



National Foundation for Educational Research

**REVIEW OF THE SCHOOL
MEALS SERVICE AND OTHER
SCHOOL NUTRITIONAL ISSUES
IN WALES**

Final Report

**J NICHOLAS
R POWELL
R SMITH**

March 2006

CONTENTS

	page
1. Background	1
2. Project aims and methodology	3
2.1 Project aims	3
2.2 Project methodology	3
2.3 Questionnaire survey samples	5
3. Review of policy and research	8
3.1 Introduction	8
3.2 Nutritional standards and food content	8
3.3 Procurement and cost	10
3.5 Food preparation facilities and staff training	12
3.6 Take-up of school meals	12
3.7 Pupil choice	14
3.8 Health promotion and curriculum interventions	17
3.9 Food and drink throughout the day	20
4. Organisation and Management	22
4.1 Location of service	22
4.2 Management arrangements	22
4.3 Procurement	23
4.4 Quality control	25
4.5 Cost analysis	26
4.6 Use of resources	27
5. Delivery and consumption	29
5.1 Pupil take-up	29
5.2 Preparation and staffing	33
5.3 Content	35
5.4 Ambience and service	38
5.5 Pupil choice and eating habits	40
5.6 Encouraging pupils to eat on site	42
5.7 Access to food and drink	43
5.8 Link with behaviour	45
5.9 Promoting nutritious food	46
6. Future developments	50
7. Conclusions	52
REFERENCES	54

1. Background

The school meal service originated in the work of charities in the mid-19th century, but it was not until 1941 that the first nutritional standards for school meals were introduced. The Education Act of 1944 made it a requirement for all local authorities (LAs) to provide school meals for pupils who wanted them. Charges for school meals were introduced in 1950 and in 1967 the financial responsibility for the school meal service passed to LAs.

After 1997 the devolved governments in the UK pursued their own priorities in the area of school nutrition and children's diet. The Scottish Executive published its report *Hungry for Success: A Whole School Approach to School Meals in Scotland* in 2004, and specialist Nutrition Associate Assessors (NAAs) began working with the inspectorate there to inspect schools' implementation of the recommendations of that report.

In Wales, as described in the Welsh Local Government Association (WLGA) paper *School Nutrition – Setting the Scene* (2005), local authorities, under the 1996 Education Act, still had a statutory responsibility to provide meals for pupils in schools. Local authorities could charge for meals and decide their content, cost and presentation. This legislation therefore gave local authorities the central role in the provision of nutritious school meals and education concerning nutrition.

The Welsh Assembly Government issued minimum nutritional standards for lunchtime meals in schools in 2003. The standards also suggested good practice and outlined a whole-school approach to nutrition. However, by 2006 these standards were considered by many as being out of date. The Welsh Assembly Government therefore established a working group to meet regularly and look at vending machines and tuck shops as well as nutritional standards before going to consultation on revised standards in April 2006.

In 2005 the WLGA set up a Schools Food Task and Finish Group to run parallel to the Assembly Group and liaise with them. However, the brief of the WLGA group was broader and included a range of issues such as:

- the nutritional content of school meals
- pupils' choices in relation to food inside and outside school
- the procurement of school food by local authorities
- the preparation of food for school meals
- school vending machines, tuck shops and other food outlets near schools

- the information given to pupils and young people on food and well-being.

The aim of the Task and Finish Group was to produce an evidence-based report to give local authorities a practical tool for developing their services and practices.

In 2005 the WLGA commissioned the National Foundation for Educational Research to undertake a research project which would gather and analyse the evidence required for the work of the Task and Finish Group, in addition to illustrating examples of good practice. This report presents the findings of that research.

2. Project aims and methodology

2.1 Project aims

The overarching project aim was to gather evidence on LA and school approaches to nutrition in schools in order to inform the work of the WLGA Schools Food Task and Finish Group.

The specific objectives of the project required the gathering of data on the following:

- the influence of the minimum nutritional standards issued by the Welsh Assembly Government in 2003
- the nutritional content of school meals and links between food provided in schools and obesity in young people
- the school meal choices offered to pupils
- pupils' awareness and knowledge of nutritional issues
- factors influencing pupil choice of food in schools
- the preparation of food in schools
- the procurement of food by LAs and schools
- issues surrounding food and drink vending machines in schools and tuck shops
- the information on nutrition provided for pupils and young people by schools and LAs.

2.2 Project methodology

The research team used a mixed methodology which included a review of recent legislation and published research on nutrition in schools, two questionnaire surveys to gather quantitative data and establish the contours of current practice and opinion across Wales, and qualitative information from a range of respondents to illuminate the reasons and causes behind the general picture.

The methodology was pursued in five stages.

Stage 1: Review of documentation

A literature review was undertaken of recent policy documents, research articles and papers, official statistics and recent statements by public figures, including reaction to Jamie Oliver's campaign.

Stage 2: Scoping Interviews

Scoping interviews were arranged with key personnel in the school meals service of local authorities in order to place the research issues within the broader context of educational, health and inclusion policies in Wales and inform the design of questionnaires and interview schedules for the later data gathering exercises.

Stage 3: Gathering of quantitative data: questionnaire surveys

Two questionnaires were designed and distributed. An **LA questionnaire survey** collected basic information on LAs' policies and practice on issues such as:

- procurement of food for their schools
- the preparation of food for schools
- nutritional content of school meals
- the take-up of school meals
- cost of school meal provision and supervision
- food and drink vending machines
- choice for pupils
- information provided to promote healthy eating amongst pupils
- how LAs monitor the quality of school meals
- future plans.

This questionnaire was produced in a bilingual format and distributed to all 22 LAs in Wales to be completed by the principal staff with responsibility for the school meals service.

A **school questionnaire survey**, also in bilingual format, was designed to gather information on issues such as:

- the preparation of school food for their pupils
- nutritional content of school meals
- the take-up of school meals
- supervision of school meals
- other pupil access to food and drink during the school day

- choice for pupils
- information provided to promote healthy eating amongst pupils
- monitoring the quality of school meals
- future plans.

This questionnaire was distributed to national, representative samples of 156 primary and 57 secondary schools across all 22 LAs.

The LA and school samples were allowed two weeks to complete and return the questionnaires. After that time reminders were sent to those who were still to respond.

Stage 4: Qualitative research

Qualitative, face-to-face interviews were conducted in a sample of LAs and schools. **Eight LAs** were visited to carry out interviews with staff having responsibility for school meals, inclusion and finance. The actual personnel to be interviewed were nominated by the LA, and their exact roles varied across the sample.

A sample of **nine schools**, including three secondary, five primary and one special school, were included in the research. During each school visit interviews were held with:

- the headteacher and/or other member/s of staff with responsibility for school meals/health promotion
- groups of pupils, including some who do not eat school meals.

Stage 5: Analysis and reporting

This Draft Report presents the findings of the research and outlines draft conclusions from the evidence collected.

2.3 Questionnaire survey samples

The following three tables indicate the number of schools who took part in the questionnaire survey, and the size of those schools.

Table 2.1: Number of Schools in Questionnaire Survey

	Distributed	Returned	Percentage response
Primary schools	156	53	33.9
Secondary schools	57	26	45.6

A higher response rate was obtained from the secondary school sample. Although the total response rate was less than half, the geographical distribution of the schools was broad enough to reflect a representative range of background and views.

Table 2.2: Size of sample primary schools

Number of full time pupils	%
0-40	9.4%
41-60	3.8%
61-80	-
81-100	1.9%
101-150	22.7%
151-200	24.6%
201-250	24.6%
251-300	3.8%
301-400	5.7%
401-500	5.7%

N=53

Source: NFER 2006

The sample included schools of a broad range of sizes, although only one had between 61-100 pupils.

Table 2.3: Size of sample secondary schools

Number of full time pupils	%
501-600	5.7%
601-800	13.2%
801-1000	1.9%
1001-1200	13.2%
1201-1400	3.8%
1401-1600	7.5%
No response	3.8%

N=26

Source: NFER 2006

This sample was representative of a good range of school size with the largest categories having between 601-800 and 1001-1200 pupils.

Table 2.4: LA Questionnaire Survey

Questionnaires distributed	Questionnaires returned
22	10

NFER 2006

The response rate for the LA survey was disappointing with only 10 of the 22 Welsh local authorities completing and returning the questionnaire, despite all

being sent reminders. Nevertheless, this response still reflected a useful variety of practice and views.

3. Review of policy and research

This chapter presents the findings of a review of recent key documentation, including academic studies and official publications, concerning school meals and other nutritional issues in schools.

3.1 Introduction

In his foreword to the guidance document *Health Challenge Wales*, the First Minister of the Welsh Assembly Government (WAG), Rhodri Morgan, acknowledged the importance of children's nutrition. '*Scientific evidence supports the common sense proposition that sensible eating habits when young help us to keep healthy, not just in childhood but later in life too.*' (Welsh Assembly Government, 2005). Research carried out in England similarly emphasises the importance of a healthy lifestyle for children. '*Poor dietary choices and lifestyle preferences acquired in childhood are likely to be carried on into adult life.*' (The Parliamentary Office of Science and Technology, 2003, p1). International research into obesity levels in 15 year olds shows that Wales ranks 5th, above England (8) and Scotland (12). Levels of obesity are higher in boys at 22 per cent with 17 per cent of girls of the same age being overweight or obese (Parry-Langdon N and Roberts C (2004). Research also suggests that overweight adolescents have a 70 per cent chance of becoming overweight or obese adults; this increases to 80 per cent if one or more parent is overweight or obese (National Audit Office, 2001). It is within this context that the WAG Task and Finish Group is currently undertaking a fundamental review of the school meals service and other nutritional issues in Wales.

3.2 Nutritional standards and food content

The first nutritional standards for school meals were set in 1941. The standards stipulated the levels of protein, fat and calories which should be provided in a school dinner. The 1980 Education Act abolished minimum nutritional standards for school meals, but these were re-introduced to schools in England and Wales in 2001. The Caroline Walker Trust (CWT) produced its first nutritional guidelines for school meals in 1992 (The Caroline Walker Trust, 1992). The CWT standards were used as the basis for the statutory standards for school meals in Scotland, which were introduced in primary schools in 2004 and secondary schools in 2005 through the Hungry for Success (Scottish Executive, 2002) programme. The standards were also appended to government guidance, though not made statutory, in England and Wales. Early in 2006, the minimum nutritional standards for school meals in Wales

(Wales, Statutory Instruments, 2001) were under review. These regulations, which apply only to the provision of school lunches in maintained schools, refer to 4 food groups:

- fruit and vegetables
- starchy foods
- meat, fish and other non-dairy sources of protein
- milk and dairy foods.

They stipulate how often foods from the above groups should be made available for different age groups and how they should be cooked. For example, for primary school age pupils starchy foods should not be cooked in fat or oil on more than two days a week. No such stipulation applies for secondary school pupils. However, on any days where fried starchy foods are available in secondary schools, an alternative food from the same group, not cooked in fat or oil, must be provided. Recommendation is also made concerning the provision of drinking water at meal times.

A report into school meals in Wales undertaken for the Food Standards Agency (FSA) a year after the introduction of the minimum nutritional standards (Beaufort Research, 2002) found that chips were still widely available in secondary schools – on 96 per cent of days observed in 2002, compared with 97 per cent in the pre-legislation research. However, alternatives were being offered. Whilst the amount of fruit available in schools remained relatively unchanged pre- and post-legislation, there were noticeable changes regarding the availability of a stand-alone portion of vegetables. In secondary schools the percentage of a separate vegetable portion (item) **not** available dropped from 20 per cent in 2001 to five per cent in 2002. However, it was found that primary schools were not all meeting the requirement to have vegetable portions available every day. Findings also showed a wider selection of vegetables on offer. In 2001 eight per cent of primary schools observations, and 31 per cent of secondary schools, offered three or more types of vegetables. This had increased to 18 per cent of primary schools and 65 per cent of secondary school observations in 2002. The report noted little change to the availability of milk and fish post-legislation.

