



The provision of school food in 18 countries

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Summary

This paper compares the provision of school food in 18 different countries around the world, with a specific focus on funding, catering providers, costs, free school meals (FSMs), take up and the dining experience.

Although these aspects of the school meals system vary between countries owing to cultural and economic differences, valuable lessons can be learnt. Countries with well established Government funding for school meals appear to have more developed meal systems with higher rates of take up than those where funding is of a lesser priority. Investing in good quality ingredients, with an emphasis on organic and locally sourced products, is of key importance in countries such as Italy, France, Japan and Hong Kong and has the potential to produce better quality meals whilst not necessarily financially impacting on the families. Ensuring that a suitable dining environment is also provided is of key importance in countries such as Italy, Finland and Japan. This helps to ensure that a sound basis is provided from which cultural and social lessons can be learnt within the context of school meals provision.



















Key Findings

- Provision varies from a limited service in countries such as the Republic of Ireland and Germany, where only pre-packed sandwiches and soup are provided, resulting in many children making alternative arrangements, to countries in the U.K., Sweden and Finland where a full canteen-style service is generally provided.
- Government funding of school meals varies across countries from long-term funding to cover the full cost of meals (Sweden and Finland), to the provision of financial support to drive and improve the standards and take up of school meals (England, Scotland and Italy). A third funding policy is seen in countries where Governments invest in meal programmes targeting deprived regions, e.g., Brazil and Chile.
- Catering services differ between countries. In Spain, external private companies are normally contracted to provide school catering, whereas in Italy in Rome, 92% of schools have meals cooked in the school kitchens and source organic and local produce.
- The average spend on ingredients for an individual meal ranges from £0.30 in Chile and £0.31 in Wales (data collected in 2002 and 2004 respectively) to £1.50 in France (data collected 2005).
- The average purchase price of a canteen meal varies from £0.98 in the U.S.A. to £4.50 in parts of France (data collected 2005).
- Most countries offer FSMs or reduced price meals to those families who qualify, with the exception of Australia. In Sweden and Finland, FSMs are offered to all pupils in compulsory education regardless of their ability to pay.
- Take up varies from 95% of Finnish and 85% of Swedish schoolchildren eating a main course on most days (where free meals are available to all) and over 85%

take up in Japan, compared to 9.1% in Canada where the vast majority take packed lunches.

- Many schools with canteen style services serve 2-3 courses at lunch time although in France, 4 course meals are not uncommon. In most countries (except Finland where packed lunches are not permitted) many children take packed lunches
- The dining experience differs across countries owing to differing dining room capacities. More often than not, space is limited although most countries try to accommodate pupils by providing adequate facilities and space for them to sit down and eat their school meal or packed lunch. In many countries, it is not possible for schools to have dedicated rooms for dining and hence some dining areas are multi-purpose and so act as an assembly or sports halls and often hold other classes as well. It is normal that schools in Hong Kong and many in Japan do not have a dining hall and children eat in their classrooms. In Italy, children sit down at round tables with tablecloths and proper crockery and cutlery to enhance the whole meal experience.
- Lunchtime should be given due consideration when planning the school day to allow all pupils to benefit from the social experience provided by school meals. In the U.K., the lunch period typically runs from between 30 to 60 minutes. In Finland the lunch period lasts for 30 minutes and in France, school meal guidelines state that at least 45 minutes must be allowed for the lunch period. In Japan, pupils up to twelve years of age have a lunch break that usually lasts 50 minutes although this period is reduced to 45 minutes for those pupils in secondary school. In Sweden, the lunch hour is often 70 minutes long.
- Breakfast clubs are becoming increasingly common in many schools, especially in the U.K., and the provision of breakfast or morning snacks in France and Sweden is encouraged.

Summary Table

		En	Sc	Wa	Nl	RI	Fr	Sp	It	Ge	Sw	Fi	HK	Ja	Ca	US	Au	Br	Ch
																			
Funding of meals	All costs covered by Gov ⁿ .	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	Y	Y
	Part costs covered by Gov ⁿ .	Y	Y	Y	Y	Y	Y	Y	Y	O	N	N	Y	Y	O	Y	N	N	N
	Gov ⁿ funding for meal programmes*	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	Y	N	Y	Y
Catering	Mixed catering services	Y	Y	Y	Y	Y	Y			O		Y			O			Y	
	Meals mainly cooked in schools								Y	O				Y	O				
	Meals mainly private contract							Y		O	Y		Y		O	Y	Y		Y
Cost per meal [†]	Average meal £1.00-£2.00	Y	Y	Y	Y	Y				O	NA	NA	Y	Y	O	Y	Y	NA	NA
	Average meal >£2.00									O	NA	NA			O			NA	NA
	Average meal >£2.50						Y	Y	Y	O	NA	NA			O			NA	NA
	Average spend on ingredients <£0.50			Y		O		O		O			O		Y	O	O	O	Y
	Average spend on ingredients £0.50-£1.00	Y	Y		Y	O		O		O	Y	Y	O			O	O	O	
	Average spend on ingredients >£1.00					O	Y	O	Y	O			O	Y		O	O	O	
Take up & FSM	Free meals for all	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
	FSM available for some	Y	Y	Y	Y	Y	Y	Y	Y	O	NA	NA	Y	N	O	Y	N	Y [‡]	Y [‡]
	Reduced price meals available for some	N	N	N	N	Y	Y	N	Y	O	NA	NA	Y	Y	O	Y	N	NA	NA
	Average take up >40%	N	Y	Y	Y	N	O	N	O	O			Y		N	Y	N	Y [‡]	N
	Average take up >80%	N				N	O	N	O	O	Y	Y		Y	N		N		N
	Average FSM take up >60%	Y	Y	Y	O	N	O	O	O	O	NA	NA	O	NA	O	O	NA	NA	NA
Dining	Dining halls commonplace	Y	Y	Y	Y	O	Y	S	Y	S	Y	Y	N	S	S	Y	Y	O	O
	Canteen-style facilities	Y	Y	Y	Y	O	Y	S	Y	S	Y	Y	S	S	S	Y	Y	O	O
	Packed lunches are allowed	Y	Y	Y	Y	Y	Y	Y	O	Y	O	N	Y	Y	Y	Y	Y	Y	Y
	Breakfast clubs operate	Y	Y	Y	Y	O	Y	O	O	O	Y	O	O	O	O	Y	O	O	Y

* "Meal programmes" means school lunches provided at the cost of the Government to those in need, and does not include extra programmes and initiatives that may be ongoing in various countries, i.e., school milk programmes, breakfast clubs, etc.

