationally representative survey data found that almost 90% of respondents said they were able to cook a main dish from basic ingredients without help.<sup>50</sup> Limited cooking skills were rated the least important barrier to eating healthily in the 2005 Low Income Diet and Nutrition Survey. Only 5% of the sample identified improvements to cooking skills or preparation time as potentially helping them improve their diets.<sup>51</sup>

**Physical Barriers***Food Deserts*

While there are areas where long walking distances to shops and increased food cost is an issue, particularly for less mobile residents,<sup>52</sup> evidence does not support the existence of widespread 'food deserts' (areas where there

**Box 2. Promotions, Advertising and Marketing**

- **Promotions.** Around 40% of British food is bought on promotion. This increases total food purchases by one fifth and the amount of sugar consumed by 6%.<sup>41</sup> Public Health England has identified limiting price promotions on high-sugar food and removing less healthy foods from the end of aisles and till points as potential areas for action, alongside other measures. Several supermarkets chains have removed high fat salt and sugar (HFSS) food from tills.<sup>42</sup>
- **Advertising and Marketing.** In the UK, broadcast and non-broadcast advertising is controlled through a mixture of co-regulation and self-regulation, with Codes of Practice overseen by the Advertising Standards Agency. The UK food industry spent £256 million advertising unhealthy foods in 2014.<sup>43</sup> Research suggests that the influence of advertising has a modest effect on children's food consumption that is difficult to disentangle from other influences.<sup>44</sup>
- **Regulation.** In 2006, Ofcom banned the advertising of HFSS food on all dedicated children's channels and children's TV programmes. It estimates that, as a result, children were exposed to 37% fewer advertisements of this sort in 2009 than in 2005. Spending on child-themed adverts dropped 41% to £61m from 2003 to 2007.<sup>45</sup> However, an academic study found that the exposure of children to television advertising for unhealthy foods was unchanged, despite guidelines being adhered to.<sup>46</sup>
- **Online Advertising.** Non-broadcast media is currently covered by the Committee on Advertising Practice (CAP) codes, which are enforced by the Advertising Standards Authority. These are different to the codes that apply to television, particularly as they do not refer to HFSS foods. There is concern that children are exposed to advertising for unhealthy foods on the internet, including through interactive features like adver-games (online games that advertise), which because of their immersive nature children may not recognise as advertising.<sup>47</sup> At present, the ASA can take action if a game "encourages poor nutritional habits, such as excessive consumption or unhealthy lifestyles". PHE has identified extending restrictions on HFSS to non-broadcast media, including the internet as an option, something the Health Select Committee has endorsed.<sup>48</sup> CAP is launching a public consultation on whether to enhance existing rules to include a nutrient profile and to extend age restrictions up to 16, a move supported by the Food and Drink Federation.<sup>49</sup>

are no shops selling affordable healthier food). Government figures suggest a 63% decline in state-provided hot food delivery – ‘meals on wheels’ for the vulnerable – between 2009/10 and 2014.<sup>53</sup>

However, evidence suggests that new supermarkets in areas with previously limited access may have uneven effects, increasing fruit and vegetable consumption for some, and increasing the consumption of unhealthy food for others.<sup>54</sup> ‘Better shops in the local area’ and ‘Access to facilities/better choices’ are given low importance in improving diets when the public are surveyed.<sup>55</sup>

#### *The Availability of Unhealthy Food*

Fast food consumption is associated with increased BMI, the likelihood of obesity and body fat ratios.<sup>56</sup> The number of food outlets in the UK has increased from 60,760 to 93,285 over the last ten years,<sup>57</sup> with more fast food outlets in deprived areas.<sup>58</sup> Consumption of takeaway food at home is more likely for children in deprived households.<sup>59</sup> Food bought out of home may also come in larger portions.<sup>60</sup>

Research on the effects of fast food availability is challenging given the number of factors involved. Results have been mixed, with some studies finding links between proximity to outlets and poor health outcomes, and others finding none.<sup>61</sup> One large-scale study looking at fast food in three locations (neighbourhoods, commuting and near work) found that the density of outlets across sites correlated with increased fast food consumption and exposure to multiple outlets during the day was strongly associated with higher BMI and risk of obesity.<sup>62</sup>

The Department of Health and PHE have acknowledged the importance of public health in local planning policy,<sup>63</sup> and some local councils have sought to limit the opening of new fast food outlets in certain areas, with mixed results (see also Box 4).<sup>64</sup> Research on the effects of food outlets near schools has found mixed results.<sup>65</sup>

## **Interventions to Improve Diets**

Local authorities, industry, retailers, central government, the NHS and consumers can all play a role in improving diets.

