

# The School Food Trust: transforming school lunches in England

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## Summary

School food has been provided to pupils in England for many decades. From the mid-1970s, however, both the number of meals provided and the quality of food have declined. Legislation was introduced in 2001 to ensure that school catering services provided healthy options, but surveys of consumption in 2004–2005 and in 1997 showed that improved availability of healthy options in school had little or no impact on children's eating habits.

In February 2005, Jamie Oliver presented a series of television programmes highlighting the poor quality of school food. The government responded by setting up the School Meals Review Panel to make recommendations on how to improve school food and the School Food Trust, a non-departmental public body to promote the education and health of children and young people by improving the quality of food supplied and consumed in schools.

Legislation was introduced in 2006–2008 that set out what caterers could and could not provide for children in schools. At the same time, the Trust worked with caterers, schools, pupils, parents, manufacturers, food distributors, institutions providing further education for catering staff and others in a coordinated programme of change.

This paper reports clear evidence of the improvements in provision, choice and consumption of food in schools following the introduction of legislation and a national programme of work to change catering practices and the attitudes of pupils, parents and others to healthier food provision in schools. It also provides objective evidence of the impact of healthier food on children's learning behaviour in the classroom, and overall costs and benefits. It concludes by outlining the future work of the Trust as it moves from being a non-departmental public body to a not-for-profit social enterprise.

**Keywords:** catering practices, food choice, health, schoolchildren, School Food Trust, school lunches

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## Introduction

In 1980, the take up of school lunches was on the decline. The government deregulated the school meals service, and nutritional standards were no longer applied to provision. In 1986, 400 000 pupils from low-income families whose parents were in work lost their

entitlement to free school meals. Compulsory Competitive Tendering, introduced in 1988, meant that local authorities (LAs) were required by law to tender for school catering services and to take the lowest bid. By 1990, school food take up had fallen to just over 40%, and the food provided and consumed was typically high in fat, salt and sugar, antithetical to government guidelines on healthy eating.

In 2000, the government recognised that the number of children who were becoming overweight and obese was increasing dramatically, and that the diets of many children were typically low in foods from specific food groups (such as fruits and vegetables), deficient in nutrients (such as iron, zinc, folate, vitamin A, dietary fibre, etc.), and too high in fat, salt and sugar. In an attempt to harmonise public health messages about healthy eating with what was on offer in schools, the government introduced legislation in 2001 (Department of Education and Employment 2001) to regulate school food. This ensured that catering services in schools provided healthy options for children, but did not restrict sales of foods high in fat, salt and sugar, nor actively promote the healthier options in a meaningful way. A comparison of consumption in schools in 2004–2005 (Nelson *et al.* 2004, 2006) with that in 1997 (Food Standards Agency 2000) showed that the increased availability of healthy options at lunchtime had little or no impact on children's eating habits in school (Nelson *et al.* 2007).

### The start of change

In February and March of 2005, celebrity chef Jamie Oliver presented a series of television programmes on school food. These graphically showed the British public that much of what was on offer to pupils in schools was of poor quality, made from the cheapest ingredients, and often high in fat, salt and/or sugar. There was a marked inconsistency between what children were being taught about healthy eating in the classroom and what was being offered in the dining room. Packed lunch quality was no better.

In response to public outcry and Oliver's *Feed me better* campaign, the government [Department for Education and Skills (DfES)] set up the School Meals Review Panel. This body, with representatives from school food catering (both LA and private catering providers), food manufacturers, pressure groups promoting healthier food provision and consumption, academics, and the government, met between April and August 2005, and in September 2005, made recommendations to the government about how to improve school food catering services (School Meals Review Panel 2005). At

the heart of their recommendation was the introduction of legislation to control what could and could not be served in schools.

At the same time, the government established the School Food Trust (SFT) (School Food Trust 2006, <http://www.schoolfoodtrust.org.uk/>).<sup>1</sup> The trust was given the unique remit of transforming school food and food skills. It was set up as a non-departmental public body with £15 million of funding from the then Department for Education and Skills (DfES) [replaced by the Department for Children, Schools and Families and subsequently by the current Department for Education (DfE)] to promote the education and health of children and young people by improving the quality of food supplied and consumed in schools. The Trust's remit was to:

- ensure all schools meet the food-based and nutrient-based standards for lunch and non-lunch food;
- increase the take up of school meals;
- reduce diet-related inequalities in childhood through food education and school-based initiatives;
- improve food skills through food education, and school and community initiatives.