[†] Costings are subject to change. Please refer to the main text for references which refer to the date when the information was obtained.

[‡] For those who are in receipt of the school meals program

Govⁿ - Government

FSM - Free school meals

Y - yes, in many schools

S - in some schools, but not the majority

N - no

O - no information found

NA - not applicable

1. Introduction

The modes of provision of school food¹ (primarily at lunch time) show considerable differences between countries. The traditional service style (seated dining) with on-site food preparation has shifted towards catering delivery services, vending machines, school cafeterias and other ways of food distribution which are now widely used in many schools, and particularly those in the secondary sector.¹ It has been suggested that the school meal service extends beyond the provision of food, and should be understood in terms of social learning, providing the opportunity for pupils to learn a range of skills including that necessary to make positive food choices in relation to healthy eating. Comparing the school meal service in different countries highlights examples of good practice which can inform the provision of healthy, sustainable and cost effective meals in schools more generally.

A previous report by the School Food Trust (SFT) looked at school food provision in England and other Western countries, including Spain, Canada, Sweden and France² focusing on aspects of the meal service ranging from the historical development of school meals, cost of ingredients, method of service, food and nutrient-based standards, and issues around monitoring and evaluation of the service.

2. Aim

The aim of this review is to compare information on the provision of the school meal service in countries previously reviewed whilst also reviewing new countries around the world. Aspects such as a brief history of school meals, their cost, free school meals (FSMs), Government subsidies or funding available to Local Authorities (LAs), catering services and the dining experience will be reviewed where possible.

3. Methods

Internet based searches used the Google search engine.³ Government and health organisation websites, as well as Medline,² were searched for relevant unpublished and published literature. The main period of literature review occurred during November and December 2007. Further details can be found in appendix 1.

All currency conversions used the web based Universal Currency Converter.⁴

4. Provision of school food

This section looks at aspects of provision of school food in 18 different countries around the world. Aspects that have been reviewed include: recent history of school meals in each country, funding, catering, costs (including ingredient and labour costs and the purchase prices of school meals), take up and free school meals and the dining

¹ School food in this review refers to the food provided in primary and secondary schools or equivalent, predominantly at lunch time. Differences in food provision for special schools and pupil referral units (PRUs) has not been defined or discussed.

² Medline is the Medical Literature Analysis and Retrieval System Online from the National Library of Medicine.

experience. The level of information available on each topic varies from country to country, and may not be strictly comparable (e.g. cost of ingredients) because of economic differences.

Countries included in this review have been divided into six geographical categories: the U.K., other European countries, Asia, Australasia, North America and South America. Within each group, countries with established school meal systems have been selected. It should be noted that the list of countries is not exhaustive and other countries with developed school meal systems may not be included. Countries known not to have a well established school meal service, and that are therefore not featured include Portugal, Switzerland, Austria, Norway, Denmark, Holland, Belgium, New Zealand and South Africa. In most of these countries, children go home to eat as the school day ends in the early afternoon.

4.1. The United Kingdom (U.K.)

The countries covered in this section include England, Scotland, Wales and Northern Ireland.

4.1.1. England

The School Food Trust (SFT) was established by the Department for Education and Skills in September 2005 to promote the education and health of children and young people by improving the quality of food supplied and consumed in schools. In October 2005, the Government-appointed School Meals Review Panel published its report 'Turning the Tables'.⁵ The report proposed radical changes to the quality and nutritional value of food served and consumed in school.³ The result was new school food standards covering all food sold or served in schools throughout the day: breakfast, lunch and after-school meals. Tuck shops, vending, mid-morning break are also covered by the standards. Interim food-based standards for school lunches were introduced in September 2006, and in September 2007 food-based standards for food other than lunch were introduced. New nutrient-based and final food-based standards for school lunches will be compulsory in primary schools from September 2008 and in secondary, special schools and pupil referral units (PRUs) in September 2009, although schools are encouraged to adopt the standards in advance of these dates.

4.1.2. Scotland

In 2002, Scottish Ministers established an Expert Panel on School Meals to determine standards for the nutritional content of school meals and improve their general presentation and take up. These were to be the first nutrient-based school meal standards to be introduced in the U.K. since 1980. February 2003 saw the publication of the report 'Hungry for Success'.⁶ These detailed food and nutrient standards, based on the 1992 CWT guidelines,⁷ were not compulsory, but schools and catering providers were encouraged to implement them in primary schools by December 2004 and in

³ These recommendations were based in part on the 2005 Caroline Walker Trust (CWT) guidelines for school meals⁷

secondary schools by December 2006. These standards are in the process of being written into legislation. The new nutritional regulations for food and drink in schools that this new Act will introduce will come into effect in August 2008.⁸ Although schools and LAs should be preparing for the changes that this will bring, the advice is that they should continue to implement Hungry for Success during 2007-2008.

4.1.3. Wales

In Wales in 2001, the Education (Nutritional Standards for School Lunches – Wales) Regulations⁹ were issued to all schools and LAs setting out minimum dietary standards.

In July 2005, an independent Food in Schools Working Group was established by the Welsh Assembly Government. The group issued the consultation document 'Appetite for Life'¹⁰ on 29th June 2006, which recommended accepting the CWT 2005 nutrient standards to apply to all food served at lunch time. The Appetite for Life Action Plan¹¹ was launched on 22 November 2007, setting out the strategic direction and actions required to improve the nutritional standards of food and drink provided in schools in Wales. Its development was informed by responses to the consultation exercise (which included children and young people's views), lessons learnt from other parts of the U.K., and detailed discussions with the Local Authority Caterers Association (LACA).

At this stage, regulations will not be made to introduce the proposed food and nutritional standards within the Appetite for Life Action Plan. From September 2008, a 2 year action research project will be implemented in 4 LAs to develop and test the guidelines for implementing the food and nutritional standards proposed within the Appetite for Life Action Plan, and to inform wider application across all maintained schools in Wales. For those schools not involved in the project, a specific grant scheme will be made available to support schools, across all authorities, to progress to the new standards proposed in the action plan. Over the next two years £6.6 million will be made available for the project and the Appetite for Life Grant Scheme.¹²

4.1.4. Northern Ireland

In Northern Ireland in 1995, the Chest, Heart and Stroke Association published a report on the menus offered at secondary schools.¹³ This led to the content of school meals being reviewed by the Department of Health and Health Promotion Agency. In December 2001, the consultation document 'Catering for Healthier Lifestyles-compulsory standards for school meals'¹⁴ which set out new compulsory nutritional standards for school meals, was published by the Department of Education and Employment. Responses from the consultation indicated that there was widespread support for the principles underpinning the revised nutritional standards. Following agreement with the five Education and Library Boards (ELBs), it was decided to convene a small working group to take forward the introduction of a pilot scheme to test the reaction to the revised nutritional standards. This ran from March 2004 to March 2005. As a result of this, the Department, in conjunction with the ELBs and other school authorities, began to introduce new nutritional standards to schools during the 2005 Autumn term, as outlined in the consultation document. In May 2006, the Department of Education proposed the introduction of new nutritional standards for school meals.¹⁵

