
SCHOOL MEALS IN SECONDARY SCHOOLS IN ENGLAND

*Michael Nelson, Jane Bradbury, Jenny Poulter,
Alice McGee, Siphosami Msebele and Lindsey Jarvis
King's College London
National Centre for Social Research
Nutrition Works!*

Introduction

Following concern about the quality of children's diets and the contribution of school meals, statutory National Nutritional Standards were reintroduced in April 2001. These standards set out the frequency with which school caterers must provide items from the main food groups (starchy foods, milk and dairy, fruit and vegetables, meat, fish and alternative sources of protein). They apply to all maintained schools in England.

The Department for Education and Skills (DfES) and the Food Standards Agency (FSA) commissioned a survey to assess compliance with the standards and to measure food consumption in secondary school pupils. This report presents the findings from a nationally representative sample survey of 79 secondary schools in England which provided information about catering practice and food provision at lunchtime, and information on the food selections of 5,695 secondary school pupils age 11-18 years.

Key Findings

Catering service, cooking practices and the eating environment

- The school catering service was usually provided by a contractor appointed by the school (38%), Direct Service Organisation (37%) or was provided "in-house" (19%). The most usual type of contract was profit & loss or breakeven (49%) followed by fixed cost/fixed price. The majority of schools (76%) operated a cash cafeteria system; 18% operated a cashless smart card system, and 5% a cash/smart card system.
- Whilst many schools followed healthy cooking practices (e.g. frying in vegetable oil, using semi-skimmed milk), other healthy practices were followed by only a minority (e.g. 15% restricted access to table salt, 17% used low fat spreads in sandwiches). Rather than use oven chips (which are lower in fat), 99% of schools fried their chips.
- A quarter of head cooks/catering managers or their staff had received training in healthy eating or cooking in the past 12 months.

Analysis of contract specifications

- Forty-eight schools (61%) provided documentation setting out specifications relating to healthy eating or nutrition. None of the 15 schools that provided their own catering service ("in-house") had any documentation.
- While the language within this documentation was worthy and indicated a strong commitment to the notion of healthy eating, it was largely intentional, non-specific, and failed to specify tight contractual structures to ensure that providers delivered meals with a healthier nutritional profile and to encourage children to make healthier choices.
- Approximately two thirds of the documents examined mentioned or made explicit mandatory requirements for providers to meet the National Nutritional Standards.
- There was very little reference to controlling the salt content of school meals, access to salt by pupils, or the prevention of obesity.

Compliance with the nutritional standards

- 83% of schools met all the nutritional standards for school meals every lunchtime at the beginning of service. This had fallen to 47% by the end of service.
- 82% met the additional recommendation for drinking water at the beginning of service, and 77% by the end. For drinking milk, 54% met the recommendation at the beginning of service, 42% by the end.
- At the beginning of service, those caterers who did not meet all of the standards were most likely not to provide two items from the milk and dairy foods group (4% of all schools). By the end of service, caterers were most likely not to provide two starchy items one of which was not cooked in oil or fat (25%). The tool for measuring compliance did not identify whether the missing starchy item was cooked in oil or not.

Food provision

- The food groups most commonly served on at least four days per week were cakes and muffins (95% of schools), sandwiches (92%), soft drinks (92%), and fruit (91%). Vegetables (excluding baked beans) were served on at least four days in 70% of schools, and baked beans 81%. Chips and other potatoes cooked in oil were served in 76% of schools on 4 or more days, high fat main dishes such as burgers and chicken nuggets in 86%. In 28% of schools, no fruit juice was served.
- There was no association between the school caterers' success in meeting the nutritional standards and the profile of foods offered. The profile of foods offered did not conform to the Balance of Good Health.
- None of the "set meals", which were provided by 89% of schools, met all 12 of the Caroline Walker Trust guidelines. Only 7% of schools provided set meals over the course of one week that met eight or more of the Caroline Walker Trust guidelines. The guidelines for which meals were most likely to fail were iron, calcium and percent energy from carbohydrate (starchy foods). They were most likely to meet the guidelines for protein, vitamin C and non-milk extrinsic sugars (primarily added sugar).

Pupil food choices and nutrient intakes

- 48% of pupils chose high fat main dishes (e.g. burgers), 48% chose chips and other potato products cooked in oil, 45% chose soft drinks and 24% chose cakes or muffins. The least popular choices were fruit (2%), fruit juice (3%), and vegetables and salads (6%).
- 41% of total energy was derived from fat, within which 14% of total energy was from saturated fatty acids. The Caroline Walker Trust Guideline is 35% or less for fat, and 11% or less for saturated fatty acids. 14% of total energy was derived from non-milk extrinsic sugars. The Caroline Walker Trust

guidelines is to achieve 11% or less. Pupils whose meals met six or more CWT guidelines chose more baked beans, vegetables and salads, starches (both chips and low fat starches), desserts, fruit, fruit juice and milk, and fewer high fat main dishes, cakes and muffins, sandwiches, sweets and chocolates and crisps and savoury snacks and soft drinks.