Its first task was to work closely with the government to draft and implement the legislation necessary to govern catering provision at school. This was introduced in a phased way over 3 years, starting with the interim food-based standards (Statutory Instrument 2006) and culminating with the final food-based and nutrient-based standards for all schools in place by September 2009 (Statutory Instrument 2007; The Education Regulations 2007). To inform this work, the Trust undertook two reviews, comparing school food standards in ten countries (Harper & Wells 2007) and provision in 18 countries (Harper *et al.* 2008).

At the same time, the Trust began a structured nationwide programme of engagement with the many stakeholders involved in the provision of school food: cooks, catering managers, catering companies (both LA and private) and associations (such as the LA Caterers Association), pupils, parents, Headteachers, school governors, and others, finding out their attitudes about school food, their views on what needed to change and how the changes might be implemented. The Trust developed an integrated programme based soundly on principles of behavioural economics delivered within the context of legislation. It developed a wide range of guidance, products and support services, and training, mostly available

<sup>1</sup>Although the School Food Trust was established as a legal entity in April 2005, full-time permanent staff were not in place until April 2006, and the active work of the Trust started from this date.

for free, that were designed to underpin the efforts of all those involved in transforming the school food service and improving pupils' eating habits at school. It also engaged directly with the central government to lobby in favour of the elements of infrastructure necessary to deliver healthy meals (adequate kitchens and dining rooms when planning new schools and refurbishing old ones, training programmes for catering staff, inclusion of cooking in the curriculum, etc.). In 2006, the Trust also started *Let's Get Cooking*, a 6-year Big Lottery-funded programme to introduce and support over 5000 cookery clubs for children, their parents and the community across England (Carter *et al.* 2011).

### Developing a theoretical framework

The first stage of work for the Trust was to identify who was involved in either providing or purchasing school food, to understand their issues, needs and the barriers to change, to work closely with every stakeholder group to learn (and provide evidence for) which approaches to change were likely to be effective, and, finally, to publicise and help to embed this learning. A systems map of the people and factors (nodes of influence) involved in promoting healthier eating of food in schools was developed iteratively over a period of several months (Fig. 1).

The map suggested that there were four key areas of influence:

- positive customer experience;
- positive mindset;
- economic viability of service;
- positive infrastructure and capacity.

Ignoring any one of these elements was likely to result in stalemate or stagnation at local level. For example, pupils needed to have a positive experience in the dining room. So not only was it important to work closely with school councils (representative student bodies) in each school to make sure that they understood and communicated with their peers the need for change, but also to ensure that the caterers were agreeable to changing established habits and had the training to do so, that there were adequate kitchen and dining facilities in the school, that Headteachers and parents were on board with the changes, and that ultimately, the service would be financially viable. Ignoring any one of these spheres of influence was likely to result in little or no change to the school lunch food.

Making the changes, therefore, involved undertaking a large number of parallel or carefully sequenced activities to engage all of the stakeholders likely to have an influence at each stage of the change and to understand the

motivations for each stakeholder group. Insights from psychology, marketing, customer profiling and economics allowed the Trust to understand better what motivates decision making and provided a range of possible new policy design themes that could operate in each setting. Application of these principles to the design of interventions is embedded throughout the work of the Trust.

A good example can be seen in relation to the needs that pupils have at lunchtime and how those needs can be satisfied. Figure 2 shows the results from research with focus groups of pupils and their parents.

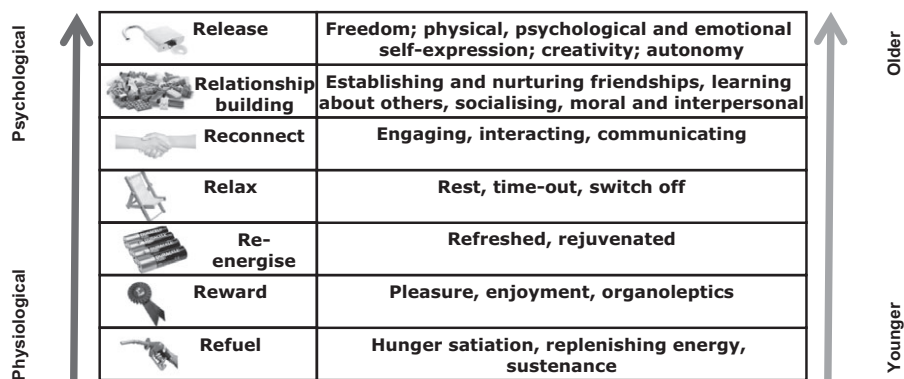
The hierarchy of the needs to satisfy grows increasingly complex as children get older, involving more and more psychological elements (Ashfield-Watt *et al.* 2011). At the same time, there is a range of other factors that may be mediating against adoption of healthier eating habits at lunchtime. For example, school meals are seen as 'expensive', packed lunches are seen as cheaper and more likely to satisfy 'consumption confidence' (the feeling on the part of both the child and the parent that the lunch provided will be eaten), and free school meals, although potentially addressing some of the financial issues, face barriers in terms of registration and stigma. Other barriers to choice relate to how foods are perceived and approved of, the dining environment, and competition at lunch time from other activities in school or from the high street.