The Department of Education proposed that new nutritional standards for school meals and other food in schools should reflect the work being done in England and Scotland by following their food-based standards and the CWT 2005 nutrient recommendations. During 2006-2007, the Education and Training Inspectorate evaluated the nutritional quality of the school meals.^{16 17} Following the consultation exercise, the Department updated and finalised the standards which were issued to schools in June 2007 and came into effect from September 2007.¹⁸ The standards were further updated in February 2008 to clarify some aspects and provide additional guidance for schools.¹⁹

The following four tables provide summaries of catering funding and delivery in the U.K., together with information on FSM and the dining environment.

Table 1. Aspects of school food provision and the dining environment in England

Provision & Dining	England
Funding	<p>In March 2004 the Secretary of State announced a package of measures designed to significantly improve the quality of school meals. Details and conditions of £220 million of new transitional funding for LAs and schools for 2005-2008 were announced. The School Food Trust (SFT) was set up in 2005 with £15 million of funding from the Department for Education and Skills (DfES) to promote the education and health of children and young people by improving the quality of food supplied and consumed in schools. In 2008 the Secretary of State announced a £240 million subsidy for cost of producing school lunches from 2008-11; additional £21 million funding for SFT for 2008 to 2011 and a further £2m capital investment for School FEAST training centres²⁰</p>
Catering Provider	<p>Catering is provided by the LA in 81% of primary schools and 43% of secondary schools. 12% of primary schools and 49% of secondary schools organised their own catering service (either engaging directly with a private contractor or operating an in-house service). 61% of LAs have been found to offer an in-house catering service to schools and catering using a centrally procured private contractor was offered in 36% of LAs. The mix of provision has changed over the previous year in 49 LAs, with slightly fewer schools using LA in-house providers, and slightly more schools operating an in-house service.²¹</p>
Cost	<p>Findings from the SFTs annual survey found that the cost of a school meal in primary schools rose from £1.56 in 2005-2006 to £1.63 in 2006-2007; in secondary schools, the annual survey found that a cost of a school meal in secondary schools rose from £1.64 in 2005-2006 to £1.72 in 2006-2007. The Trust's findings are consistent with LACA, who reported average primary meal costs of £1.64.²²</p> <p>In 2007, the average cost of ingredients for a primary school meal was £0.57, up from £0.52 in 2005-2006. Labour costs in primary schools were £1.09, or 67% of meal costs.</p>
FSM & Take up	<p>In 2007, take up of school meals in primary schools were 41%, down 1% from 2005-2006 (42%). In secondary schools, take up was 38%, down 5% from 2005-2006 (43%).²² Values in the survey were reported as numbers of meals (for free and paid meals) and percent take up was then computed by us using numbers of pupils on roll in the schools being catered for.)</p> <p>16.9% of primary pupils and 14.5% of secondary pupils were found to be eligible for a free school meal during 2006-2007.</p> <p>FSM are available to children whose parents or guardians receive: Pension Credit Guarantee Credit (the 'guarantee credit element'), income Support, income-based Jobseeker's Allowance or child tax credit (but not Working Tax Credit) and have a family income below £14,155, as assessed by HM Revenue & Customs.²³</p>
Dining	<p>Meals are generally served as a canteen^c style lunch service, even in primary schools. Some pupils take packed lunches. Packed lunch guidance is available from the SFT. Many schools now operate breakfast clubs. On average, lunchtimes can range between 30 to 60 minutes.</p> <p>Dining room improvements, including lunchtime management, have been recommended to make a more appealing environment by improving the dining space (use of plates as opposed to plastic trays, tablecloths, posters on walls etc.).²⁴</p>

^c Canteen (or cafeteria) in this review refers to food outlets on the school premises where there is no table service. Instead of table service, there are food-serving counters/stalls, either in a line or allowing arbitrary walking paths. A variety of different foods may be on offer.

Table 2. Aspects of school food provision and the dining environment in Scotland

Provision & Dining	Scotland
Funding	<p>Funding for school meals is provided to LAs through Grant Aided Expenditure.³⁰</p> <p>£63.5 million was allocated in Scotland over the 3 years (2003-2005) to fund the implementation of Hungry for Success. Of this: £14 million was distributed to LAs in the first year, £21 million in the second and £24 million in the third. In December 2005, a further three year package (2006-2008) of funding for Hungry for Success of more than £70 million was announced to allow LAs to continue the work they have started with the initial investment.</p>
Catering Provider	<p>The provision of school meals varies amongst education authorities. Many schools have the ability to prepare and serve hot school meals on the premises; others only have the ability to serve hot meals which are prepared at a central production kitchen.</p>
Cost	<p>In 2004, 95% of the school meals service was provided by LA in-house service.</p> <p>The cost of school meals per pupil varies between education authorities, as does any subsidy provided by them.</p> <p>In March 2002, school meal prices were the highest in Edinburgh at £1.85 (secondary) and £1.65 (primary), and lower in some areas such as Dumfries and Galloway where meals are £0.95 (primary) and £1.00 (secondary), and in Glasgow £1.10 (primary and secondary).²⁵</p> <p>Fixed meal prices are usually set to the value of a free school meal and typically ranged from £1.35 - £1.85.</p> <p>In Scottish schools there was an average of £0.66 on ingredients for primary school meals and £0.72 on ingredients for secondary school meals.²⁶ Prices may vary between councils and Glasgow council reportedly allocates between £0.70 and £1.00 on ingredients for each school meal.²⁷</p>
FSM & Take up	<p>A total of 46.3% of primary and 44.9% of secondary pupils took school meals in 2007.</p> <p>In 2007, 17.6% of primary and 13.2% of secondary pupils were eligible for a FSM. Of those registered, 76.2% of primary pupils and 50.1% of secondary pupils took their FSM.²⁸</p> <p>Four out of five secondary schools and half of primary schools had anonymous systems for FSM receipt.²⁸</p> <p>FSMs in Scotland are at the discretion of individual education departments of LAs. A £5 million trial is being rolled out to primary pupils in Years 1-3 across 5 regions in Scotland. Free meals are being served during the six month scheme. The pilots aim to show the impact that universal FSMs have on children's eating behaviour and will help to shape policy on improving nutrition, as well as how schools cope with implementing them.²⁹</p>
Dining	<p>Meals are generally served as a canteen style lunch service. Some pupils take packed lunches.</p> <p>In 2005, 37% of all schools were found to provided a breakfast club.²⁸</p> <p>Pupils' feedback is used when making decisions regarding school food and healthier choices.³⁰</p>