A government report acknowledged concerns raised by groups such as the National Heart Forum and the Health Education Trust about the monitoring and implementation of the nutritional standards. These groups felt that a national monitoring scheme should be set up. One possible way suggested in the report would be to build it in to each school's Ofsted inspection. (The Parliamentary Office of Science and Technology, 2003).

A pilot project conducted in two secondary schools in Cambridgeshire, to inform the work of a panel established by the DfES to consider the revision of

nutritional standards, found that pupils at the two schools consumed a large number of calories at breaktime, but that this provision was not covered by current regulations. It recommended that *'future nutritional guidelines for school meals should encompass food and drink consumed during the whole school day, and should particularly take food provision over break-time into consideration.'* (Cambridgeshire Secondary School Meals Pilot Project Steering Group (2005), p52).

In the same year the School's Meals Review Panel (SMRP) proposed 14 nutrient-based and nine food-based standards for the provision of school lunches. While some of the food-based standards were intended to support the achievement of the nutrient standards and some to improve the quality of food provision, others were associated with direct health benefits. The Panel concluded that the *'new standards are a robust way of ensuring adequate nutrient intake. When applied, they will have very considerable physical, educational and social benefits.'* (SMRP, 2005, p59).

The SMRP also noted that present nutritional standards did not take account of food consumed at other times of the day. It recommended *'that the Government, as a priority, supplements these lunch standards with standards for other food and drink service provision: break-time snacks, breakfast and after school clubs.'* (SMRP, 2005, p11).

In a survey of 79 secondary schools in England, Nelson *et al* (2004) found that although most schools met the National Nutritional standards at the beginning of food service, less than half did so at the end of service.

3.3 Procurement and cost

The introduction of Compulsory Competitive Tendering (CCT) in the 1988 Local Government Act obliged local authorities to put school meals services out to tender. Catering providers were then chosen on the basis of lowest cost. This change led to many school kitchens being taken over by private companies. As a result, school lunches were increasingly provided through a free choice cafeteria system, aimed at maximising profit and eliminating waste (Gillard, 2003).

'Fair Funding' provisions, introduced in 1998, delegated funding for school meals to secondary schools and primary and special schools in England were given the right to opt for delegation (SMRP, 2005).

Public procurement is currently governed by EU regulations and these have been seen by some as a barrier to purchasing locally sourced, fresh ingredients. However, Morgan (2003) argues that evidence from Italy and other EU countries shows that the public catering service can be used to

promote nutritious local food in schools, hospitals and care homes. The *'Double Dividend?'* report also notes that EU law forbids the specification of local produce in contracts. *'However, requirements such as delivery frequencies, freshness, seasonality and methods of production are permitted, all of which can encourage local suppliers and producers to tender for contracts.'* (Soil Association, 2005, p10)

Morgan (2004) believes that regulatory ambiguities have fostered a *'risk averse culture'* and argues that a regulatory framework which *'offers clearer signals, that supports rather than stymies innovation, is an essential component of any action plan to promote healthy eating and sustainable food chains.'* (Morgan, 2004, p8) He cites the case of Carmarthenshire County Council (CCC) who, according to a 'Best Value' inspection, were a *'high quality, high cost service'* and were criticised for *'low productivity'* in primary schools, where freshly cooked meals were more labour intensive. Morgan argues that an emphasis on best value is incompatible with a move to the use of more fresh ingredients and prime cooking. A Soil Association briefing paper on sustainable procurement in Wales is similarly critical of the Best Value model (Soil Association, 2003). The paper notes the adverse effect on rural areas with a higher number of small schools, where delivery, kitchen and administrative costs are proportionately higher. The Hungry for Success report recommends that Best Value reviews should take account of the role of school meals in education and health strategies. *'It should not be considered simply as a commercial trading activity.'* (Scottish Executive, 2002, p24)

The high profile 'Feed me better' campaign by celebrity chef Jamie Oliver highlighted the issue of low-level per-head spending on school meals by local authorities. Morgan (2003) claims that 35p is the average amount allocated for a two-course meal in primary schools in Britain. A survey undertaken by the BBC (2005) revealed an average spend by local authorities in Wales of 48p on a primary meal. Powys and Denbighshire spent the most, at 69p and 68p respectively. Cardiff and Rhondda Cynon Taf had the lowest spend at 40p. An average spend of 70p for primary and 80p for secondary meals is recommended to deliver a *'double dividend'* of nutrition and sustainability (Soil Association, 2005) and these figures are mirrored by Crawley (2005). Gillard maintained that an increase to 60-70p *'would make a significant difference to the quality and quantity of food offered.'* (Gillard, 2003, p117)

Nelson *et al* (2004) argue that the financial organisation of the school meals service may have a direct relevance to the nutritional quality of the service. They observed that where the service is expected to make a profit, kitchens tended to rely on popular, often unhealthy, foods which sell well. If the service receives a subsidy caterers might feel able to experiment with the introduction of more 'unpopular' foods.

Citing a case study from South Gloucestershire, Hurley and Riley (2004) note the value of entrepreneurial skills in procurement policy, for example buying organic vegetables previously rejected by supermarkets on grounds of irregular shape or subsidising the meals service from other contracts. Commenting on the Procurement Pathfinder Project, set up in Wales in 2002, Carwyn James, AM, said: *'Procurement has not generally been seen as a key driver of change but in truth that's exactly what it should be.'* (Soil Association, 2003).

The SMRP report (2005) estimated that the additional cost of introducing their recommendations in England would be in the order of £167m in the first year and £159m in subsequent years. Spending on the Hungry for Success initiative in Scotland was backed by 63.5m over the first three years, with a further £70m announced for continuing work.

3.5 Food preparation facilities and staff training

The 1980 Education Act removed the obligation on LAs to *'provide a school meal suitable in all respects as a main meal of the day'*. This move was aimed at cutting public expenditure on school meals. It led in some cases to local authorities closing school kitchen and providing only sandwiches for pupils entitled to free school meals (SMRP, 2005). The Soil Association (2005) argues that a move away from processed foods will be difficult for several reasons. They cite inadequate kitchen infrastructure, staff lacking 'prime cooking skills' and reduced working hours.

The SMRP (2005) emphasises the need to provide catering staff with the training to equip them with the skills needed to improve the quality of school meals. They recommend minimum standards for the training of all catering staff, including general assistants, kitchen heads and deputies and catering managers. According to the SMRP report the onus should be placed on catering providers to employ a personal training plan.

A high-quality training programme for catering staff to enhance nutrition, craft and customer care skills was one of the cornerstones of an initiative in South Gloucestershire (Hurley and Riley, 2004). They argue that such training is necessary for confidence building as well as enhanced motivation and self esteem amongst school cooks.

3.6 Take-up of school meals

The factors surrounding take-up of school meals are many and varied.

Ambience and speed of service

The Carmarthenshire School Meals Nutrition strategy includes *'improving the school dining experience e.g. the physical environment, the operational system together with the food service'* (Carmarthenshire CC, 2004, p5) as one of the five areas in the council's charter. Walters and Hackett (2005) also acknowledge the importance of ambience. *'Better dining halls and furniture, more space and time, and better presentation of food are all likely to help encourage more children to take school meals, and all future new school designs including those emerging from the 'Building Schools for the Future' programme must acknowledge the importance of this fact.'* (Walters and Hackett, 2005, p39). Hungry for Success (Scottish Executive, 2002) recommends use of the dining room as a social area, complete with background music and attractive décor. It advocates allowing pupils to sit with friends, even if those friends eat packed lunches. While the report recognises practical barriers to such innovations in schools where there is no dedicated dining hall, it suggests that these should not necessarily be allowed to inhibit change. Research commissioned to evaluate Hungry for Success concluded that where changes to dining rooms had been undertaken *'pupils expressed their appreciation of brightly coloured, clean and well-maintained dining areas.'* (HMIe, 2005, p8).

Queuing for school meals was found to be generally unpopular with pupils. They conclude that the social experience of a school meal and quick and effective service are a significant factor in attracting pupils to the dining room. Queuing was identified to be a barrier to take-up in a report commissioned for the FSA and in the recommendations for action it advises LAs to *'investigate potential uptake and effectiveness of a 'healthy take away meal' in schools and other innovative approaches to reduce queuing for school meals'*. (Food Standards Agency, 2003, p24) Findings from a pilot project of secondary schools in Pembrokeshire (Health Challenge Wales, 2005) showed that the provision of healthy vending machines within the dining hall alleviated queues and promoted healthier choices. They also offered a 'grab and go' option which proved popular with busy staff and pupils.

A case study from a secondary school in South Wales (Welsh Assembly 2006a) describes a successful lunch bar which was set up in the food technology room. A group of pupils, who normally ate packed lunches, were invited to eat their lunch there. They were then invited to buy soup, rolls and fruit juice from the bar, prepared and served by sixth form pupils. The initiative became very popular and many other pupils asked to join. The reasons for its popularity included pleasant ambience, the opportunity to be with others of a similar age, being able to stay indoors throughout the lunchtime. The scheme eventually outgrew its surroundings and proved a victim of its own success in that demand for the new service could not be met

by the existing arrangements, which relied on sixth formers. However the lessons learned from the scheme were incorporated into the school's revision of dining arrangements in general.

Price, payment systems and free meals

Nelson *et al* (2004) reported that while 54 per cent of secondary pupils spent less than £1.50 on a school meal, 32 per cent spent £1.50 or more and 13 per cent received a free school meal. Hungry for Success placed a great emphasis on the importance of ensuring take-up amongst those pupils eligible for a free school meal and at the same time reducing stigma. The report rejected the idea that stigma was a significant barrier to take-up. *'Much more significant factors included quality and quantity of food, queues, teenage attitudes to the institutional nature of the dining experience, etc.'* (Scottish Executive, 2002, p58). Concern was expressed by the SMRP in England about the availability of a school meal to all. *'Low income families who sit just above FSM eligibility must be a particular consideration. Those children are the most likely to be driven out of the system by a price increase and are, research shows, among the most nutritionally vulnerable.'* (SMRP, 2005, p51). It was also noted that only four out of five children in England entitled to a school meal actually take it.

The introduction of cashless systems for payment were advocated as being less discriminatory as well as alleviating congestion at peak service times (Scottish Executive, 2002). In one Glasgow secondary school the uptake of school meals increased by 25 per cent with the introduction of swipe cards. Cards were also seen as a good method of ensuring that money given to pupils by their parents was in fact spent on school meals (SMRP, 2005).

One example where take-up was dramatically improved is referred to in *Turning the Tables* (SMRP, 2005). Following radical changes made to the schools meals service in South Gloucestershire take-up across the authority increased from 22 per cent in 1996/7 to 52 per cent. Take-up of free school meals which had been at 69 per cent increased to 88 per cent. The three main factors in the success were identified as:

- ensuring that kitchen staff's skills were valued, recognised and developed
- commitment at senior level within the LA
- entrepreneurship in procurement.

3.7 Pupil choice

Research carried out in Wales (Beaufort Research, 2002) indicated that secondary pupils were more likely to choose chips than any other food (51per

cent) and many meals consisted solely of chips, with fewer than half (46 per cent) not choosing a main meal. Only two per cent of secondary pupils chose salad or a stand-alone vegetable portion, with even fewer choosing fruit (one per cent). Primary pupils ate less chips and slightly more fruit and vegetables, but levels of consumption were still low. Processed meat products were more popular than meat cuts in both sectors. Fish consumption was very low amongst secondary pupils (three per cent) while 16 per cent of primary pupils chose a fish dish.