- In the six schools that offered chips and potato cooked in oil one or two days per week, between one third and one half of pupils met the CWT guideline for fat. In contrast, in the remaining 72 schools where chips or potato cooked in oil were offered three days per week or more, only one quarter of the pupils met the CWT guideline for fat.
- 54% of pupils spent less than £1.50 on their lunch; 13% had a free school meal. Those pupils spending less than £1.50 compared with more than £1.50 were more likely to buy chips. Pupils who spent more on their lunch had higher energy and nutrient intakes than pupils receiving a free school meal, who in turn had higher intakes than those spending less than £1.50.

Methods

A representative sample of 79 maintained secondary schools were recruited into the study. Data was collected at the school and pupil level. Pairs of interviewers from the National Centre for Social Research visited each school over five consecutive lunchtimes. They recorded all the food and beverage items on offer each day, and assessed compliance with the National Nutritional Standards at the beginning and 10 minutes before the end of service. Individual pupil choices were also recorded. At 5 minute intervals, one of the interviewers approached a pupil after he or she had paid for lunch. After ascertaining their willingness to participate, the interviewer recorded what was on the pupil's tray, attached an identifying label to the tray, administered a brief questionnaire, and asked the pupil to return his or her tray with all leftovers to a 'weighing table' set up in the school

dining room. Fifteen pupils were asked to participate each lunchtime. Food choices of 5,695 pupils were recorded.

At the beginning of service, one of the interviewers collected from the catering staff two portions of a range of foods, including the components of set meals if served. These items were weighed by the interviewers to establish typical portion sizes. Individual pupil leftovers were also weighed.

Telephone interviews were conducted with the school head cook or catering manager and the person responsible for the school meal provision (Head/Bursar/LEA) by researchers at King's College London.

Individual pupil food choices were coded using the Food Standard Agency's Nutrient Databank. Statistical analysis was conducted using SPSS. Compliance with the nutritional standards was assessed in relation to food provision. The nutrient profiles of the set meals were compared with the Caroline Walker Trust (CWT) guidelines, as were the nutrient profiles of the pupils' food choices. Food provision and pupil food choice was also assessed in terms of food groups.

Copies of school meal contracts or service level agreements were requested and obtained for 48 of the 79 schools. A quantitative and qualitative analysis was conducted of the content specific to nutrition and healthy eating.

Discussion and conclusions

Catering service, cooking practices and the eating environment.

The types of catering providers and contracts observed in the present study are characteristic of those found throughout England. Over one-fifth of schools operated a smart card system. In over three-quarters of the schools, pupils who receive free school meals can be identified by other pupils. Over one-third of schools allow access at lunchtime to vending machines and tuck shops in the dining room that sell sweets, chocolate and soft drinks.

Many schools followed some healthier cooking practices (e.g. cooking in vegetable oil, grilling or oven cooking rather than frying, using semi-skimmed or skimmed milk rather than whole milk). There were other examples of good practice - using low fat spreads for sandwiches, restricting access to salt, limiting its use in cooking, or using a low sodium alternative - but they were rare. Only one quarter of staff had had training relating to healthy catering in the 12 months prior to the survey.

Some schools operated a pricing policy to make healthy options cheaper, but this was in some cases undermined by "meal deals" or "burger promotions" that included unhealthy food combinations (e.g. 10p off burger and chips). In only one third of schools was there evidence of promotion of healthy eating (e.g. posters, labelling of food or menus).

On balance, the findings of the present survey show that the majority of children are not making healthy food choices. Moreover, practices in the dining room intended to promote healthy eating had little positive influence on pupil choices.

Analysis of specifications

The specifications currently operating in schools were ineffective tools for assuring that healthier choices were available and promoted to children at lunchtime. Within the documents, the language relating to healthy eating was generally non-specific, nor was it measurable or time-bound. Detailed examination of the content of the documentation suggested that many schools were paying 'lip service' to healthy eating and nutrition by failing to set tight standards and defining tools and processes for monitoring these standards.

These documents demonstrated an awareness, interest and commitment to nutrition and encouragement of healthy eating by those responsible for catering services in schools. However, the integration and translation of nutrition-related standards into meaningful specifications were generally poor. As a consequence, few documents effectively

stipulated healthy eating or nutrition related standards above those set out by the DfES. Moreover, there was no consistent association between nutritional references in the contracts and food provision.