Table 3. Aspects of school food provision and the dining environment in Wales

Provision & Dining	Wales
Funding	<p>Over the next two years (from September 2008) the Welsh Assembly Government will make £6.6 million available for the Appetite for Life Action Plan project and the Appetite for Life Grant Scheme.</p> <p>A further £1.8m has been made available to LAs over two calendar years (2007 and 2008) to provide a training package for school caterers. A further grant (data not available) has also enabled LAs to purchase equipment to improve existing school kitchen / dining room facilities.¹²</p>
Catering Provider	<p>There is no complete picture about the standards of catering facilities in schools across Wales.³¹ Schools can take several approaches:</p> <ol style="list-style-type: none"> 1. A service level agreement or contract organised by their LA with catering provided by a LA in-house provider or by a private sector contractor 2. Independently employing their staff directly to deliver the catering service. 3. Tendering their catering individually or as a group to a private sector contractor or a LA in-house provider 4. Private Finance Initiative (PFI).³²
Cost	<p>In 2006, the average cost of a school meal was £1.48 in primary schools and £1.59 in secondary schools.³³</p> <p>In 2004, the daily amount spent on ingredients per child per lunch was as low as £0.31.³⁴ Figures from Wales' 22 councils showed budgets range from £0.40 per meal in Cardiff to £0.69 per meal in Powys.³⁵</p>
FSM & Take up	<p>Approximately 45% of pupils use the school meal service.</p> <p>In January 2006, 16.9% of primary pupils and 14.7% of secondary pupils were found to take a FSM in South East Wales.³⁶</p> <p>In the January 2005 Welsh Assembly Government's Pupil Level Annual Census, primary and secondary schools reported that 63,000 of the 81,500 pupils (77%) who are registered for a FSM took a meal on Census Day (81% of those registered for free meals in primary schools and 72% in secondary schools).³²</p> <p>FSMs are available to children whose parents or guardians receive: Pension Credit Guarantee Credit (the 'guarantee credit element'), income Support, income-based Jobseeker's Allowance or child tax credit (but not Working Tax Credit) and have a family income below £14,155, as assessed by HM Revenue & Customs.²³</p>
Dining	<p>Meals are generally served as a canteen style lunch service. Some pupils take packed lunches. Breakfast clubs are established in many schools in Wales.</p> <p>Primary schools: pre-paid set price, two course set meal with some limited additional choice in each course. Secondary Schools: cash cafeteria service offered from one or more outlets with items priced individually.³²</p>

Table 4. Aspects of school food provision and the dining environment in Northern Ireland

Provision & Dining	Northern Ireland
Funding	<p>The Education Department is responsible for formulating and developing policy and the necessary financial arrangements for school meals. The day-to-day operation of the school meals service however, is managed by the Education and Library Boards (ELBs), of which there are 5 in Northern Ireland.³⁷</p> <p>It is the policy of ELBs to provide a midday meal on every day on which schools are open for pupils to attend.³⁸</p>
Catering Provider	<p>The School Catering Service is funded by the ELBs. In January 2002 the ELBs terminated their membership of the U.K. wide LACA and formed the Northern Ireland Schools' Catering Association (NISCA).</p> <p>In 2003, meals were prepared daily at on-site (production) kitchens in a total of 712 schools, including primary and secondary (57% of schools in Northern Ireland). Of these, 234 are production and transporting kitchens where meals are cooked and transported in insulated containers to 529 schools without kitchen facilities. Generally, at these locations the number of meals served is so small that it is uneconomic to have cooking facilities on site. The level at which this happens is determined by individual ELBs based on local circumstances.³⁸</p>
Cost	<p>From 1 April 2000 the charge for any meal or refreshment will need to be sufficient to recover the full cost of producing it. In 2004, the average cost of a school meal was £1.60 per day.³⁹</p> <p>Where the Trustees or Board of Governors operate a cafeteria system the Department will determine the maximum monetary value of a FSM in consultation with the school.⁴⁰</p> <p>The average cost of providing a complete primary school meal is about £0.42p whilst the cost in post-primary schools ranges from £0.53 to £0.58.⁴¹</p>
FSM & Take up	<p>A census in October 2002 showed that on average 55% of pupils took a school lunch on the day. This figure ranges from 46% to 67% across the five ELBs. 38.7% of pupils present took their own food at lunchtime and the remaining 6.2% made other arrangements, e.g. went home, or left the school premises for lunch.</p> <p>Of those pupils taking meals 61.6% were paying pupils and 38.4% were eligible for a FSM. In 2004/2005, 20.4% of primary and 28.7% of secondary pupils were registered for a FSM.⁴² FSMs are available to children whose parents or guardians receive: State pension credit, income Support, income-based Jobseeker's Allowance or child tax credit (but not Working Tax Credit) and have a family income below £14,495.⁴³</p>
Dining	<p>The vast majority primary schools provide a traditional meal with a main course and dessert everyday. All secondary schools provide a cash cafeteria service. Some pupils take packed lunches. Many schools now operate breakfast clubs.</p> <p>Dining facilities should include adequate space, furniture and supervision to enable pupils to eat in reasonable conditions. Spare areas in the dining room should be the first choice for the placement of pupils taking packed lunches. Where there is no such spare capacity to meet the needs of all pupils taking lunches, then other existing space which is appropriate, e.g., assembly hall or classrooms, should be used. Consideration should also be given to introducing staggered lunch breaks where feasible.³⁷</p>

4.2. Other Countries in Europe

The other countries in Europe covered in this section are the Republic of Ireland, France, Spain, Italy, Germany, Sweden and Finland.