### Demonstrating the impact of the work of the Trust

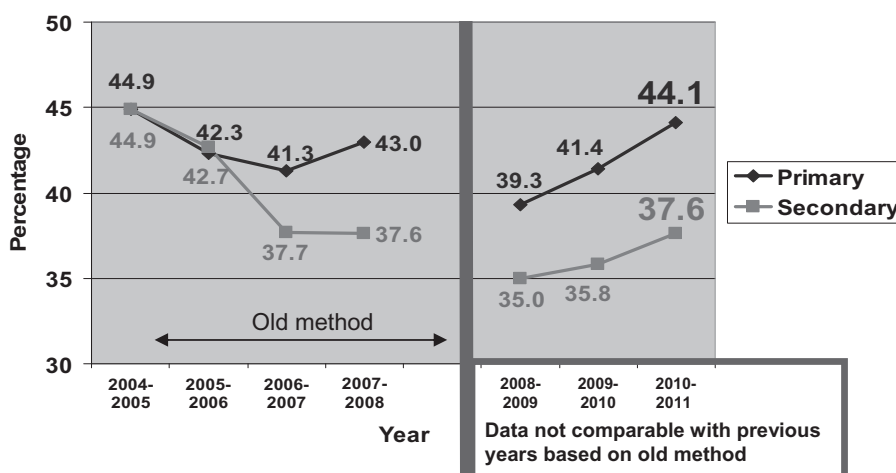
Over the last 5 years, the activities of the trust have contributed substantially to the changes in the provision, choice and consumption of food in schools in England. The main responsibility for monitoring changes in provision and consumption, compliance with the standards, and assessing the impact of changes on nutritional status, pupil behaviour and educational attainment through surveys and intervention studies, lies with the Trust's Division of Research and Nutrition. The outputs of the Division are summarised in the Research Summary published on the SFT website (School Food Trust 2010).

The evidence demonstrates how promoting better feeding practices in schools has made a difference to take up, dietary intakes and learning behaviours in school. This provides a powerful message to Headteachers: schoolchildren who eat healthier food in a nicer dining environment at lunchtime are likely to pay more attention in their classes after lunch and have higher levels of wellbeing. This in turn may lead to better achievement and attainment, although the evidence for





**Figure 2** Needs that pupils aim to satisfy at lunchtime.



**Figure 3** Percentage take up of school lunches in schools in England, paid for and free, primary and special combined, and secondary, 2004–2011.

this at the moment is modest (Stevens *et al.* 2008; Belot & James 2011).

### Annual survey of school lunch take up

Each year since 2006, the SFT has conducted a comprehensive survey of school lunch take up and catering services in all state-maintained schools in England. Every LA is asked to report take up of paid for and free school meals for all primary, secondary and special schools, not only where the LA provides catering services but also for services provided by private caterers or in-school. The survey also asks about meal prices and costs, catering facilities, factors associated with changes in take up, financial issues, policy and strategy, staffing and pay, and progress towards meeting school food standards.

The 2011 survey (Nelson *et al.* 2011a) shows that the recent decline in the percentage of pupils taking a school lunch has been reversed (Fig. 3). The Trust estimates that since 2008–2009, take up has increased by 4.8 percentage points in primary schools and 2.6 percentage points

in secondary schools, meaning that in England as a whole, over 270 000 more pupils are now taking lunch at school. In addition, over two thirds of schools are reported to be compliant with the three components of the standards (food-based, nutrient-based and food other than lunch). Further analysis of the 2010 data (Nelson *et al.* 2011b) suggests that support from Headteachers and governors, use of menu analysis software, and professional advice, full-production kitchens and, in addition in the secondary sector, use of cashless systems, implementing a stay-on-site policy and not having hot food transported from elsewhere, were all associated with higher levels of take up. Further analyses of the 2011 annual survey date will be published in autumn 2011.

### Primary school food study

In 2009, the Trust undertook a survey of provision, choice and consumption in a nationally representative sample of 136 primary schools in England. Data were recorded on catering practices and the provision of food and drink at lunchtime; and the food and drink choices,

consumption and wastage of food and drink by 6690 pupils having a school lunch and 3481 pupils having a packed lunch were recorded. The methodology that followed was used in a similar survey carried out in 2005 (Nelson *et al.* 2006). As the school food standards were introduced in 2006, the recent survey provided the opportunity to assess the overall impact of the Trust's work and that of the catering providers in the 2 years following the introduction of the standards. Full reports on the survey's implementation and findings have been published (Nelson *et al.* 2009; Haroun *et al.* 2010a, 2010b).