Similarly, Nelson *et al* (2004) reported that just under half of the 5695 pupils surveyed in 79 secondary schools in England selected high fat dishes, soft drinks and potatoes cooked in oil, with a quarter choosing cakes and muffins. Baked beans were selected by eleven per cent and six per cent chose other vegetables and only 1.5 per cent selected fruit. They found no association between food choices and the following: school policy of making healthy items cheaper, length of lunchtime, access to vending machines or whether or not pupils were allowed off school premises at lunchtime. However small differences were seen in schools where staff had received training on healthy eating and where healthy eating was promoted in the dining hall. They concluded that *'whilst caterers were providing some meals with healthier profiles...pupils were favouring less healthy foods, of which there was an enormous variety within school dining rooms.'* (Nelson *et al*, 2004, p8)

Walters and Hackett (2005) also found that the variety of food chosen by pupils at three secondary schools surveyed in Knowsley was limited. Intake was again dominated by pizza, chips, sausage roll, soft drinks and cakes and biscuits. Starchy foods were chosen frequently and fruit was not consumed by any child in the survey. Following changes to the menu, aimed at increasing the healthier choices available, pupils' consumption was measured again. At follow-up the only significant differences were that intervention children were more likely to have eaten baked beans and more likely to have chosen a soft drink with no added sugar than pupils in the control group.

Walters and Hackett (2005) concluded that smaller portions, from a greater variety of food groups, should be offered to pupils. They suggested a 'mix n' match' approach, encouraging children to build their lunch from five or six small portions of food.

Nelson *et al* (2004) found that older pupils were less likely to choose cakes and muffins and both surveys indicated that girls made healthier choices than boys.

The difference in the nature of the catering management at primary and secondary schools means that choice for younger children is more limited. It was noted that *'the almost universal cash-cafeteria culture'* in secondary schools had led to many pupils making unhealthy choices. However, *'where*

there has been strong and committed leadership from school leaders and governing bodies, appropriate consultation with parents, carers and pupils and effective training for school meals staff, secondary schools have been able to transform their cultures to ones which actively support healthy eating and where pupils choose and enjoy healthy foods.' (SMRP, 2005, p41)

Suggestions for gradually influencing pupil choice in secondary school might include limiting the food choice available for Year 7 and continuing that policy as pupils progress through the school. Promotion of 'meal deals' where there is a price reduction for combining a healthy option with a more popular choice e.g. pizza, salad and a glass of milk was also suggested. (Cambridgeshire Secondary School Meals Pilot Project Steering Group (2005). A similar 'pick n' mix' approach was taken in Glasgow (SMRP, 2005). The city council re-branded school dining rooms as 'fuel zones' with planned menu mixes which encouraged children to choose meals containing fruit and vegetables, a starchy plus dairy food and a source of protein. Testing and effective marketing of the scheme was also seen as crucial to achieve success.

Hungry for Success (Scottish Executive, 2002) notes four factors which can encourage pupils to make healthier choices:

- presentation of food
- labelling
- pricing
- effective marketing.

Attractive presentation was held to affect take-up at all ages. Labelling was considered important as an aid to healthier choices, but also essential because of the need to cater for those with food allergies and for religious or cultural differences. Pricing incentives were seen as an effective method of encouraging healthy eating as '*price sensitivity amongst pupils is extremely high*' (Scottish Executive, 2002, p65). The importance of marketing to parents and pupils, for example by providing forward menus for pupils to take home, was also emphasised.

Although choice is more limited at primary school, research has shown that all pupils find it difficult to make informed choices where appropriate. A Food Standards Agency, Wales report acknowledges that '*there are gaps in public knowledge regarding specific recommendations for fruit and vegetables such as number of portions and assessment of portion size, particularly among those on a low income, men, those aged under 24 years and over 65 years*'. (FSA, 2003, p31)

Primary pupils often had very definite views on which foods were 'healthy' and which were 'unhealthy'. However, factors such as taste, texture, smell, appearance and satiety value were found to be more important than health considerations when choosing meals (Noble *et al*, 2001). They found that pupils' knowledge of nutrition was fragmented and obtained from many different, often conflicting sources e.g. parents, dinner ladies, television and food labels. Teaching about food solely in terms of 'good' or 'bad' foods was considered unhelpful. Pupils should be taught about the importance of balance and choosing from a variety of food groups.

3.8 Health promotion and curriculum interventions

The Turning the Tables report (SMRP, 2005) identified three areas of the National Curriculum where aspects of food and nutrition have a place: Science, Personal and Social Education and Design and Technology. However, most research into nutritional issues and children stresses the importance of a whole school approach.

Ofsted (2004) note that effective school food policies:

- have a clear philosophy underpinning food and nutrition education
- focus on improving children's health and well-being
- form part of the school development plan
- promote key food and nutrition messages
- ensure the participation of parents/carers
- make provision for training to enable staff to understand and convey the key messages
- establish mechanisms for monitoring and review.

The report also notes that the teaching of food and nutrition was often planned and delivered as isolated units of work. This approach tended to be less successful in building up young children's knowledge systematically. *'They were also less effective in enabling children to deal with increasingly complex concepts, for example in moving from an understanding of the overarching messages about healthy eating to understanding the role and functions of specific nutrients, which is the point they should reach by the end of Key Stage 2.'* (Ofsted, 2004).

A small study undertaken in a primary school in South Wales (Bullen 2004) aimed to investigate how effective a typical experience of nutritional education was in changing children's ideas about food. Twenty mixed ability Year 4 children were asked to place photos of different foods in groups and explain why they had grouped them in that way. The children then took part in

a series of lessons relating to nutrition and health. A week later the same pupils were asked to carry out the same task and results were compared. No significant difference was found in the ability of the children to carry out the task on the second occasion. Whilst acknowledging the small sample size, Bullen concludes that, despite the curriculum intervention, *'substantial conceptual change did not occur.'* She also observes that increasing pupil involvement in the design of interventions and the development of a 'healthy school' environment may be key factors in increasing children's understanding of nutritional issues.

Turner *et al* (2000) note that changing curriculum and assessment demands mean that primary teachers are overstretched and *'diet and health education are often low priorities, despite a willingness by teachers to engage in debate about these issues and genuine concerns about pupils' welfare.'* They conclude that curriculum interventions alone are not sufficient and that input from professionals in other fields is necessary to support teachers and schools.

Hungry for Success (Scottish Executive, 2002) identifies School Nutrition Action Groups (SNAGs) as an effective way of implementing change. These groups employ a partnership approach involving pupils, parents as well as catering and school managers. Pupil involvement in changes to school meals is seen as vital to success. The need for clear lines of communication is emphasised and ideas for canvassing pupils' opinions and the inclusion of a suggestion box in the dining area is recommended as one approach. A case study of one Welsh secondary school (Welsh Assembly Government, 2006a) describes the development of a SNAG. The development was undertaken in 1995 and involved setting up a multi-agency group which comprised representatives from the school (staff and pupils), health professionals, parents and the LA. The following aims were agreed:

- to involve 'customers' and 'providers' in decision making on nutritional issues.
- to raise awareness of the need for a good environment for pupils to eat their meals.
- to promote healthy choices at lunch and break times.
- to develop a food policy for the school.

The group met on a regular basis (for a period of three years at the time of publishing the case study) and agreed three action points at each meeting. The group was found to be effective at driving change and influencing pupil choice. The school emphasised the value of pupil involvement from the outset, as well as that of the wider community. Organising SNAG meetings was subsequently added to the job description of the school's health education coordinator to emphasise their importance.

The Healthy Schools Scheme is another whole-school initiative which seeks to influence pupil attitudes towards health and nutrition. The *Health Challenge Wales* document (Welsh Assembly Government, 2005) notes that schemes have been introduced in all Unitary Authorities and that 1070 schools are actively involved. It recommends the extension of the Welsh Network of Healthy Schools Schemes (WHSS) to include all schools by 2010. The aims of the national scheme are to:

- promote actively the self esteem of all members of the school community;
- actively develop good relationships in the daily life of the school;
- identify, develop and communicate a positive ethos and appropriate social values within the school community;
- ensure that all pupils have the opportunity to benefit from stimulating educational challenges;
- take every opportunity to enhance the environment of the school;
- develop good school / home/ community links and shared activities;
- encourage all staff to fulfil their health promoting role, through staff development and training;
- develop and implement a coherent health education curriculum;
- establish good links with associated schools to ensure smooth transition, both socially and in relation to a developmental health education programme;
- develop the school as a health promoting workplace with a commitment to the health and well being of all staff;
- develop the complementary role of all school policies to the health education curriculum, such that the curriculum reflects the contents of the policy and the policy reinforces the curriculum;
- develop partnerships with appropriate outside agencies and individuals, including the school health service, for advice and active support for health education and health promotion in the school.

These national aims are incorporated into local schemes which are then accredited by the WAG. Local scheme co-ordinators offer direct support to individual schools and are responsible for accrediting and monitoring school schemes.

The Food Dudes Programme (Lowe *et al*, 2004) is an intervention aimed at primary school children. The programme uses a combination of peer modelling and rewards. Children are introduced to the Food Dudes (young superheroes who are involved in saving the world from ‘Junk Punks’) through six short video episodes. They are also encouraged to try a variety of fruit and vegetables repeatedly. Rewards, in the form of stickers, certificates and prizes, are awarded to children as incentives. The healthy eating message is

reinforced and encouraged by letters from the ‘Food Dudes’ read out to the class by their teacher. Curriculum support materials and a homepack has also been designed for use with parents.

Results from a home-based study conducted with 5-6 year old ‘fussy eaters’ showed a marked improvement in fruit and vegetable consumption after the intervention. Prior to the intervention the children ate only four per cent of the fruit and one per cent of the vegetables. This rose to 100 per cent and 83 per cent respectively after the intervention and two follow-up studies showed improvement in consumption was maintained. School-based studies were also undertaken in England, Wales and the Republic of Ireland. In all schools consumption of fruit and vegetables increased significantly at snacktime and lunchtime. Staff were enthusiastic about the programme and did not see it as a burden or interference with their normal duties. The research team concluded that *‘the stand-alone programme, implemented by schools themselves, is highly effective in boosting children’s consumption of fruit and vegetables to high levels.’* (Lowe et al, 2004).

3.9 Food and drink throughout the day

The availability of food and drink at other times of the day, apart from the mid-day meal, is a factor when considering nutritional issues amongst school children (POST, 2003). Because of health concerns, commercial vending machines have been banned in schools in some areas of the US. In the UK such measures have not as yet been deemed necessary, but the British Nutrition Foundation advises schools to minimise advertising on such machines and work with suppliers to ensure they offer healthier alternatives. The Welsh Assembly Government has issued guidelines to schools on healthy vending (WAG, 2005b). However, the guidelines are regarding the use of refrigerated vending machines managed by the school and controlled by the school caterers. In the case of commercial vending machines, the document advises the installation of unbranded machines with some healthier options. Issues raised in the document include: ensuring that the machine is placed in a suitable location both for re-stocking and access by pupils, reducing litter problems by supplying convenient and attractive litter bins, marketing and commercial viability. A menu of suitable products for such vending is also suggested.

Tuckshops are another outlet which can provide access to food and drink, particularly at breaktime. The Welsh Assembly Government and FSAW (Welsh Assembly Government, 2006b) have produced a guide to running fruit tuckshops in primary schools. The guide gives practical advice, based on a research, about establishing and running a healthy tuckshop. Participants point to the following benefits: health promotion, enjoyment, social interaction,

reinforcement of curriculum input on healthy lifestyle and minimal adult involvement, as pupils are encouraged to take the lead.