4.2.1. The Republic of Ireland

The School Meals Scheme (SMS), which originated in 1914, provides meals to almost 400 schools in the Republic of Ireland. This SMS is operated by the Department of Social and Family Affairs (D/S&FA) who set up a Working Group (WG) to review and monitor it. The SMS has two distinct elements: the Urban School Meals Scheme and Local Projects Scheme. Meals should be in line with Departmental guidelines and should be provided free or at a minimal charge to children. The LAs and County Councils undertake day to day administration and operation of the SMS although its operation is not compulsory, with more than half of the 85 eligible LAs opting out each year. There have been relatively few changes to the scheme since it was first introduced. The SMS is viewed as inefficient due to its high operation cost and poor quality of the food provided. Lack of awareness, poor take up and food wastage are considered to be further inefficiencies.⁴⁴

4.2.2. France

In June 2001, the official bulletin by the Ministry of National Education and Minister for Research, entitled 'School restoration: composition of the meals in school restoration and safety of food,' was released. This highlighted the importance of school children receiving essential nutrients, receiving meals of high nutritional quality and emphasising the need for pleasant dining environments and user-friendly facilities. The main findings of the bulletin were that school lunches were not always satisfactory, often too high in fat and protein and low in dairy products, fruits and vegetables. The bulletin went on to set out new, non-compulsory, nutrient and food-based guidelines to assist in re-organising school lunches.⁴⁵

4.2.3. Spain

Since 2001, the Spanish Food Safety Agency (AESAs), an organisation within the Spanish Ministry of Health and Consumer Affairs, has been responsible for developing nutrition policies. In 2004, a study showed that 45% of 12-16 years olds across different Spanish regions reported eating only half of their school lunch, mainly owing to bad taste and or food preparation. From this evidence, it was felt that recommendations regarding healthy diets in schools were required.⁴⁶ In 2005, the 'Spanish Strategy for Nutrition, Physical Activity and Prevention of Obesity' (NAOS) was launched. One of NAOS's main target groups was schools, and it encompassed education, families and the dining environment. It aimed to improve the eating habits of pupils and address the types of foods and drinks sold in vending machines. Overall, the non-compulsory strategy is supporting a positive image of food where there are no bad foods, but instead talks in terms of a well or a poorly balanced diet.

4.2.4. Italy

The food served in Italian schools has a focus on procurement and sustainability. Meals are recognized as an integral part of both people's right to education and the consumers' right to health.⁴⁷ In the mid-1980s, the Commission 'What is Organic' was established and the first national law to regulate the organic sector was introduced. Soon after this, the municipality of Cesena designed the first organic school meal system.⁴⁸ During the late 1980s Italy began to promote the values of the Mediterranean diet. In 1986, the National Institute for Nutrition published the 'Guidelines for a Healthy Italian Diet', which explicitly promoted the Mediterranean food model in public sector catering.⁴⁹ The link between local, organic food and public catering food policies peaked in 1999, when, in response to an increased public concern for healthy eating, the Italian Government issued Finance Law 488. This law guaranteed the promotion of regionally sourced, organic, good quality food products in institutions which operate public canteens, including schools. A whole school approach is also taken very seriously in Italy and under law the 'Commissione Mensa' (Canteen Commission) involves families in the monitoring and evaluation of the quality of the school meal service. Each school must appoint its own 'Commissione Mensa' which includes any number of parents, appointed for a period of three years, who can visit the school in groups of two, unannounced, any time during term time. As a fundamental part of an education programme called 'Cultura che Nutre' (Culture that Feeds), Italian teachers reinforce the effort made in the school kitchen by linking it to material in the class room which covers a number of key areas: food, nutrition and life style (including cooking), Italian farming practices and food quality and, finally, the Italian diet and food culture.

4.2.5. Germany

The school day ends in the early afternoon in Germany, so most pupils go home for lunch, leaving the responsibility for mealtimes and nutrition to families. Recently however, this system has started to change and the Federal Government is introducing classes that continue throughout the day. This investment programme (future, education and supervision) is being financed by the Ministry of Education and aims to initiate another 10,000 all day schools in Germany. The introduction of these new all day schools has started a debate on the provision of school food, although for those schools who have adopted this new system, the need for them to open cafeterias is still at the discretion of the individual schools.⁵⁰ At present, any school catering systems seem to follow the low price concept: the cheaper the better. In light of this, the German Nutrition Society (DGE) has produced information based on dietary reference intakes and provides recommendations on how children can receive a healthy diet. These recommendations are to assist those schools (who are introducing all day classes and lunch provisions), in making decisions based on the types of food and drink served.⁵¹

In Germany, 'Germany Slim Kids, better diet more exercise' (Kinderleicht) is a nationwide campaign that ran from July 2003-2006 with the aim of improving the knowledge of parents and carers and pre- and elementary school teachers with regard to healthy diets and nutrition and healthy food preparation. Messages are being relayed to families via a nationwide advisory service, establishing a nutrition education

programme for parents and staff and by providing internet based nutrition information. To assist the set-up of the all-day schools, Slim Kids has established an advisory service for the schools to help them improve the quality of school meals whilst promoting a healthy diet. In turn it is envisaged that dietary standards for all schools in Germany can be developed.⁵² During 2003-2005, the 'Reform of Nutrition and Consumer Education in Schools' (REVIS), was established by the German Federal Government to provide support and consumer education on nutrition in schools. Its main aims are to: develop core curriculum and educational standards for all levels of education in the field of nutrition; assess present nutrition teaching materials and develop new ones as required; train and develop teacher's knowledge; develop internet resources for nutrition teachers; and to change home economics into a more nutrition based course called 'nutrition and consumer education' and implement it at all levels in school.⁵³

4.2.6. Sweden

In 1937, the Swedish Government, concerned that many children were poorly nourished, started to give some financial support to the existing school meals service. However, the support was modest and the service was only slowly developed. From 1945 to 1946 the Government stated that school meals should provide one third of the total daily calorie requirements and they began to support the school meals service on a more regular basis and on a larger scale. In 1973, schools finally provided free meals everyday to all pupils. In 1997, the Swedish Nutrition Recommendations (SNR) for children and adolescents of general school age were produced. By 1998, every LA was obliged by law to serve free meals in schools for children in compulsory education (7-16 year olds). In 2004 the Swedish National Food Administration (NFA), a Swedish Government Agency, developed nutritional guidelines specifically for school meals for children of different age groups.⁵⁴ The aims of these guidelines are to help schools compile nutritionally balanced menus and to help with the purchasing and preparation of the food; they can also be used in planning nutritional objectives in individual schools themselves. Within this there are some specific, non-compulsory, food and nutrient guidelines.