Inventory analysis and pupils' food choices

While schools offered a wide variety of foods, the overall balance of foods on offer was not healthy. It failed to conform to the Balance of Good Health. There were no constraints on what pupils could choose for school lunch that promoted healthier choices. Pupils in many schools were free to select the same types of food every day (e.g. burger and chips) and there was no control over the balance of meals or the variety of foods chosen over a week. Although most schools were providing healthy options on most days, the evidence from the present study shows that if the pupils' choices are unconstrained the majority fail to make healthy choices.

None of the set meals met all of the CWT guidelines and only 7% of schools provided set meals that met 8 or more of the CWT guidelines over the week. This may tie into the lack of nutritional knowledge on the part of caterers and those who write the contracts. If it were argued that pupils should choose a set meal, current provision would not promote healthy eating. Even if set meals did meet the CWT guidelines, as long as pupils were free not to choose them it would do little to promote healthier eating.

The majority of set meals on offer did not meet the CWT guidelines even though the balance of food provided satisfied the National Nutritional Standards. Given the similarities between the present findings and those reported in 2000 in the NDNS3 of young people, there appears to have been no improvement in the profile of nutrient intake from school meals following the introduction of the National Nutritional Standards in 2001.

Where pupils' food choices met the six CWT guidelines most likely to be associated with eating a healthy lunch, their food choices were characterised by fewer chips, crisps,

confectionery and high fat main dishes and more low fat starches, baked beans, vegetables and salads.

It is clear that the current National Nutritional Standards, coupled with the present model of food service and the provision of set meals that do not have to meet clearly defined nutritional requirements, failed to encourage children to select combinations of foods that contributed to a healthy diet. Whilst caterers were providing some meals with healthier profiles, pupils were favouring less healthy foods, of which there was enormous variety within school dining rooms.

Recommendations

The evidence from the present study suggests a number of ways in which the dietary choices of secondary pupils at lunchtime can be improved. The failure of the National Nutritional Standards and contract specifications to have a substantial positive influence on food choice justifies a call for alternative strategies.

The most likely way to ensure healthy eating in schools is to constrain choice to healthy options, manipulate recipes, use modern presentation techniques with which pupils can identify (e.g. the "fast food" approach, vending machines with healthier options), and provide encouragement through reward.

Recommendation	Evidence
2. Lunch as chosen must be a combination of foods that meet the Balance of Good Health.	Government advises that food choices should conform to the Balance of Good Health. Pupils who chose meals that were closest to the Balance of Good Health were most likely to meet the Caroline Walker Trust guidelines.
3. The range of choice must be restricted to a range of healthier options, based on menus balanced over one week.	In the majority of cases, unrestricted choice of foods at lunchtime was associated with unhealthy food choices. Restricted choice over one week (e.g. number of days on which chips were served) was associated with healthier eating.
4. Documentation and monitoring	The specifications within the contracts and service level agreements relating to the provision of nutritionally sound school lunches were inadequate. They did not provide a basis for the effective monitoring of school lunch provision. "In-house" catering provision was largely undocumented.
a) All schools must have written documentation with specifications relating to the nutritional quality of school lunches, and they must be specific, quantitative, measurable and time-bound.	
b) The standards must be monitored.	
c) Resources to support the framing of nutritionally-relevant specifications must be provided for those developing written documentation.	

Recommendation	Evidence
1. National Nutritional Standards for school food must be compulsory and based on a combination of food-based and nutrient-based guidelines.	The current food-based standards did not yield a profile of foods on offer that reflected the Balance of Good Health. Although food provision and the content of set meals met the National Nutritional Standards, the nutrient profile of set meals failed to meet the Caroline Walker Trust guidelines.

Recommendation	Evidence
5. Training and resources a) All head cooks and catering managers must have certified training in healthy catering and how to meet the revised standards. b) Resources (training sessions, websites, software, recipes, portion size and food composition data) must be provided by the DfES to support training and to facilitate monitoring.	The majority of head cooks and catering managers could not name three or more of the current standards. Only one quarter of staff responsible for provision of school catering had training (unspecified) in "healthy eating or cooking". Current Government resources focus on the DfES Guidance for School Caterers. There is no certified training scheme for school caterers.
6. The DfES should establish a Committee with the authority to develop a new set of compulsory nutritional standards for school meals in England. It is recommended that the new standards be formulated so as to apply to all food provision within schools (the "whole school" approach).	The current standards failed to promote healthy food choices at lunchtime amongst secondary school pupils in England.

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Further information about this research can be obtained from Michele Weatherburn, DfES, Level 6S, Sanctuary Buildings, Great Smith Street, London SW1P 3BT.

Email: michele.weatherburn@dfes.gsi.gov.uk

The views expressed in this report are the authors' and do not necessarily reflect those of the Department for Education and Skills or the Food Standards Agency

Additional Information

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