The National School Fruit Scheme (NSFS) for England was announced in the NHS plan published in 2000. Under the scheme all infant school children were entitled to a free piece of fruit each school day. The scheme was piloted during 2001 and 2002 (NER, 2002). 98 per cent of schools were happy with the quality and range of fruit provided and 63 per cent reported being satisfied with the delivery arrangements. The majority of schools chose to distribute the fruit to individual classes at mid-morning break. Schools generally found the scheme manageable and 55 per cent of those surveyed reported an improvement in the ethos and atmosphere in the classes involved in the scheme. The scheme received £42 million pounds of Lottery funding and was eventually taken over by the Department of Health which pledged another £77 million pounds for implementation over two years. Following the introduction of tomatoes and carrots the scheme was re-named The School Fruit and Vegetable Scheme. A spending freeze at the Department for Health may have put the scheme in jeopardy. Also, results of an evaluation of the scheme failed to show any significant increase in fruit consumption by children involved in the scheme. Some nutritional experts were concerned that the scheme was not supported by a broader educational programme and commented that international research shows that *'simply making fruit available in schools is not enough.'* (Lawrence and Carvel, 2006).

The Free Fruit in Schools Initiative in Scotland received £2 million annually from the Scottish Executive between 2003 and 2006. An evaluation of the scheme (MacGregor and Sheehy, 2006) showed that it was popular with local authority professionals and school staff members. The overwhelming majority of respondents felt that the scheme should continue and 60 per cent perceived that pupils were now consuming more fruit and vegetables. 90 per cent of teachers felt that it had brought about an improvement in pupils' eating habits. The research did not seek the views of pupils or parents. The researchers concluded that the scheme was thought by respondents to be *'responsible for increasing fruit consumption and encouraging the adoption of more healthy eating practices in children living in communities of different socioeconomic status across Scotland and is valued very highly at both the local authority and school level alike.'* (MacGregor and Sheehy, 2006, p66-7).

4. Organisation and Management

This chapter presents evidence collected during this research on the organisation of the school meals service across Wales and an analysis of the key issues concerning its delivery and management.

4.1 Location of service

The arrangements for managing the school meals service differed across Wales as did the extent to which local authorities (LAs) worked together to provide the service. For example, more than half the sample LAs said that they collaborated with other LAs to procure food (see below). In one case, the LA which took part in the research had been awarded the contract for school meals in another authority.

The location and function of the school meals service also differed. Some were located in services which provided all or some of the LAs other catering services; many of these were part of education departments but in a few cases they were stand-alone catering services which bid for contracts with an education department. In some LAs, the service which catered for schools remained a distinct, stand-alone entity. The development of some of these arrangements was directly attributed to LAs' responses to the introduction of compulsory competitive tendering for school meals during the 1990s. Although this meant that staff responsible for the delivery of the school meal service could be located either in education departments or elsewhere, it was felt that the most important issue was the quality of the management team and their awareness of issues confronting schools. In particular, it was emphasised that there was a need for constant dialogue between those responsible for the service and schools.

4.2 Management arrangements

All the secondary schools included in the qualitative research said that the catering service was run by their respective LAs and none had taken the decision to manage the service themselves. The role of school SMTs was to liaise with the lead member of staff in the kitchen over operational issues and with LA personnel over more strategic matters. One secondary school representative explained why the school had chosen to continue to use their LA to provide the catering service; *'We felt we had built up a rapport with them, we met regularly, they took on board our concerns, and we felt like we*

were making progress. They are very receptive and as far as possible they will meet our requests'.

However, one of the secondary schools which currently used the LA catering service said that they were impressed with the arrangements they had seen in schools which ran the service themselves.

4.3 Procurement

The LA questionnaire survey provided useful information on procurement arrangements, which varied considerably across Wales.

Some South Wales authorities combined in a consortium to procure food, as did four in North Wales, although some of these also bought small amounts of food locally. Such arrangements were usually based on collaboration between LAs which formed part of the pre-1996 county areas. The '*strength of buying power*' which this gave LAs was seen as an advantage by those authorities.

Five of the ten authorities who returned the questionnaire procured their food through their own officers, while one obtained it through 'another department.'

Officers in six LAs also procured food for other authority departments or other organisations such as the social services department, leisure services or County Hall menus. One LA also procured all the food for a neighbouring authority.

Criteria for procurement

Most purchasing authorities operated a system which judged tenders to supply food by a formula which took account of quality and cost, and sometimes other criteria too. Some LAs applied different ratios for quality and price to each category of food (meat, dried goods, fruit and vegetables etc). Most LAs had or intended to revise their formulas to place greater weight on quality.

Nine of the respondents to the questionnaire survey reported their use of more than one criterion for procurement. Two used a weighting of 60 per cent for quality and 40 per cent for cost, while another noted 30 per cent quality and 70 per cent cost. Another recorded cost 40 per cent, quality and service 30 per cent each. Other criteria mentioned included local produce, traceability, and ability to supply all schools, and one authority also mentioned organic produce, fairtrade and company environmental policies. One authority merely recorded '*as much local produce as possible*' as its criteria.

Suppliers

The majority of the respondents used a single supplier for most items although one had contracts with from two to six suppliers for different types of produce, including 23 suppliers of milk. Bread and milk were the most common food items where more than one supplier was contracted.

LAs said that regulations on competitiveness prevented exclusive purchasing from local suppliers. However, all LAs claimed that their food tended to be sourced locally, either in the immediate area, the region or a part of Wales. Few LAs were, however, able to give accurate information about the distance travelled by produce. One school cook in a small primary school said that she would prefer to buy smaller quantities of some ingredients herself, rather than the catering size packs available through central procurement, but that this was not possible under current rules.

Strategies to promote local supplies of food (developed, for example, through initiatives such as *Food for Thought*) were usually linked to LAs' Sustainable Food Strategies whereby LAs were proactively encouraging local small businesses to bid for contracts. It was noted that there were issues about the capacity of some local suppliers (and producers) to meet LAs' needs. A minority of LAs said they were in the very early stages of developing a local sustainable food strategy.

Some LAs were also seeking to make it easier for suppliers to bid for contracts by introducing electronic tendering processes and also by discussing contractual requirements with suppliers. Under such a process, potential suppliers were invited to discuss issues such as how contracts would be grouped in an attempt to match the tender requirements to local providers' capacity. One authority which operated as part of a consortium had attempted to make contracts more attractive to local suppliers by offering to split up the contract into smaller areas. However, the response from local suppliers had been disappointing. A lead officer for school meals within another LA did not feel that discussing contracts with producers was a role which the service should be undertaking and felt that someone else should be responsible.

The processes by which LAs procured food differed. In some LAs the work was undertaken by a central procurement department which served various sections within an LA. Where joint arrangements were in place, procurement was done by a designated lead LA. One consortium of three LAs purchased through an agency which bought for other public sector organisations.

Most of the LAs interviewed said that their school meals contracts lasted three years with opportunities for them to be extended.

Two LAs said that they had experienced some challenges because of the reluctance of suppliers to bid for contracts to supply schools in very remote rural areas. This was usually because of the cost of travel.

4.4 Quality control

All 10 respondents to the LA questionnaire survey reported visiting schools to make spot checks on food quality, while nine undertook both logging of complaints and visits to suppliers. Two used a regular headteachers' monitoring form, two conducted occasional questionnaire surveys of schools and two referred to QA audits. One reported regular monitoring of school kitchens and another monitored through an Authority Nutritional Sub-Group.

Nine respondents reported liaison with other authority departments in the monitoring of quality. Environmental Health was the most common partner, while a minority referred to consultation with authority dietitians and one cooperated with the county health board and NHS Trust.

School-based staff played key roles in the monitoring process. In some schools, school kitchen staff were the ones most closely involved in liaising with the LA over issues concerning quality. LAs referred to the way kitchen staff, especially lead cooks, were given training in how to spot unfit food or damaged goods. This training included advice on how to deal with such incidents. An LA officer described an ethos among kitchen staff which assessed quality according to the benchmark of '*Would you serve this at home?*'

In other LAs, headteachers were responsible. According to one LA '*The heads have good standards and communicate well. If heads complain about the food we visit them at once*'. However, a secondary school representative said that the LA was not proactive about monitoring the quality of food.

LAs also conducted regular, independent inspections of food suppliers. In one authority this system had been developed to assess bids for contracts but the intention was to extend it as an on-going process. However, LAs referred to the challenges of monitoring suppliers and their own kitchen staff; these usually related to the small number of staff employed centrally by LAs to do such work.

One LA referred to its dedicated testing centre which was used as a means of monitoring the quality of food and of testing its nutritional content. LAs noted the need to take account of issues such as ensuring deliveries were reliable and punctual as well as the quality of the produce, when awarding contracts. Other LAs referred to the use of the HACCP (Hazard Analysis Critical Control

Points) system which monitored produce at various critical points between purchase and eating.

Some LAs also used questionnaires which were distributed among staff, parents and pupils to gather opinions about the service's quality and how it could be developed. Some schools also monitored the quality of food through their own questionnaires. School Councils were also an important source of feedback and in some schools, the views of PTAs were also sought. Some school SMTs were also members of LA-wide groups involving other secondary schools which met to discuss issues and agree common strategies; nutrition and health-related issues were said to be increasingly prominent features of those discussions.

LAs described the processes they had developed to investigate complaints and the steps which would be taken when concerns had been identified. These included:

- giving kitchen staff powers to refuse to take delivery of goods with which they were dissatisfied
- liaising with suppliers to identify problems
- discontinuing a contract through a legal process.

4.5 Cost analysis

A range of methods were used to calculate the cost of the school meals service. The methods often reflected different management structures and the nature of the contractual relationship between the Education Department as purchaser and the entity providing the school meals service. LAs felt that it was extremely difficult to come to accurate judgements about the exact cost of the services because of factors such as:

- differences in the ways overheads were calculated
- the use of historical methods of calculating costs, such as the use of a standard year with RPI
- the size of an LA and economies of scale
- cooperation between LAs to reduce overheads, for example in procurement costs.

However, there was a strong message that the service was under-funded and was suffering because a culture of low-cost provision had developed during the early 1990s as a consequence of compulsory competitive tendering. According to one LA: *'Competitive tendering started and LAs had to bid for the business of providing school meals against private companies. Everything*

was cost-dependent. The response ... was to de-skill the service by introducing processed food and non-prepared food that merely needs re-heating as opposed to actually making it. Staff were reduced accordingly'.

This was seen as being something which did little to promote quality provision. Some felt that greater take-up of provision would lead to economies of scale and, in turn, better value for money. They emphasised the need for them to have the financial resources to improve the quality of the service they delivered which, they maintained, would promote take-up of the provision.

According to one LA, there was a need to monitor the link between changes to the price charged for school meals and take-up; they noted that take-up fell immediately after any increases were announced and, although take-up might increase subsequently, this could impact on issues such as staffing levels.

Prices charged

The LA questionnaire survey revealed that prices charged by the responding authorities for a primary school meal were in a narrow band ranging from £1.40 to £1.65. Three of the 10 charged a little more for junior pupils than infants. Primary schools visited in the qualitative fieldwork complained that only about a quarter or less of that price might actually be spent on the food.

Seven of the ten authorities reported that their income from school meal charges did not cover their costs, and all these received subsidies from other LA budgets, particularly the education budget. Three stated that their income did cover their costs.

4.6 Use of resources

There was very little evidence that school kitchen facilities were used other than to prepare mid-day meals for pupils and, in a limited number of cases, to deliver school breakfasts, either as part of or independently of the WAG's Breakfast Initiative. Other usage was usually confined to PTA activities and after-school clubs. Some LAs noted that staff were not well-disposed to additional usage because of the amount of work which it created. It was also noted that health and safety issues needed to be considered when facilities were loaned to outside bodies out of school hours. One LA said that increased usage could be examined as it developed its community-focused schools agenda.

Key Findings

The location of the school meals service within the local authority structure was unimportant; the quality of the service team and their knowledge of the issues were the key factors for a successful provision.

Local authorities used a variety of different criteria for the procurement of food for schools with differing emphasis on quality, cost and service.