4.2.7. Finland

In 1957, each pupil was entitled to a "sufficient meal"⁴ on every school day and in 1964 teachers were obliged to supervise the school lunch by participating in it. In 1967, the definition of "sufficient meal" was refined to mean a meal that provided approximately one third of a child's daily food requirements. By 1981 all former regulations were repealed when new instructions about school catering were introduced. These included instructions about the nutritional value of the meals, special diets, the time and place of serving lunch, the school's educational task, and guiding and supervising the school lunch. In 1983 all comprehensive school pupils and sixth form college students were entitled to a free, sufficient meal on each school day and in 1984 the lunch break was set to be at least 30 minutes both at comprehensive schools and sixth form colleges. The meal was to fulfill approximately one third of a comprehensive school pupil's daily

⁴ Sufficient meal in this review refers to those meals that are adequate and meet, no less than, minimum energy and nutrient requirements for a group of people.

food requirements. The teachers were obliged to guide and supervise the behaviour of the pupils on lunch break.⁵⁵ In March 2008 the National Nutrition Council set out new guidelines for school food in Finland. These guidelines were based on the 2005 recommendations for the Finnish population.⁵⁶

Table 5. Aspects of school food provision and the dining environment in the Republic of Ireland

Provision & Dining	Republic of Ireland
Funding	<p>The D/S&FA has no function in initiating school meal programmes in schools. The role of the D/S&FA is to reimburse LAs and approve participation in the scheme. This involves liaison with the LAs and the Department of Education and seeking Department of Finance approval for additional expenditure when necessary. LAs may recoup 50% of their expenditure on the provision of meals for eligible children only.⁵⁷</p> <p>An additional €3 million (£2.2 million) was allocated for the development of the School Meals Programme in 2007.⁵⁸</p>
Catering Provider	<p>Depending on which programme a school is operating under, any level of provision, from small snacks to breakfast, lunch and dinner can be made available to children.</p>
Cost	<p>Funding of the food costs are split equally between the D/S&FA and the LAs.</p> <p>In 2005, the approximate cost of a school meal is €1.40 (£1.00).⁵⁹</p>
FSM & Take up	<p>The proportion of children participating in the SMS during the year 1948-49, the most recent period for which data is available, was approximately 18 % of the children attending schools.⁶⁰</p>
Dining	<p>School meals are not, in general, provided by school services, and are more commonly brought to school from home.⁶¹ For those schools that do have lunch facilities, lunch normally involves soup and a pre-packed sandwich.⁶²</p>

Table 6. Aspects of school food provision and the dining environment in France

Provision & Dining	France
Funding	<p>About 50% of the cost of a school meal is subsidised by the Ministry of Education; the rest is borne by parents who pay according to a means-tested five-tier scale according to their level of employment.⁶²</p>
Catering Providers	<p>An increasing number of local councils around France are contracting school meals out to private caterers. Meals are prepared in a central kitchen called a "satellite" kitchen then are transported to the schools.⁶³</p> <p>A survey conducted across 3 regions in France in 2000 found that 91% of school have their own cafeteria, of which, 81% are managed by the schools themselves.⁶⁴</p>
Cost	<p>In 2005, the actual cost of a school meal in France varies according to the size of the town but averaged around £3.50 to £4.50 per child, with around £0.80 to £1.50 going on the ingredients.</p> <p>A two-parent family with both parents in full-time employment can expect to pay in the region of £2 per meal.⁶²</p>
FSM & Take up	<p>About half of all French schoolchildren take a school lunch.⁷⁵</p> <p>For those families with financial difficulties, the Social Fund for Canteens or a school fund will assist in covering or part covering the cost of the school meal that is usually borne by the parent.⁶³</p>
Dining	<p>The majority of schools serve meals in a canteen style service. School meals in France are usually 3 or 4 courses.</p> <p>Government school meal guidelines in France date from 1971 and state that at least 45 minutes must be allowed for each meal.⁶²</p> <p>On 7th September 2005 vending machines in schools were banned.⁶⁵</p> <p>If schools don't serve breakfast then guidance suggests they should try to serve some food, preferably a dairy product at least 2 hours before the lunch service.⁶⁶</p>

Table 7. Aspects of school food provision and the dining environment in Spain

Provision & Dining	Spain
Funding	80% of education expenditure in Spain is financed through public funds (the Ministry of Education and Culture and through LAs) and 20% comes from private funds (families and private institutions). In 2003, Spain devoted 5.5% of it's GDP to Education, of which a small percentage was spent on school canteens. ⁶⁷
Catering Provider	Private companies are normally contracted to provide school catering. ⁶²
Cost	In 2005, it was found that parents generally pay the full cost of the school meals which was approximately €2.95 (£2.13) in primary schools ⁶⁸ and often as much as €4.00 per meal (£2.89) in secondary schools. The maximum a school can charge for a meal is €4.50 (£3.25) per meal. ⁶²
FSM & Take up	Some children, but not many (data not available) are entitled to FSMs. 20% of children take their main meal at school five days a week. This percentage rises to 32% in the 2-5 year old age group. ⁶⁷
Dining	Many children in Spain go home for lunch or take food with them to school. Some schools have a dining room and canteen providing lunches but many do not. Typically there is only one option on offer, though children with special dietary needs are catered for. ⁶²

Table 8. Aspects of school food provision and the dining environment in Italy

Provision & Dining	Italy
Funding	From September 2004 to June 2007, the Italian Government has invested €166 million (£119.5 million) on ingredients and layout of the school meals service. ⁶⁹
Catering Provider	<p>Almost 60% of LAs buy organic food. If the food is not organic it has to be certified as PDO (Protected Designation of Origin), PGI (Protected Geographical Indication) and, or Fairtrade. No GM foods are permitted to be used in the preparation of school meals.⁶⁹</p> <p>School meals account for 40% of public sector meals produced.</p> <p>In Rome, 92% of meals are cooked in the schools.⁷⁰</p>
Cost	<p>The average cost of a school meal is €4.11 (£2.96).</p> <p>In 2005, the average spend on ingredients was found to be approximately €1.90 (£1.37) per meal, with labour and other costs averaging to approximately €2.00 (£1.44) per meal. This leaves caterers with an approximate profit of €0.21 (£0.15) per meal.⁷⁰</p> <p>If more than one child attends a school the family is entitled to a 20% discount on the total cost of the school meals. This also applies to those receiving meals at reduced rates.⁷¹</p>
FSM & Take up	<p>Many children in Italy stay for a school lunch and the meal is seen as a central part of their education about Italian food culture and healthy eating.</p> <p>There is a 25% discount available to low-income families and meals are free to the poorest families.⁷⁰ To receive the discount, a family must be earning less than €10,643 (£7,623) per year. Lunch is free for children with families who earn less than €3,537 (£2,533) per year.⁷²</p>
Dining	<p>Children between the ages of 2 and 14 sit down at round tables, with table cloths, crockery and silverware, where they are served a three course meal. Teachers often sit and eat with the children.⁶⁹</p> <p>Meals are usually comprised of three courses and menus are arranged over the summer and winter seasons and an intermediary season (February to mid April)</p> <p>Between 2000 and 2005, the number of organic school canteens rose from 199 to 647. In 2006, approximately 1 million organic school meals were being served everyday.⁷⁰</p>

Table 9. Aspects of school food provision and the dining environment in Germany

Provision & Dining	Germany
Funding	The Federal Government will advocate at European level that the school milk programme be further developed into a healthy school meals initiative. ⁷³
Catering Provider	Data not available
Cost	Data not available
FSM & Take up	Data not available
Dining	Cafeteria style dining areas in those schools providing facilities.