Compared with 2005, there were statistically significant increases in the provision of vegetables and salad, fruit, starchy foods not cooked in fat or oil, milk, yogurt and milk-based drinks, water, fruit juice and fruit-based desserts. There were declines in the provision of starchy foods cooked in fat (*e.g.* chips), 'other' desserts (not fruit-based), sandwiches, condiments, 'non-permitted' food and drink (sweet and savoury snacks, soft drinks, confectionery, etc.). These changes were in line with the published guidance on the standards (School Food Trust 2007). Over this period, the percentage of pupils taking water increased by over 20%, vegetables and salad by almost 15%, fruit juice by 9% and fruit-based desserts by 8%, and other positive changes were seen in relation to starchy foods not cooked in fat and fruit. Foods regarded as less healthy, such as non-fruit-based desserts, condiments, starchy foods cooked in fat, and non-permitted food and drink, were all taken less often.

This translated into healthier average consumption from school lunches. For example, fruit and vegetable consumption increased by 60% (from an average of 1.0 portion in 2005 to 1.6 portions in 2009). Similarly, the average nutrient consumption from school lunches (choice minus plate waste) increased significantly for vitamin A, zinc, folate and dietary fibre. Non-milk extrinsic sugar, fat and saturated fatty acids all fell substantially, and sodium intake went down by almost one third. Energy intake also fell, which potentially contributes to healthier weight gain (evidence in relation to child growth will be published in 2011). Iron intake also fell, in spite of efforts by caterers to increase the iron density of many school recipes (Boaden *et al.* 2008).

Changes of this magnitude on a national scale are remarkable in such a short period of time. The Trust is not aware of any other public health nutrition intervention on a national scale that shows such dramatic, consistent and robust evidence of healthier eating in children over such a short time period. There is also good evidence of the impact of nutrient-based standards over and above the impact of food-based standards

alone (Haroun *et al.* 2011). In terms of the government's current public health programme, school food standards are a signal demonstration of where regulation is appropriate.

A similar study to assess catering practices and the provision and consumption of food and drink at mid-morning break and at lunchtime is currently underway in a nationally representative sample of 80 secondary schools in England, which will be comparable with a study carried out in 2004 (Nelson *et al.* 2006). The findings will be reported in late 2011 or early 2012.

### School lunch and learning behaviours

There is anecdotal evidence from teachers and parents that children's behaviour and academic performance improve when they eat healthier food, but there is a lack of robust evidence (Summerbell *et al.* 2006). The Trust carried out two randomised controlled intervention studies, one in primary schools and one in secondary schools. The hypothesis was that providing and promoting healthier school food at lunchtime and improving the dining room environment would have a positive impact on the pupils' learning-related behaviours in the classroom after lunch. The interventions were 12–15 weeks, carried out in negotiation with the school, caterers and pupils, and measurements were made on over 130 pupils in each survey. Systematic objective observations of the pupils' learning-related behaviours were carried out in the classroom in the 60–90 minutes immediately after lunch by observers trained in a standardised technique, at baseline and again after the interventions. Pupils' learning behaviours were classified as 'on-task' or 'off-task' [proxy measures for concentration and disengagement (disruption), respectively] and the 'social mode' was noted, whether the pupil was working alone, with others or with a teacher.

In the primary school study (four intervention and two control schools) (Golley *et al.* 2010), teacher–pupil on-task engagement was 3.4 times more likely in the intervention schools compared with the control schools (controlling for potential confounders<sup>2</sup>). Teacher–pupil interaction represents about 80% of the time spent in primary school classrooms. In secondary schools (seven intervention and four control schools), intervention group pupils were 18% more likely to be on-task and 14% less likely to be off-task compared with control group pupils, again controlling for potential confound-

<sup>2</sup>Adjusted for class size, presence of additional adults in the classroom (yes/no), English as an additional language, free school meal eligibility, sex, special educational need status, ethnicity (White British or 'other') and lunch type (school lunch or packed lunch).

ers (Storey *et al.* 2011). The main contribution to the on-task behaviours came from pupils working well on their own (representing about 50% of the time spent in the classroom). Both studies offer some support for the hypothesis that a school food and dining room intervention can have a positive impact on pupils' alertness.