Authorities were in different stages of moving towards local procurement of school food; European law on competitiveness made it difficult to stipulate local producers only in the issue of tenders.

Quality control of school meals was exercised in most authorities through a range of methods which included visits and spot checks to schools and suppliers, the analysis of comments from headteachers and occasional wider questionnaire surveys of school staff.

Only a minority of school meal services were able to cover the costs of their service through charging; other services required subsidies of varying size from their LAs, mainly from the education budget.

All school meal services included in this research were under considerable pressure to return a profit, and these financial considerations were often the most important factor in policy decisions.

5. Delivery and consumption

This chapter outlines the strategic and operational considerations surrounding the delivery of school meals and factors affecting take-up and consumption.

5.1 Pupil take-up

The following tables show the numbers of pupils in the sample of schools in the questionnaire survey who ate school meals.

Table 5.1: Pupils in Sample Primary Schools eating School Meals

Percentage of pupils eating school meals	No. of schools
Less than 30%	3
31-45%	10
45-55%	11
56-70%	14
71-85%	8
More than 85%	3
No answer	4

N=53 schools

Source: NFER 2006

Table 5.2: Pupils in Sample Secondary Schools eating School Meals

Percentage of pupil eating school meals	No. of schools
Less than 30%	1
31-45%	3
45-55%	9
56-70%	6
71-85%	1
More than 85%	3
No answer	3

N=26 schools

Source: NFER 2006

In both primary and secondary schools the degree of take-up varied widely from fewer than 30 per cent to more than 85 per cent of pupils. However, the sample of LAs who responded to their questionnaire survey showed a narrower range of take-up. According to the LAs, take-up in the primary

sector varied from 36 per cent to 65 per cent with an average of 50.4 per cent. Take-up by secondary pupils was generally slightly lower, ranging from 32 to 66 per cent and averaging 47.2 per cent. This reflects the greater independence of secondary pupils and their freedom to leave the school site at lunchtime.

Nine of the 10 authorities who returned questionnaires reported taking some recent measures to improve the take-up of school meals, although the great majority of these measures were mentioned only once each and there was no common theme. They included promotional days/evenings and roadshows, the employment of Healthy Food Trainers, new healthy menus, mini kitchens to reduce the transportation of meals, a new cashless system in secondary schools, more communication with parents, a new website, competitions to raise the profile of school meals, new staff training, presentations to governing bodies and the improvement of dining halls.

LA respondents were asked to rate in order of importance 10 different factors which might influence pupil take-up of school meals. The most highly-rated was choice of food, closely followed by the quality of food. The age of pupils and having parents who worked came next in importance. The promotion of meals by the school was ranked fifth. The convenience of school meals for parents, the influence of the media and the speed of service were grouped closely together at rankings six to eight. The two least important factors were the distance of the school from the pupil's home, and the quality of the lunchtime supervision.

All LAs said that take-up of school dinners fluctuated. The factors which explained this included seasonal trends, decisions taken by particular friendship groups, and price changes. It was also noted that recent publicity, especially the attention given to school meals by Jamie Oliver, had influenced take-up, although one LA catering manager said '*Only in the primary sector, not at all in the secondary.*' The recent e-coli outbreak in South Wales had been another important factor, although one authority affected by the outbreak, felt that it had not been so much an issue about the school meals service, but rather one of hygiene in schools in general e.g. hand-washing, cleaning etc. According to one LA, the take-up had been increasing in recent years but adverse publicity had reversed the trend '*It had been going up and we were pleased ... Then the Jamie Oliver programmes had an effect, the e-coli outbreak also had an impact*'. In the LA concerned this had resulted in a five per cent drop in take-up. One LA commented that the move to a healthier menu had reduced take-up in secondary schools; the issue had not been observed in primary schools to such an extent largely because pupils there had less choice.

At the same time, LAs said that other factors, notably a long-term decline in school rolls, and, in some areas, marked changes in population within

individual authority boundaries, affected the total number eating school meals. This also impacted on the LAs' ability to plan and on service costs.

The take-up in the secondary schools visited varied between 45 to 80 per cent. All of them operated a cafeteria-style system which meant none of them asked pupils to commit to eating what was available in school. The secondary pupils interviewed said they alternated between eating what was available in school and packed lunches. The reasons varied and included convenience (they chose school dinners when they had a lot to carry) and on whether they would be taking part in extra-curricular activities. The amount of time spent queuing for food was an important factor for many pupils.

Take-up in the primary schools visited varied between 30 and 70 per cent. Primary school pupils said that they had to sign up for school dinners either for a whole week or on a daily basis. Children who ate packed lunch said that they sometimes chose a school dinner, mainly in the winter. Most of those who ate packed lunches had tried school meals at some point. The reasons cited for not eating school dinners included:

- not liking what was offered, especially vegetables
- price increases
- not enough vegetarian options (in secondary schools)
- the food was 'boring' and 'not enough choice' (secondary schools).

One primary school said that the take-up there had increased since they became a 'Healthy School'. This was attributed to the positive publicity accorded to the initiative by the LA.

Some children ate packed lunches because that was what their friends did. Others wanted to have more time to play. However, some children felt hurried. The comment '*I don't like them rushing us to finish dinner*' reflected this view.

One primary school had a rule that children in the Reception class were not allowed to bring in packed lunches. This was in order for the school to encourage them to learn social skills and the practical skills of using a knife and fork. The school in question felt that, although some parents were not happy with the policy, it taught the children important lessons.

The issue of children entitled to Free School Meals was raised by a number of LA and school representatives. It was noted that the percentage of pupils taking up the provision was less than the percentage entitled to it. Although it was recognised that a range of factors could influence this pattern, there was concern that those pupils could be missing out on an opportunity to eat a hot

meal. They advocated measures to encourage children entitled to a free meal to take advantage of the opportunity.

In the school questionnaire, respondents were asked to name the three most important factors influencing pupil take-up of school meals. The next two tables indicate the response:

Table 5.3: Factors influencing Pupil Take-up in Primary Schools

Factor	No. of responses
Choice of food for pupils	31
Distance from home to school	5
Pupil age	27
Promotion of school meals by school	16
Quality of supervision	5
Quality of food	32
Influence of media	4
Speed of service	1
Parents working during day	18
Convenience of school meals for parents not working	20
No answer	1

N=53 schools

Source: NFER 2006

Table 5.4: Factors influencing Pupil Take-up in Secondary Schools

Factor	No. of responses
Choice of food for pupils	21
Distance from home to school	11
Pupil age	6
Promotion of school meals by school	1
Quality of supervision	2
Quality of food	19
Influence of media	0
Speed of service	9
Parents working during day	5
Convenience of school meals for parents not working	3

N=26 schools

Source: NFER 2006

The quality and choice of food were named as the two most important factors in both primary and secondary schools, but some interesting differences also emerged. Speed of service was the fourth most important factor in secondary schools but was insignificant in the primary sector. Likewise, distance of the

home from school was third most important for secondary pupils but only seventh in primary schools, suggesting that more secondary pupils were likely to walk home for lunch if convenient. The promotion of school meals by the school was a more important factor in the primary sector, indicating that younger pupils might be more easily influenced. Surprisingly, the influence of the media was completely insignificant in secondary schools, and only slightly more so in the primary sector.

In the LA survey, too, authority staff were asked to rate in order of importance 10 different factors which might influence pupil take-up of school meals. The most highly-rated was again choice of food, closely followed by the quality of food. The age of pupils and having parents who worked came next in importance. The promotion of meals by the school was ranked fifth. The convenience of school meals for parents, the influence of the media and the speed of service were grouped closely together at rankings six to eight. The two least important factors were the distance of the school from the pupil's home, and the quality of the lunchtime supervision.

5.2 Preparation and staffing

In the LA questionnaire survey, the great majority of schools in all 10 authorities, ranging from 72 – 100 per cent, were said to have full food preparation facilities. A small number had serving facilities only, ranging from zero to 26 per cent. Nine of the respondents stated that they included full food preparation facilities in all new schools built, but only four of the 10 intended developing full food preparation facilities in their existing schools which did not possess them.

The extent to which schools had full food preparation facilities varied according to historic decisions about the delivery of school meals. According to a large number of the authorities, their facilities were not adequate and efforts to upgrade the facilities were being undermined by funding issues. According to one such LA: *'Over the last five years the authority has introduced cookers, fridge-freezers etc into dining centres. The intention was to do this in two centres per year, but funding was no longer available ... so this initiative has stalled'*. Similar comments were made by another LA which noted that *'Previous underinvestment was showing now'*. Secondary school representatives concurred. According to one, the school's kitchen was *'not well equipped, e.g. there are several deep fat fryers but there's not enough room to cook jacket potatoes.'*

One authority also referred to changes in regulations, for example, concerning the use of gas ovens which meant that some kitchens had been re-graded as 'mini-kitchens'. Others referred to *'old equipment, old dining facilities'* and felt that *'We are at the end of the queue in terms of priorities for the WAG'*.

One LA said that did build new schools without full food preparation facilities and wished to develop the policy of 'exporting food'. Under this model food was 'exported' from large schools to their smaller neighbours. The effectiveness of this system was perceived to owe more to the quality of the cooking (e.g. precise timing to avoid overcooking) than to the arrangement itself. *'The best way to ensure the success of an exporting system is to replace a poor on-site cook with an excellent service from an exporting kitchen.'*

However, other LAs said that they were keen to move away from such systems towards a situation whereby all food was cooked on the premises where it was eaten. However, one such LA said that they were hampered by decisions not to build kitchens in some new schools. According to a representative of the LA in question *'one of the issues with the WAG's strategy to examine whether schools are fit for purpose was that they only considered the teaching aspect and didn't take account of things like the school meal side'*.

The nature of cooking facilities was also a factor which influenced staff and pupil perceptions about the quality of the meals. In general, staff and pupils at primary schools where food was prepared on site were more satisfied than those where food was brought in from outside. This was emphasised by an LA representative who believed that the strength of their service lay in the fact that cooks were employed in each school which were all equipped with full cooking facilities.

PFI regulations were identified as an issue by some LAs. It noted that catering had been out-sourced to private providers as part of some PFI agreements. Although the LAs concerned were not aware of any issues concerning the provision in those schools (either favourable or adversely), they noted that such arrangements meant that planning across an LA became more difficult and they also meant a loss of business to the LA's service. This could impact on any drive to achieve greater economies of scale.

Concern was expressed about the skills levels of many of those working in the school meal service and the difficulties of recruiting suitably qualified staff. According to one LA *'Specialist catering graduates don't find the school meals service attractive as a career. The fact that cooking is not on the curriculum in schools adds to the problem'*. The attractions of other work, such as working in supermarkets, was also perceived as a problem in LAs which highlighted the relatively low pay offered to kitchen staff because of the constant need to keep costs as low as possible.

The high turnover of staff and difficulties associated with arranging cover when one of the catering or supervisory staff was away was also noted by secondary schools. In some schools, all such supervision was undertaken by

teachers. One secondary school representative said that both the teachers and LSAs who did this work were paid additional money *'and there's always a reserve and always a waiting list to do it because it's extra money and it's not seen as too onerous a task'*.

In other schools lunchtime supervisors were employed. Some headteachers said that recruiting staff was sometimes difficult. According to one headteacher *'Recruitment is difficult, probably mainly because lunchtime supervisors work awkward hours in the middle of the day'*. Another headteacher called for collaboration between schools to share information about possible recruits to the supervisory staff.

Training of kitchen staff usually focused on issues concerning:

- health and safety
- how to prepare foods for certain groups of pupils (such as those with special dietary needs and ethnic minorities)
- nutrition, including its impact on health.

One LA said that it had developed a rolling programme for catering staff which enabled them to attend training on food and nutrition. This was being rolled-out across the county on a gradual basis. Another LA said that this was an aspiration but that cost was an issue: *'We would like to train everyone. Training is key, kitchen staff are high on the list, but we can only afford training for cooks'*.