Table 10. Aspects of school food provision and the dining environment in Sweden

Provision & Dining	Sweden
Funding	<p>The Ministry of Education, Research and Culture provides funding for the school meals. Budgets are given to individual head teachers and they manage the finances for the meals in their schools. Support is given by the LAs.</p> <p>In the last 2-3 years, meal funding has increased by 6% which is approximately €26.5 million (£19 million) per year.⁷⁴</p>
Catering Provider	<p>The majority of LAs run their own catering service, but over the last 10 years it has become increasingly common to use private catering contractors.⁷⁵</p> <p>6 out of 10 schools do not have a kitchen to produce a full meal. However, regulations do not permit the transport of cooked potatoes, rice, pasta or vegetables so facilities are required to cook these foods at the schools.</p> <p>Generally, those schools that do have their own food preparation areas produce higher quality meals.⁷⁴</p>
Cost	<p>In 2007, the average cost of ingredients was 7.87 SEK* (£0.60) per meal, with a range from 6.55 SEK – 13.11 SEK (£0.50 - £1.00) per meal. (the total cost was approximately 3,540 SEK (£270) per pupil per year).</p> <p>If private contractors are used, a school may pay a contractor 20.45 SEK (£1.56) extra per meal.⁷⁴</p> <p>Some schools charge for breakfast, 5.24 SEK - 9.83 SEK (£0.40 - £0.75) whilst others serve it for free.⁷⁴</p>
FSM & Take up	<p>Free meals are available to all in compulsory education. Consumption studies show that 85% of school children eat something at lunchtime everyday, receiving approximately 70% of their daily dietary requirements.</p> <p>At present, the amount of food produced at lunch is based on 1 in 5 pupils choosing not to take lunch.⁷⁴</p>
Dining	<p>The majority of schools serve meals in a canteen style service. It is important that lunch sittings are organised so pupils can eat in a quiet environment and each class should be served lunch at the same time each day. Food should be served in the middle of the day and at the earliest 11am. The lunch period is approximately 1 hr 10 minutes long.⁷⁶</p> <p>For those aged 7-10 years, additional snack meals (milk, a sandwich and fruit) are served in the canteen between 1.30-3.00pm. If children eat these optional snacks, additional to the school lunch, they are charged the full price.</p> <p>Breakfast service either before the first class or during the first morning break is becomingly increasingly common. It normally consists of milk and an open sandwich or cereal.⁷⁷</p>

* SEK: Swedish Kronor

Table 11. Aspects of school food provision and the dining environment in Finland

Provision & Dining	Finland	
		Ministry of
Funding	<p>Social Affairs and Health provide the funding.</p> <p>School lunches are funded using money generated from taxes. Organising the meals is the responsibility of the municipalities, which receive a Government subsidy of approximately 70% of the costs.^{78 79}</p>	
Catering Provider	<p>Meals are provided via 2 different methods: directly by the municipality council with council employed school catering staff or through a private catering company where the school catering staff are employed by the company.⁸⁰</p>	
Cost	<p>Labour costs are reduced further in Finland because, from primary school, children serve themselves and clear away their own trays away.⁸¹</p> <p>In 2007, the average cost of producing a free meal was €2.31 (£1.66) per pupil per day.</p> <p>The cost of the ingredients to the LAs, per meal per child is approximately €0.92 (£0.66) (40% of the final purchase price of the meal).⁸⁰</p>	
FSM & Take up	<p>Free meals are available to all in compulsory education (ages 7 to 18 years).</p> <p>A study of 10-11 year olds found that 99% of children eat breakfast and 94% have a daily school lunch.⁸²</p> <p>According to a study conducted in 2003, 90% of 7-9 grade students visit the school canteen and 95% eat the main course.⁷⁸</p>	
Dining	<p>A cafeteria style service. The dining area is often referred to as 'the restaurant' and is well furnished with long tables with real crockery. Teachers and pupils sit together and the school lunch supports the learning of manners and Finnish customs. Lunch can be from 10.30 am until 12.00pm and usually lasts for 30 minutes.⁸⁰</p> <p>Packed lunches are banned.</p> <p>A meal must contain a main course, salad, drink and bread and margarine every day. There is no choice although, increasingly, schools are serving a vegetarian option.⁸⁰</p>	

4.3. Asia

4.3.1. Hong Kong

The Department of Health is working with the Education and Manpower Bureau, the Food and Environmental Hygiene Department, education sectors, professional bodies, and concerned groups to launch a healthy eating movement in primary schools in the 2006/07 school year. The movement aims to develop healthy eating practices, facilitate the supply of healthy lunches and food items at school and to strengthen nutrition education so that children can develop healthily and learn effectively. The Department of Health has prepared the Nutritional Guidelines on School Lunch for Primary School Students⁸³ to enhance the nutritional quality of school lunches, along with Nutritional Guidelines on Snacks for Primary School Students.⁸⁴ Recommendations are in accordance with the local Food Guide Pyramid promoted by the Department of Health.⁸⁵ The Government's plans to convert all primary schools to full-day schools have are being rolled out, whereas previously, the majority of primary schools operated half day sessions; one group of children would attend the morning session, and the another group would attend the afternoon session. In September 2000, about 39% of all primary students attended full-day schools and by the 2002-2003 school year, 60% of the students were in full-day primary schools and, by 2007-2008, all primary students should be attending full-day schools.⁸⁶ Primary schools are being targeted as the Department of Health has recorded a rising trend of obesity among primary school students, from 16.4% in 1997/98 to 18.7% in 2004/05. That is to say, almost one in five school children is obese.⁸³

4.3.2. Japan

In Japan, the tradition of school meals started in the early 20th century. After the Second World War, which brought near-famine conditions to Japan, the provision of school lunches was re-introduced in urban areas, initially with skimmed milk powder and later flour donated by an American charity. School lunch was extended to all elementary schools in Japan in 1952 and, with the introduction of the School Lunch Law, in June 1954. Later, the 1956 revision of the Law meant the school lunch service was extended from the elementary school to all the schools in the compulsory system.⁸⁷ Compulsory education in Japan is between the ages of 6 and 12 years (elementary) and 12 and 15 years (secondary).