### Cost and impact

The SFT received a grant-in-aid from the DfE worth £38 million over the 6 years of its operation to date, £15.4 million in 2006–2008<sup>3</sup> and £22.6 million in 2008–2011. Over this period, it is estimated that nationally, at least 270 000 pupils now take a school lunch (paid for and free combined) who previously did not.

It could be argued, therefore, that the SFT spend per new school lunch pupil = £38 million/270 000 = £141/pupil. If it is assumed that healthier eating habits at school are likely to have wider impacts on pupils' eating habits outside of school and into adulthood, and that better school food is associated with better learning and achievement, then this represents a reasonable investment in the future of each child and is likely to be more than offset in adulthood by health benefits and employment opportunities (Conlon 2009).

An alternative mode of costing would be to argue that on average, children eating a school lunch are likely to be eating more healthily than in the past. The SFT spend for pupils to eat more healthily at lunchtime then applies to just over 3 million school lunches served every school day in England. The SFT spend per child per year to have a healthier school lunch then equals £38 million/(3 million × 6 years) = £2.11. School catering services typically provide lunch on 190 days per year, so the SFT spend per school lunch was £2.11/190 = 1.1p/lunch. This is a tiny amount to have paid to see a dramatic improvement in the quality of school lunch provision across England. For both this and the previous calculation, as the take up of school lunch and the number of new pupils taking a school meal increase, these estimated costs per pupil or per meal will come down.

Over this same period, the DfE provided a ring-fenced school lunch grant. From 2005 to 2008, this was £240 million specifically to subsidise ingredients, which equates to £240 million/(3 million × 3 years × 190 days) = 14p/meal. Over the 2008–2011 period, the DfE provided a further £240 million. This money was again ring-fenced and covered both food and other items (such as small pieces of kitchen equipment, software for menu

and nutrient analysis, professional support from a nutritionist or dietitian to implement the standards), which equated to about 11p/meal. The subsidy will continue as part of the general grant provided to schools by the central government, but will no longer be ring-fenced. This support from the central government was a key element in helping caterers make the transition to healthier eating (see Fig. 1, upper right-hand corner).

### Conclusions

We believe that the introduction of compulsory school food standards in England has been effective in improving children's eating habits only because it was underpinned nationally and locally by four elements: ensuring that catering services were economically viable; making sure that parents, pupils, teachers and governors understood that healthier eating was desirable; engaging with pupils to ensure that they had a positive experience in the dining room; and working to develop a positive infrastructure (relating to food procurement, caterer training, etc.) to support the delivery of healthier food. This included support for audits and inspection of the service to determine compliance with the standards.

### Looking forward

From 2011, the SFT will no longer be a non-departmental public body, but will operate as a social enterprise, being a charity and a company limited by guarantee. The aim is to provide advice, support, products and services to schools, LA and the central government, and to continue to help frame the school food agenda and conduct research on issues relating to children's nutrition and health.

In 2011–2012, the Trust carried out the sixth annual survey (covering the 2010–2011 financial year), and completed the Secondary School Food Survey. It will also complete three studies in the field: on food purchases and consumption on the journey to and from school, assessing how changes in diet may impact on children's and parents' ability to detect sweetness in foods, and an intervention study on how changes in the dining room impact on secondary pupil's perceptions and link to changes in behaviour in the classroom. More broadly, the Trust will continue its engagement with stakeholders, providing information and advice to a wide range of catering service providers and users (including the government), empowering parents, and finding ways to support an increase in school lunch take up. The Trust will continue its commitment to work on

<sup>3</sup>See footnote 1.

free school meals; to improve efficiency in kitchens, dining rooms, and in procurement; to support workforce development and training; and to strengthen the links between nutrition education in schools with practice, using *Let's Get Cooking* as one of the central vehicles.

A new focus of the SFT is on early years. The trust has recently provided secretariat support to the DfE-appointed Advisory Panel on Food and Nutrition in Early Years (Advisory Panel on Food and Nutrition in Early Years 2011), and many of the recommendations of the advisory panel have been adopted by the DfE (Tickell 2011). Better provision of healthy food in early years provides a powerful model for engagement with mothers and families around good nutrition. These recommendations of the advisory panel will help to address not only issues relating to healthy food but wider issues of obesity and dietary balance – a quarter of pupils currently arrive at reception class in primary school already either overweight or obese. Again, there will be a need to evaluate the impact of the introduction of guidance and relevant support on practice. To that end, the Trust will be seeking to undertake a survey of provision, practice and consumption at baseline (*i.e.* before the introduction of national guidance) and again 3 years later.

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## Conflict of interest

The author has no conflict of interest to disclose.

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<sup>4</sup>No longer working at the School Food Trust.

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