There was very little evidence of a collaborative approach to staff training whereby all staff (teaching, kitchen and supervisory) could examine issues related to healthy eating together. Staff who taught about nutrition often met to coordinate health-related issues as a cross-curricular theme but these meetings did not involve any non-teaching staff from their schools. One LA commented *'we need a whole-school approach'*

5.3 Content

All 10 authorities responding to their questionnaire survey reported themselves as being 'Very aware' of the minimum nutritional standards issued by the WAG in 2003, but only five authorities had been involved in their development.

When asked to rate on a scale of 1-5 the influence of different agencies on the content of school meals, the sample of LA respondents ranked the local authority as the most influential, followed by the Welsh Assembly

Government and then schools. Parents were mentioned as fairly influential by some authorities, while one referred to the Caroline Walker Trust.

All LAs visited were also aware of the minimum nutritional standards. There was strong support for the view that these should be seen as the minimum to which LAs should aspire and no authority said that they had experienced any difficulties in meeting them. According to many of the LAs, the minimum standards should be set at a much higher level. One such authority noted *'They took the soft option, didn't go far enough. It didn't change anything for us - we were already complying with those standards'*. An equally forthright comment was made in another LA which said *'They're not really standards, more recommendations or guidelines and they're not backed by legislation ... Hopefully they'll be superseded as a consequence of the WAG working parties'*. The need for additional funding to enable LAs to develop better nutritional standards was also noted.

Three authorities had adopted the Caroline Walker Trust standards as the basis upon which to make decisions about nutrition. Two of those had worked closely with the Local Health Board (LHB) in doing so. The Caroline Walker Trust standards were seen as more effective by one of the secondary schools.

On the whole secondary school staff were content with the meals although they acknowledged they could be improved further. According to one *'I think the quality of school meals is good. I would like us to be more consistent with the five portions of fruit and veg. Obviously they won't get all of them in school, but they are here for the main part of the day'*. All secondary school meals were cooked on site and many LAs believed that this affected perceptions about them.

There were mixed views in primary schools. In one school the headteacher said that most staff ate at the school which testified to the quality of what was on offer. One school cook said that the menu had been revised recently and that there was now much less processed food.

However, some primary schools were very concerned about the food provided. In one it was reported that staff hardly ever eat there because the quality was so poor. In another the headteacher said that pupils were being offered processed food with the option of fresh fruit or vegetables which was felt to lack balance. In general, the balance of the diet depended on the ingredients supplied to the cooks. According to one headteacher; *'The cook does well with the ingredients she is given'*. A school healthy eating coordinator who was not satisfied with the ingredients supplied cited dried eggs as an example *'Why use dried egg – it tastes horrible. They never offer options like soup and a roll.'*

The following tables show the frequency with which different kinds of food were provided on the menu in the primary and secondary schools which responded to the school questionnaire sample.

Table 5.5: Frequency of Different Foods in Primary Schools

Type of food	Daily	Weekly	Monthly	Not at all	No response
Chips	1	43	5	2	2
Other fried food	2	26	1	21	3
Processed meat	2	32	8	7	4
Fresh fruit	45	4	1		3
Fresh vegetables	36	11		3	3
Fresh meat	11	34	1	4	3
Salad	27	23			3
Baked potatoes	23	18	4	5	3
Rice/pasta	6	41	3		3
Confectionery	1	9	1	40	2
Fizzy drinks				50	3
Fruit juice	16	12	4	18	3
Water	48	1		1	3
Fish	1	44	3	2	3
Dessert	45	5			3
Yoghurt	22	26	2		3
Cakes	8	37	1	4	3

N=53 schools

Source: NFER 2006

Table 5.6: Frequency of Different Foods in Secondary Schools

Type of food	Daily	Weekly	Monthly	Not at all	No answer
Chips	17	9	0	0	
Other fried food	11	9	3	2	1
Processed meat	16	6		3	1
Fresh fruit	26				
Fresh vegetables	20	2	1	3	
Fresh meat	11	12	1		2
Salad	24			2	
Baked potatoes	24	2			
Rice/pasta	16	8	1		1
Confectionery	19			6	1
Fizzy drinks	14			12	
Fruit juice	25			1	
Water	25			1	
Fish	1	24		1	
Dessert	23	1		2	
Yoghurt	21	2		2	1
Cakes	22	4			

N=26 schools

Source: NFER 2006

Significant differences between the two sectors may be observed. Only 1/53 primary schools offered chips on a daily basis, but this occurred in 17/26 of the secondaries. Similarly, processed meat was available in only 2/53 primaries but in 16/26 secondary schools. It is true that healthier options were provided in almost all secondary schools, but the wider choice available to pupils there did not guarantee that they would be selected.

5.4 Ambience and service

The appropriateness of the rooms where pupils eat was also recognised as a concern by several LAs. It was noted that in a large number of cases, particularly the smaller primary schools, there was no alternative but to utilise the main school hall as the dining hall. One LA commented '*The dining facilities are usually in halls. There is not much room. Smaller tables are required*'. The authority in question also noted the '*need to make lunch a special event, a pacifying event*'. The way dining halls were expected to cater for a larger number of pupils than that for which they were designed was also noted; for example, few dining centres had been extended when additional classrooms had been built or when demountables had been erected.

Two groups of primary school pupils said that the halls where they eat their dinners were large and airy. However, in another primary school the room was described as '*a bit cold*' with '*not much room*'. There was also '*no room for arms on the infants' tables*'. The hall at another primary school was felt to be

very noisy at dinner times which meant some children were eager to get out of there. In one primary school the hall was used for PE as well as a dining centre.

A secondary school representative said that '*at the moment our lunch facilities are dire*'. The type of issues raised included:

- the practical difficulties caused by having to move tables at the beginning and end of each session
- children not being able to sit in the groups which they wanted.

These views were shared by pupil groups who referred to noise, overcrowding and long queues and said these contributed to their reluctance to eat school dinners.

The arrangements for eating packed lunch in schools varied. In some primary schools those children sat on separate tables where the school dinners were served. One school cook felt that such an arrangement had an adverse effect on take-up, as pupils opted for sandwiches in order to sit with friends. She had asked for the policy to be reversed, although supervisory staff were unwilling to comply because of the ease of table-laying arrangements under the present system. In other schools pupils eating packed lunches were sat in an adjacent room. According to some school staff this approach had been adopted because it enabled them to serve food more efficiently. In one primary school pupils were allowed to eat packed lunches in their classroom, under strict rules: '*no running around, touching other people's food and no litter*'. A table monitor was appointed and staff also kept a regular check on the pupils.

The length of the dinner break was also noted by a number of LAs; they felt that pupils chose meals which could be eaten quickly. According to one LA pupils '*eat on the hoof ... the plate has disappeared from secondary schools*'. Moreover, the LA concerned felt '*Schools don't see us as part of their school day. The ideal would be to consider lunchtime as the ninth lesson of the day, an opportunity to educate pupils about nutrition*'. This was said to be particularly prevalent in cases where, for example, the dinner break was limited to 30 minutes. The capacity of dining areas (for example, the amount of time pupils had to spend queuing for food) also influenced the time available to eat a meal and hence decisions about what to eat. According to one LA representative '*How do you process 900 children in 50 minutes? This often creates hassle for kitchen staff, pupil behaviour can be bad, impatience and swearing at staff*'. Two secondary school representatives said that their dining accommodation was not sufficient. Moreover, one of them felt that there was a culture of 'eating on your feet' and that this was linked to perceptions about meal times '*Many eat, walk, and talk rather than queue for ten minutes in the canteen and sit down*'.

5.5 Pupil choice and eating habits

Extent of choice

There was a clear difference in the amount of choice offered to primary and secondary pupils. The choices at primary schools were limited to two meals in all but one of the LAs visited; in the other LA visited primary school children could choose one of two main meals or a salad, jacket potato, or packed lunch.

Secondary school pupils had a much greater choice both about what they eat and also what was offered. Several LAs said that allowing secondary schools to control their own budgets and to decide whether to purchase the LA's service had been a retrograde step. According to one of them *'the schools want to make the service pay, and whatever they say about nutrition they want to provide what pupils want'*. The contrary view was noted by a secondary school representative who emphasised that the school's staff were closer to the ground and that *'we are the ones that know our school and pupils and systems, so it's working well with us being in charge'*. Moreover, one secondary school had found that *'on a healthy eating day more children and staff eat in the canteen'*. Another school had discerned a change in what pupils wanted and a move away from the *'old staple snack of chips and cheese'* towards something more healthy. Staff at another secondary school said that they were in favour of developing a set menu and a *'bistro approach where there is more choice, fresh food, and a variety of cold and hot meals'*. Some LA had worked with its secondary schools to develop an agreed protocol about what range of food would be offered; this was seen as a way of ensuring that nutritious food was always offered and was something which both LAs and schools felt was beneficial.

Trends in demand

One LA referred to the way that 'traditional' meals had declined: *'Years ago, there were a) gravy schools, particularly in the country, b) poor eaters in inner city schools, c) yuppie schools –rice and pasta. This is not so true now, there are fewer 'gravy' schools'*.

One secondary school said that it had consulted with the School Council about the content of meals. Pupils had suggested things such as:

- a jacket potato bar instead of a burger bar
- children who chose jacket potatoes to be given priority in queues over those who chose chips
- removing chocolate machines
- one day a month without chips (called 'potato day' rather than 'no chip day')
- not selling canned drinks.

The school council in question wanted to have more choice in healthy vending machines. It also noted that healthy snacks were much more expensive than normal chocolate bars. Some also felt that more vegetarian options should be available in the canteen. Others asked for the 'potato day' to be held weekly rather than monthly.

Secondary school pupils thought that the choice of food was appropriate although they recognised that a great deal rested on their own choice. For example, they could choose to eat chips every day. Some complained about the portions of healthy food '*Jamie Oliver says you have to eat healthily but they don't give you enough. They give you a tiny amount of salad and sandwiches with tuna*'.

In primary schools the emphasis was placed on ensuring that whatever was offered was healthy as part of a balanced diet. However, even in those instances an attempt was made to ensure that very unpopular choices were not put on the menu. One primary school felt that because children ate what they were used to having there was a need to ingrain habits of eating healthily at an early age. Another primary school said that take-up had decreased when healthier menus were first introduced but that take-up had soon increased once pupils became used to more healthy food.

Most primary school children said they liked the food offered. This was especially true in a school in one LA which had developed a healthy eating strategy. The children in that school said they enjoyed food such as:

- rice pudding
- roast dinner
- fish
- fresh vegetables
- jacket potatoes
- burgers and chips
- curry
- spaghetti bolognaise
- bacon
- custard
- lasagne.

In a primary school in another LA the children rated sausages and pizza as the best things they eat but said that some of the food was hard and cold. One comment at the school was; '*The mashed potatoes are horrible, lumpy. Sometimes the food is cold*'. Children in two schools said they did not like the

roast dinners offered. In another they said they disliked meatballs and said the chips were not what they were used to eating.

Some children at all schools said they would like more choice within those options and one group said they wanted warmer food. Another group said they would like hot drinks, especially chocolate and milk shakes during the winter.

Peer pressure and home influences were perceived by LAs to be the most important factors influencing pupil choice. It was also felt that food's appearance and the way it was presented also influenced matters in primary schools and to some extent in secondary schools. Messages about nutrition were ranked less influential by most of those interviewed.

It was noted that availability of certain foods was a major factor and that some pupils habitually chose food that should only be eaten in moderation simply because it was available. According to one secondary school representative *'Parents are horrified when they come up from primary school, the fact their children can just have chips. We are doing a lot with pupils about healthy eating and chips aren't going to be available every day'*.