### **Educating and Informing**

Current interventions include:

- Public information campaigns such as ‘5 A Day’, which encourage more fruit and vegetable consumption. Between 2002 and 2006, this campaign is estimated to have increased consumption by 0.3 portions a day on average,<sup>66</sup> with greater improvements for lower income groups relative to high-income groups.<sup>67</sup> Fruit and vegetable purchases have declined since 2006/07 and current purchasing is lower than in 2002.<sup>68</sup>
- A range of school-based programmes that have resulted in increased consumption of and favourable attitudes towards healthier food, particularly if they combine information with availability,<sup>69</sup> such as those involving gardening alongside nutritional education.<sup>70</sup> In 2013, the

Department for Education made cooking classes compulsory.<sup>71</sup>

- Change4Life, a social media campaign launched by the Department of Health in 2009 that encourages healthy eating and physical activity. After its launch, over a million parents claimed to have made changes to their children’s diet or activity levels and over 400,000 families signed up to the campaign.<sup>72</sup> Sustained effects on behaviour or attitudes may be limited by a lack of long-term engagement.<sup>73</sup> A 2010 scheme to display fruit and vegetables in shops initially increased sales, but long-term effects are probably limited.<sup>74</sup> Change4Life produced a ‘Sugar Smart’ app in 2016, indicating the number of sugar cubes a product contains, which has been downloaded almost two million times.
- Lifestyle interventions with dietary components can be effective in reducing obesity.<sup>75</sup> For example, the MEND programme, which emphasises nutrition, behaviour change and exercise in a family context, significantly reduced BMI amongst obese 7-13 year olds, but long-term effects were not apparent for girls two years later.<sup>76</sup>
- Improving cooking skills in adult populations. While there are positive examples of change,<sup>77</sup> improvements in diet are often not sustained over time<sup>78</sup> and a lack of long-term evaluation makes the effectiveness of these interventions unclear.<sup>79</sup>
- Regulating the advertising of certain foods (see Box 2).

### *Nutritional Labelling*

In 2013, the Department of Health launched voluntary front-of-pack labelling.<sup>80</sup> This scheme uses colours to indicate the sugars, salts and saturated fat content of food relative to EU reference intakes.

A review of research in controlled and online shopping settings found that labels sometimes led to healthier choices, but did not significantly reduce calorie intake.<sup>81</sup> However, research on real-world purchasing<sup>82</sup> suggests that while there are consistent associations between using labels and healthier diets, use is more common among those already intending to eat healthily.<sup>83</sup> The particular foods being consumed and context of purchase may also influence whether labels are used.<sup>84</sup> Potentially, labelling requirements may also incentivise manufacturers to reformulate food.<sup>85</sup> In the out-of-home (catering) sector, the Responsibility Deal (see Box 3) includes a voluntary pledge for hot food outlets to display calorie information on menus. Around 10% of the 93,285 UK registered food service providers display such information<sup>86</sup> with mixed evidence on effectiveness.<sup>87</sup>

### **Public Sector Food Standards**

The public sector spends £2.4 billion procuring food in a range of institutions, including central government, schools, local authorities and prisons. Central government departments apply Government Buying Standards, which include nutritional requirements. In 2014, the Bonfield report introduced a new voluntary toolkit for food procurement.<sup>88</sup>

### *Hospital Food*

In 2014, a Department of Health report on hospital food recommended legally binding standards on food and drink in the NHS, which have now been adopted in principle, but are not routinely monitored.<sup>89</sup>

### *School Lunches*

School lunches are typically healthier than packed lunches,<sup>90</sup> and in 2014 the standards for school food were updated.<sup>91</sup> These cover all schools apart from Academies that opened after 2010 or with agreed funding prior to June 2014.<sup>92</sup> Compliance with the standards is not monitored. In England, the introduction of food standards in 2008 improved the nutritional quality of lunches in primary aged children and had a positive effect on the overall diets of children consuming a school lunch.<sup>93</sup> However, these changes were less marked for pupils aged 11-12.<sup>94</sup>