One LA was seeking to influence what was eaten by pupils who did not choose a school meal by producing exemplar healthy lunch boxes. A similar approach was taken by a school in another LA which said *'If we notice a problem with lunch boxes from home, if someone has a packet of crisps and two chocolate bars, we will contact the parents'*. However, another school felt that an overt policy of banning certain things would not work; they sought to relay messages to parents through pupils through *'positive reinforcement'* and rewarding healthy choices through stickers and praise. Children who ate packed lunch said that their parents/guardians usually chose what they ate although some tried to influence such decisions.

5.6 Encouraging pupils to eat on site

No LAs had a fixed policy on whether pupils should be allowed out of school at dinner time and all said that this was a matter for individual schools. Some LAs were aware of food being sold from vans outside secondary schools and some instances where those had been allowed inside the school grounds. According to one LA *'the commercial market is watching us. If we go down the line of only providing certain foods then they will go and park their vans outside the school gates selling all sorts of things ... that's one of the reasons why secondary schools are a whole different ball game to the situation in the primary schools'*.

Some LAs were also unhappy about ice cream being sold in or close to schools, although this was felt to pose less of a problem.

One secondary school described how its ‘cash free’ system worked. Pupils and parents could buy credit which was then added to a swipe card which was used to buy meals at the school canteen. The swipe cards could not be used elsewhere. This system was advocated because it reduced the likelihood that children would go outside school and because:

- pupils had less chance of losing their dinner money
- there was less danger of bullying.

The pupils at that school said that they thought the swipe cards were a good idea but highlighted the need for the system to be operated appropriately, for example by installing enough ‘top-up’ machines. Another secondary school said that it would be examining the outcomes of any future pilots and that it would be interested in such a scheme. At the same time, parents had greater control of where their children bought their meals and it enabled the school to produce a breakdown of what each child had eaten if there was a need to discuss the matter with a child or parent/guardian.

It was also noted by a secondary school, which was working to change pupils’ attitudes, that chips were being sold in the town far cheaper than those for sale in the canteen and that this was affecting choice.

5.7 Access to food and drink

The following two tables show the opportunities for food and drink available within schools. Schools marked all the options they provided.

Table 5.7: Availability of Additional Food and Drink in Primary Schools

Item	No. of schools
Vending machines	0
Vending machines selling healthy options only	0
Water	50
Milk	49
Fruit tuck shops	34
Tuck shops selling chocolate/crisps	4
Hot drinks during the day	1

N=53 schools

Source: NFER 2006

Table 5.8: Availability of Additional Food and Drink in Secondary Schools

Item	No. of schools
Vending machines	15
Vending machines selling healthy options only	6
Water	26
Milk	13
Fruit tuck shops	7
Tuck shops selling chocolate/crisps	5
Hot drinks during the day	12

N=26 schools

Source: NFER 2006

The difference in provision between the primary and secondary sectors represented in the school questionnaire survey is striking. Over half (15/26) of the secondary schools maintained vending machines, of which just six sold healthy options only, whereas none of the primary schools had vending machines. The great majority of the primaries provided milk but only half of the secondaries. Some 64 per cent of the primary schools offered a fruit tuck shop against only 26 per cent of the secondaries, although some of these included fruit on the lunchtime menu. It appears that the primary sector has made a more focused effort than the secondary to promote healthy options and even direct pupils towards them.

A similar picture was obtained from the questionnaire survey of LAs. Milk was the most common extra nutritional item available to pupils, five authorities reporting this for 100 per cent of their primary schools, and three in 100 per cent of secondary schools. One authority provided milk in only 55 per cent of primaries, while there was no milk available in secondary schools in two LAs.

Vending machines were available in the secondary schools in all authorities at levels between 33-100 per cent, although only three LAs reported any 'healthy vending machines.' No vending machines at all were reported in primary schools. All but one of the authorities had schools with fruit tuck shops, although the frequency of these varied from 17-85 per cent. Fruit tuck shops in secondary schools were available in only one authority. Tuck shops selling chocolates and crisps were very common, reported in primary schools by six authorities and in secondary schools by a majority of the authorities. In one LA 90 per cent of the primary schools offered tuck shops selling chocolate and crisps.

Only three authorities had a policy on vending machines, two of which were non-provision of such facilities. The other provided a *'limited range of vending machines in a controlled environment with an emphasis on healthy, fairtrade products.'* Two other LAs intended to introduce vending machines

in the future. Generally, vending machines were a matter for individual governing bodies although some LAs visited tried to encourage secondary schools to limit vending machines to healthy options.

LAs also encouraged primary schools to develop fruit tuck shops. However, in one primary school visited staff felt that healthy eating messages were being undermined by a community-run nursery on a shared site which sold crisps, hot-dogs and chocolate bars to school pupils at breaktime and during an after-school activities club.

One secondary school said that it had vending machines on site. The school in question said it was working with the providers to try to install healthier options. Another secondary school had removed such machines.

Another secondary school had trialled the use of water bottles during the school day. Although there had been some positive outcomes (such as improved concentration) some practical problems had emerged, such as water leaking in bags and other hazards, for example in laboratories. It was now a matter for individual teachers to decide whether they would allow water in classrooms. Pupils at one of the primary schools visited said they were not allowed to drink water in class in case of spillages. In another school, children said they were given cups but complained that they were expected to use the same one for a long time. In one secondary school it was said that the water fountain was regularly vandalised in a way which meant people were reluctant to use it. Many pupils commented on the importance of being allowed regular access to drinking water throughout the school day, especially during the summer months.

Primary school pupils also referred to food they could buy such as milk or healthy snacks. In two schools they said that they could only buy healthy food and were not allowed to bring certain items to school.

5.8 Link with behaviour

Some LA representatives were aware of qualitative evidence of a link between diet and behaviour. They said that there was a need to continue to collect and disseminate such information as this could be a lever to improve the priority given to the provision of quality school meals. Secondary schools referred to qualitative evidence that behaviour had improved since certain steps had been taken. For example, some members of a school SMT noted *'We got rid of the coke and chocolate vending machines ... we have cereal bars, juice and water, It has made a difference to behaviour. It is much calmer in the afternoons'*. It was recognised that more research was needed before firm conclusions could be drawn.

5.9 Promoting nutritious food

LAs said that health issues were taken seriously as cross-cutting themes which often reflected corporate LA objectives set for health and wellbeing. Such initiatives were often linked to LA-wide action plans. For example, one authority referred to its *Nutrition Strategy and Action Plan* which was developed as a result of a multi-agency approach and which sought to address nutrition in school as part of a much wider strategy to promote health. Specific actions were identified including:

- reducing the amount of salt in school meals through the redevelopment of menus and recipes
- introducing ‘dietician approved’ central county menus
- using IT software to identify the nutrient content of school meals
- initiatives to increase fruit and vegetable consumption among pupils
- training for school caterers on health and nutrition
- expanding salad bars in primary schools
- developing cash-free systems and monitor and award those choosing healthy diets.

However, there were differences in the extent to which they had progressed the agenda. For example, one LA described how all of its primary schools had been involved in a healthy eating programme since September 2004 and how messages about nutrition and the relationship between diet and health were slowly permeating through to pupils. It was felt that this could influence demand from those pupils as they moved into secondary school. Another LA had developed a rolling programme by which schools were working with pupils to develop healthier menus. However, several authorities said that it would be a mistake to underestimate the challenge of getting teenagers especially to choose healthy diets.

Some LAs tried to raise awareness of different types of food (such as that from certain countries) through the use of ‘themed days’. However, staff in one primary school felt that these were gimmicky, such as a ‘Pirate Day’ with no real nutritional theme. Days for, say, Chinese or Italian food were never arranged. Awareness-raising was also noted by the secondary schools. For example, one of them had developed activities centred around the theme of ‘you are what you eat’ as a means of promoting awareness and action. A representative of a secondary school emphasised the need to avoid the notion of ‘healthy eating days’ and to view nutrition as an issue that was relevant all of the time; *‘There were chips every day and only a healthy eating day once a week and my argument was there should be healthy food every day’*.

One secondary school representative said that most of the work promoting awareness of health and nutrition was carried out in PSHE lessons. It was felt that recent publicity concerning the nutritional quality of school meals had helped schools to promote such messages. Another secondary school intended to introduce a reward system. According to the school's representative *'if the kids eat a certain amount of healthy meals over half a term they will get commendations, if they get 50 in a school year they get a £10 gift voucher at the end of the year. We are going to tie in healthy eating and reward'*.

The view that PSHE was the most effective way of promoting such messages was echoed in the primary schools. However, one primary school headteacher said that the amount of training available on health-related issues was limited.

The amount of time devoted to healthy living in PSHE lessons was, however, an important issue. This was borne out in the evidence of some of the children; some primary children could not recall any overt lessons on health-related issues, although messages about health were possibly being passed on in other ways. Secondary school pupils said that PSHE concentrated on health issues other than nutrition.

The main focus on nutrition had been on things such as the danger of eating too much and the need to eat *'a little bit of everything'*. Some felt that they were more aware of such issues as they grew older. Children at one primary said that they had studied nutrition as part of a science lesson. There was no discernible difference in the awareness of nutrition of those who ate school dinners compared with those who did not do so.

5.10 Training staff

All 10 authorities responding to the questionnaire survey had provided recent training on nutritional issues. Kitchen staff were the most frequent target group and were offered training by all the authorities. Three authorities had provided training for governing bodies, and only two for teaching staff and one for lunchtime supervisors.

Key Findings

The take-up of school meals by pupils varied widely across schools between 30 and 85 per cent; on average, take-up was higher in primary schools.

The most important factors influencing pupils' decision to eat school meals were the quality and choice of food available.

The most influential factors on what pupils chose to eat in school were their eating habits at home and the influence of their peer group.

School meals usually offered better quality and satisfaction where food was prepared on site; the great majority of schools participating in the research had full food preparation facilities.

Where PFI arrangements were in operation they could counteract economies of scale in procurement and hamper cross-LA planning.

Most kitchen staff had few opportunities to use prime cooking skills and complained of inadequate hours. Many were low paid and had poor careers prospects.

There was some evidence of whole-school approaches to better and more healthy nutritional policy and practice, particularly in the primary sector. Few such initiatives included kitchen and supervisory staff.

Most school dining halls were also used for other purposes; the quality of the facilities and ambience for pupils' school lunch varied, but the eating environment was often at best functional and characterised by cramped conditions at tables, noise, and the need to move large numbers of pupils through the lunch session as quickly as possible.

Pupils' choice of food was frequently influenced by the limited time available to consume it.

Staggered lunch periods for different year groups might permit longer times for the lunch experience, although this would increase the hours of catering and supervisory staff. A choice of menu was invariably provided, although the choice was usually more limited in the primary sector.

The competition for school meals from nearby vans and shops usually led pupils to make unhealthy choices of burgers, chips, etc.

Vending machines on school premises were absent in the primary schools in the research samples; they were common in secondary schools, although few of these provided vending machines with healthy options only.

Swipe cards were proving successful in that they required pupils to carry less loose money to school and reduced the causes of bullying. Such cards could also help to anonymise pupils entitled to free school meals and ensure that pupils purchased food on school premises.

The great majority of primary and secondary pupils had received instruction in diet and the nutritional content of food, usually through the science curriculum, but also in PSE periods; however, although most could talk accurately about nutritional issues, there was sometimes little correlation

between what they knew about the need for a balanced diet and the food they actually bought to eat.

All the LAs participating in the research arranged training on nutritional issues, but this was usually aimed at kitchen staff rather than teaching staff and lunchtime supervisors.

6. Future developments

A great number of suggestions were made by stakeholders, through the qualitative interviews and the questionnaire surveys, about ways in which the school meals service could develop in future.

There was a general desire to develop and encourage the consumption of more healthy items by pupils through a variety of means, such as counter choice, education of pupils and their parents, the training of staff and pricing policy.

Local authorities insisted on the need to address what they considered to be long-term under-investment in the system. In particular, they felt that too many decisions had been based on cost without adequate consideration being given to the quality of the food or the role of the school meals service as a 'social' rather than 'commercial' service.

The need to extend the use of prime cooking, with an emphasis on fresh vegetables, was also noted by a large number of respondents. However, it was emphasised that this required more money and also considerable investment to train staff. Many respondents wanted to see cooking restored to the National Curriculum.

The need for capital investment in school kitchens was emphasised. This included upgrading equipment, addressing capacity issues when kitchens were too small to cater for current demand, and developing cooking facilities on site.

A number of respondents commented that, in an ideal world, they would like to offer school meals free of charge in order to attract more pupils to eat a healthy and balanced lunch. Another more immediately practical proposal was that vegetable portions should be provided free, except for potatoes.

Some schools and LAs would like to develop cashless systems of payment for school meals through swipe cards, which were already in operation in some local authorities, not least because they reduced a cause of bullying and encouraged pupils to eat on-site.

Several respondents referred to the influence of food and drink consumed in school on pupil performance. They called for research to identify any linkage between the provision of sugary or healthy food and drink, water and healthy snacks and aspects of performance such as behaviour, concentration and attainment.

A number of LA representatives wished to reverse the trend towards shorter dinner breaks in schools in order to reinforce messages about the social aspects of food and eating together.

More effective marketing by LAs and individual schools was felt to be essential to increase pupil take-up and encourage them to healthier choices. There was also a call for teachers to play a more active role in discussing pupil's diet and prospective lunch choices with them.

7. Conclusions

At the beginning of 2006 the area of nutrition in schools in Wales was undergoing a greater period of scrutiny than ever before, and several general themes could be identified.

- 7.1 There was a broad recognition by educational managers, catering personnel and teaching staff of the dangers of obesity and its increasing prevalence amongst young people, and also of the need to combat it through promoting healthy diet and lifestyle, and wellbeing. The Minimum Nutritional Standards published by the Welsh Assembly Government are very familiar to LAs but less so to headteachers and other school staff.
- 7.2 Most LAs in Wales were well aware of the minimum nutritional guidelines for schools published by the Welsh Assembly Government, and had initiated policies to introduce healthier menus for school meals and review the provision of other facilities for food and drink in and around schools.
- 7.3 However, one underlying tension which was constraining developments was the requirement for LAs to balance the provision of healthy eating options for pupils against their financial need to increase the take-up of school meals and avoid waste. Take-up could most easily be boosted by offering pupils the kinds of food they enjoyed, which were not always the healthiest.
- 7.4 Another tension was that between the desire of many headteachers to reduce the disruption caused by the freedom of the lunch hour by shortening it and the need for more time to provide a better social experience for pupils of eating together. One argument is that if the lunch hour could be generally made a more satisfying and pacifying experience for young people, its potential for disruption would be correspondingly reduced.
- 7.5 Primary schools are mostly further developed than secondaries in promoting healthy eating practices and directing pupils towards them, through initiatives such as fruit tuck shops and morning milk.
- 7.6 In the secondary sector, a sudden withdrawal of the more unhealthy but tasty options would probably lower the quality of many pupils' lunch even more through inducing them to bring lunch boxes with an exclusive diet of pasties, crisps and chocolate or seek their lunch from vans and shops

off the school premises. Changes in pupils' diet will be best achieved through gradual means.

7.7 Although interventions have had mixed results, strategies which have proved successful in influencing pupils' choice of food and drink include:

- education of parents through taster sessions at parents and PTA evenings
- videos and other attractive materials for primary pupils
- positive marketing of healthy options
- attractive presentation and labelling of healthy choices
- pricing policies which make unhealthy options more expensive.

7.8 The operation of vending machines can be a useful source of income for secondary schools but they should be restricted to selling healthy options only. It is broadly accepted that the non-consumption of sugary products and fizzy drinks by pupils can have a calming effect on behaviour.

7.9 There is a strong case for considering the lunch hour as an integral part of the school day; as another lesson period but with its emphasis on developing social skills and knowledge about dietary and nutritional issues.

7.10 As with initiatives in other educational areas, success in improving nutritional aspects of young people's development is likely to be best achieved through whole-school approaches involving school managers, teaching, supervisory and catering staff and directed by a common approach and vision. This approach should be underpinned by relevant training in both the primary and secondary sectors.

REFERENCES

BBC (2005) [online]. Available:

<http://news.bbc.co.uk/1/hi/wales/4394269.stm>

Beauford Research (2002) '*School Meals Report*' Food Standards Agency Wales. [Online] Available:

<http://www.food.gov.uk/multimedia/pdfs/fsawaleschoolmeals.pdf>

Bullen, K (2004) 'Changing Children's Food and Health concepts: A Challenge for Nutritional Education'. *Education and Health*, Vol 22 No. 4, 51-54.

Cambridgeshire Secondary School Meals Pilot Project Steering Group (2005). Cambridgeshire Secondary School Meals Pilot Project [online]. Available: <http://www.food.gov.uk/multimedia/pdfs/cambridgepilot.pdf> [20 February, 2006].

Carmarthenshire County Council (2004) Carmarthenshire School Meals Nutrition Strategy: Improving the Health of Children and Young People in Carmarthenshire. [online] Available:

http://www.carmarthenshire.gov.uk/attached_files/simons/Nutrition%20Strategy.pdf

The Caroline Walker Trust (1992). *Nutritional Guidelines for School Meals. Report of an Expert Working Group*. London: The Caroline Walker Trust.

Crawley, H (2005). '*Eating well at school: nutritional and practical guidelines*'. London: The Caroline Walker Trust.

Department for Education and Skills (2001). *Nutritional Standards for School Meals*. London: Department for Education and Skills.

Food Standards Agency, Wales (2002) *School Meals Report*.(WAL-010)

Food Standards Agency, Wales (2003) *Food and Well Being: Reducing inequalities through a nutrition strategy for Wales*. (FSA/0724/1202)

Gillard, D. (2003) 'Food for Thought: child nutrition, the school dinner and the food industry', *Forum*, 45, 3, 111 – 118.

Health Challenge Wales (2005) '*Healthy Food Vending in schools: findings from a pilot project in secondary schools in Pembrokeshire*.' [online].

HMIe (2005) *Monitoring the Implementation of Hungry for Success: A Whole School Approach to School Meals in Scotland*. Livingstone. HM Inspectorate of Education.

Hurley, C and Riley, A (Eds) (2004) *'Recipe for Change: A good practice guide for school meals.'* London. Child Poverty Action Group.

Lawrence, F and Carvel, J (2006) 'Free fruit and veg scheme for young pupils hits problems' (Education) *Guardian*, 28, January 2006.

Lowe CF, Horne PJ, Le Noury J, Tapper K, Woolner J, Hardman CA (2004) *Changing the nation's diet: a programme to increase children's consumption of fruit and vegetables*. Working paper No. 4. Bangor Food Research Unit.

MacGregor, A and Sheehy, C (2005). *'Evaluation of Free Fruit in Schools Initiative'* Scottish Centre for Social Research. 2005

Morgan, K (2003) 'School Meals: A Health Policy That Would Work'. Available: <http://www.cf.ac.uk/cplan/downloads/kjm-article.pdf> [22 February 2006]

Morgan, K (2004) 'School Meals and Sustainable Food Chains: the role of creative public procurement'. London. The Caroline Walker Trust.

National Audit Office (2001) *'Tackling Obesity in England'*. London. NAO.

Nelson M, Bradbury J, Poulter J, McGee, A, Msebele S and Jarvis L. (2004) *'School Meals in Secondary Schools in England'*. London. King's College.

Noble C, Corney, M, Eves, A, Kipps, M and Lumbers M (2001) 'School meals: Primary schoolchildren's perceptions of healthiness of foods served at school and their preferences for these foods', *Health Education Journal* 60(2) 109-119

Office for Standards in Education (2004) *Starting early: food and nutrition education of young children*. (HMI 2292) London. Ofsted.

Parliamentary Office of Science and Technology (2003). *Improving children's diet* [online]. Available: <http://www.parliament.uk/post/pr199.pdf> [20 February 2006]

Parry-Langdon N and Roberts C (2004). *Health Behaviour in School-aged Children (HBSC) survey: Physical Activity, Sedentary Behaviour and Obesity*. Research and Evaluation Branch. Health Promotion Division, Office of the Chief Medical Officer. Cardiff: Welsh Assembly Government. www.cmo.wales.gov.uk/content/publications/reports/hbsc1-e.pdf

Pearce, H (2003) *'Food for life healthy, local, organic school meals.'* Soil Association (2003 116pp, pb).London. Soil Association.

School's Meals Review Panel (2005) 'Turning the Tables: Transforming School Food' [online].

Available:

<http://www.dfes.gov.uk/consultations/downloadableDocs/SMRP%20Report%20FINAL.pdf> [20 February 2006]

School Meals Review Panel. (2005). *Turning the Tables: Transforming School Food*. Main Report. London: DfES.

Scottish Executive (2002). *Hungry for Success – A Whole School Approach to School Meals in Scotland*. Edinburgh: Scottish Executive.

Soil Association (2005) *'Double Dividend? Promoting good nutrition and sustainable consumption through healthy school meals.'* Sustainable Consumption Roundtable [online] Available: http://www.ncc.org.uk/responsibleconsumption/double_dividend.pdf [22 February 2006]

Soil Association (2003) *'Food for life in Wales.'* [online] Available: [http://www.soilassociation.org/web/sa/saweb.nsf/9f788a2d1160a9e580256a71002a3d2b/65a3b4988446e96280256db400380e4c/\\$FILE/Food%20For%20Life%20in%20Wales%20report.pdf](http://www.soilassociation.org/web/sa/saweb.nsf/9f788a2d1160a9e580256a71002a3d2b/65a3b4988446e96280256db400380e4c/$FILE/Food%20For%20Life%20in%20Wales%20report.pdf) [25 February 2006]

Turner, S, Levinson, R, McLellan-Arnold, B, Stevenson, S, Donkin, A and Dowler, E (2004). 'Healthy eating in primary schools: an educational perspective from a socially deprived area'. *Health Education Journal* (2000) 59, 196-210.

Wales. Statutory Instruments (2001) *The Education (Nutritional Standards for School Lunches) (Wales) Regulations 2001*. (W. 126) London: The Stationery Office.

Walters J and Hackett A, (2005) *'An evaluation of nutrient intake from school meals of children in secondary schools in Knowsley MBC before and after intervention.'* Food Standards Agency [online] Available: <http://www.food.gov.uk/multimedia/pdfs/knowsleypilot.pdf>

Welsh Assembly Government (2005) *Health Challenge Wales – Action on food and fitness for children and young people*. Cardiff: Welsh Assembly Government. Available: http://www.wcva.org.uk/images_client/policy_consultant/HCW%20consultation.pdf

Welsh Assembly Government (2005) *Think Healthy Vending Guidance on vending machines in schools*. Cardiff: Welsh Assembly Government. Available: <http://www.cmo.wales.gov.uk/content/work/schools/vend-book-eng.pdf>

Welsh Assembly Government (2006a). *In Perspective: a Quick Guide to 'In Perspective' - Secondary Schools* [online]. Available: <http://www.cmo.wales.gov.uk/content/work/schools/in-perspective-e.pdf> [27 February, 2006].

National Assembly for Wales (2006b). *Fruit Tuck Shops in Primary Schools: a Practical Guide to Planning and Running a School Fruit Tuck Shop* [online]. Available: <http://www.food.gov.uk/multimedia/pdfs/fruittuckwales.pdf> [2 March, 2006].

Welsh Local Government Association. (2005). *School Nutrition – Setting the Scene*. Paper. Cardiff.