Universal provision of free school meals is in place for pupils in the first three years of school and is means tested thereafter. However, after year three, 700,000 school age children living in poverty are not entitled to free meals (as their parents are in work) and 500,000 who are entitled do not take them.<sup>95</sup> A pilot study involving three schools found that extending universal provision might be more effective in increasing the take-up of meals both among ineligible and previously eligible pupils than more targeted extensions of the entitlement criteria (or making no changes).<sup>96</sup> Some schools have implemented this approach in primary school (see Box 4). There are also concerns that children receiving free school meals in term time are going hungry during the holidays.<sup>97</sup>

## **Reformulation and Resizing**

### *Reformulation*

Product reformulation – where the level of certain ingredients like salt is altered in manufacturing – can also improve diets. Efforts to reduce the salt content of food products are thought to account for the observed decline in salt consumption of 15% between 2001 and 2008.<sup>98</sup> There is, however, evidence of stalling progress since 2010.<sup>99</sup>

Artificial trans-fats have been virtually eliminated in food products from UK supermarkets due to reformulation. They are however still present in some takeaway food<sup>100</sup> and research indicates that a complete ban on artificial trans-fats could prevent or postpone 7,200 deaths a year.<sup>101</sup> This is a step being considered by the European Commission.<sup>102</sup> PHE has identified that voluntary actions and targets, backed up by regulation if necessary, may reduce the sugar content of food.<sup>103</sup> Industry has argued that sugar content is harder to reduce than salt due to its multiple functions in food (see ‘Sugar and Health’ [PN0493](#)).

### *Portion Control*

Experiments indicate that when offered larger portions, packages, or items, people consume more.<sup>105</sup> Eliminating larger portions from diets could potentially reduce average daily energy intake by around 12-16%.<sup>106</sup> Some limited

## **Box 3. The Public Health Responsibility Deal**

Launched in 2011, the Government’s Public Health Responsibility Deal is a public-private partnership designed to improve health through a series of voluntary agreements. Currently, over 800 food companies are involved. There are nine active food-related pledges, including energy labelling and maximum per-serving salt targets in out-of-home food outlets; the salt reduction 2017 goal; reductions of saturated and trans-fats; labelling; calorie reduction; a pledge on salt and catering; and a pledge to encourage the consumption of fruit and vegetables. An evaluation of research into six out of eight of these interventions found mixed evidence for their success and indications that many of the developments were already underway prior to the deal.<sup>104</sup> See ‘Sugar and Health’ [PN0493](#) for more discussion.

changes have followed the Responsibility Deal: some chocolate producers have, for instance, reduced chocolate sizes to 250 kcal per serving and some retailers have reduced product portion sizes.<sup>107</sup>

## **Financial Measures**

### *Healthy Start Vouchers*

The UK provides targeted subsidies in the form of Healthy Start vouchers, which help improve access to fruit, vegetables, milk and supplement foods to pregnant women and families with young children receiving certain benefits. The vouchers increase the consumption of these foods,<sup>108</sup> although not all eligible families are aware of them.<sup>109</sup>

### *Subsidies and Taxes*

Evidence from the US suggests that introducing subsidies for healthy food in locations such as supermarkets, vending machines or cafeterias may result in increased purchasing of targeted products.<sup>110</sup> However, there are uncertainties about their long-term effects, results for overall diets and cost-effectiveness. One risk is that subsidies may simply increase overall calorie intake.<sup>111</sup>

In the 2016 Budget, the Government announced an 18-24 pence per litre sugar levy, expected to raise £530 million, to be introduced in two years (see ‘Sugar and Health’ [PN0493](#)).

## **Box 4. Local Campaigns**

There are numerous local attempts to improve access to healthy food. The ‘sustainable food cities’ campaign is a cross-sector network of 43 local partnerships, including the London Food Board, that aim to reduce food poverty, improve access to healthy food, reduce waste, improve food procurement and catering and promote healthy food.<sup>112</sup> Community growing projects, like Capital Growth in London,<sup>113</sup> facilitate urban food growing. Other examples include improving the uptake of Healthy Start vouchers in Greenwich, or providing healthy lunches during school holidays or universally free primary school meals in maintained schools in Islington.<sup>114</sup> In 2012, Birmingham City Council imposed a cap on the number of fast food outlets, requiring that no more than 10% of a shopping area or high street are takeaways, and has refused 26 out of 42 proposed outlets since this time.<sup>115</sup>

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