With a long term aim of cultivating a foundation for leading a healthy, fulfilling life, physically as well as mentally, schools are advancing health education through overall educational activities, focusing in particular on school hygiene, school safety and school lunches, while endeavoring to cooperate with the homes and the community and to link with social education activities. The lunch programmes are firmly established as an integral part of formal education. The Ministry of Education, Culture, Sport, Science and Technology (MEXT) has also strengthened food-related guidance in connection with school lunches and related course content to address problems related to dietary habits such as the unbalanced diets of children, increasing numbers of obese children, and skipping of breakfast, and has issued and distributed teaching aid materials for children since 2002.⁹⁶

Table 12. Aspects of school food provision and the dining environment in Hong Kong

Provision & Dining	Hong Kong
Funding	The Department of Health in Hong Kong launched 'EatSmart' in September 2006. ⁸⁸
Catering Provider	<p>Most of the schools in Hong Kong do not have kitchens because of space limitations, and so few schools can arrange canteen-style lunch services. Most of the school lunches are cooked by school lunch suppliers in factories and then delivered to school before lunch time; transported hot meals are therefore quite usual for primary and secondary schools.⁹⁴ The Department of Health (DH) provides information on lunch suppliers who adhere to the guidelines. From 22 November, 2006, all food factories approved to supply lunch must provide up-to-date nutrition information. The choice of supplier is left to individual schools.⁸⁹</p> <p>Schools should adopt a meal service which is conducive to promoting environmental responsibility.⁹⁰ Meal arrangements can be divided into 2 types by the containers used: reusable or disposable containers. Meals served in reusable containers may be portioned either on-site or off-site. On-site portioning involves cooked food being delivered by lunch suppliers to schools in bulk, and then re-heated and portioned in-situ for distribution to students.⁹¹</p>
Cost	According to suppliers' information, the average cost of producing a school meal ranges from HK\$14-16 (£0.91-£1.04) in 2006-07 and HK\$15-17 (£0.97-£1.10) in 2007-08 school year. ⁹⁴
FSM & Take up	<p>A survey in early 2006 showed that about 70% of primary school students had lunch provided by their schools. The survey also found that 62% of parents indicated that children took snacks to school. Among the snack items listed by the parents, 87% were unhealthy.⁹²</p> <p>The Social Welfare Department offers financial support of HK\$195 per month (£12.63) (amount at November 2006), for school lunches for students from low income families studying in whole-day schools.⁹⁴</p>
Dining	<p>Most of the schools in Hong Kong do not have a dining hall and dining in classrooms is quite usual. Other parts of the school premises, such as halls, should be used if possible to allow pupils to sit and eat their lunch which usually lasts for one hour.⁹⁰</p> <p>In primary schools, many children (approximately 32%) take packed lunches; the rest order lunch from school lunch suppliers.⁹³ In some secondary schools, it is compulsory for the lower years to stay in school during lunch time and their lunch is either provided by school lunch suppliers or school canteens or they eat a packed lunch brought by parents or carers during lunch hour. The majority of the older secondary students have lunch in restaurants outside the school.⁹⁴ With the introduction of whole-day primary schooling, more students are being served lunch in the school. The Department of Health state a school lunch should provide grains (such as rice or pasta), vegetables and meat (and its substitute) in the ratio of 3:2:1. An ideal and healthy lunch should be able to meet one third of the daily nutritional needs of a schoolchild.⁹⁰</p>

Table 13. Aspects of school food provision and the dining environment in Japan

Provision & Dining	Japan
Funding	MEXT is providing financial support to schools for necessary equipment and facilities for opening new school lunch programs or improving and enriching existing programs at compulsory education schools. ⁹⁸
Catering Provider	School meals are prepared on the premises. Currently 38% of ingredients come from within a short radius of each school and the Government has pledged a future target of 50%. ⁹⁵
Cost	Parents pay 250 to 300 yen (£1.09 to £1.31) per student for the cost of the ingredients per day, with labour costs being funded by LAs. The monthly cost for parents of primary school pupils, which accounts for a third of the total meal cost, is 3,600 yen (£15.67). The city Government funds all other costs. ⁷⁵
FSM & Take up	<p>99% of elementary school students and 82% of junior high school students eat school lunch (Kyushoku).⁹⁶ Similar take up figures were found in 1992 with 98% of boys and girls in primary schools and over 85% of junior high school pupils having lunch at their schools.⁹⁷</p> <p>Although school meals are not free, help is available to low-income families. Welfare support for people with economic difficulties is provided on the basis of applications made by the person needing the assistance. The parents or guardians of those who receive reduced price meals are those defined as financially disadvantaged by the Daily Life Protection Law.⁹⁸</p>
Dining	<p>Middle and high schools operate canteens. Other children take home-made 'bento' lunchboxes, which typically contain cold rice balls, grilled meat or fish, pickles and simmered vegetables. Children up to 12 years of age have a lunch break which includes 50 minutes for lunch. The period allowed for eating is reduced to 45 minutes for secondary school pupils.⁹⁵</p> <p>Building lunchrooms, providing attractive eating utensils and improving other aspects of the school lunch environment is a philosophy which aims to contribute to the formation of proper eating habits. In addition, it is felt that sharing an enjoyable lunch in a pleasant atmosphere serves to promote good social relationships. Since May 1991 (of those schools serving complete or supplementary meals) the proportion of schools with lunchrooms has increased to 19.5% (elementary schools), and 9.0% (lower secondary schools).⁹⁸ However, eating in the classroom during lunch break is still common and children are expected to clear up afterwards.</p> <p>The food eaten is usually typical of the region and includes tofu stew, assorted vegetables, rice, miso soup, frozen yoghurt and cartons of milk. The Board of Education estimates that each meal for primary schoolchildren (6-12 years) contains about 650 calories. (Approximately one third of their daily energy requirements). Teachers eat school meals with pupils.</p> <p>Pupils take home a menu for the coming month containing notes on nutrition, fat and salt content, and calorific value. Twice a year parents are invited to taste-test the food.⁷⁵</p>

4.4. North America

4.4.1. Canada

The Canadian Government is in the process of advancing a new National Children's Agenda that includes stronger measures to meet the basic needs of children. However, it is felt by those working in the Children's Rights Centre⁹⁹ that missing from this agenda is a national programme to meet their nutritional needs through support for meal programmes in schools. Following the signing of the UN Convention on the Rights of the Child in 1990, the Canadian Government made a policy promise and agreed to recognize and implement the fundamental rights of children. If a national school meals programme were to be included in this policy promise, it would have a number of benefits, not only overcoming the problems of hunger or poor nutrition faced by many children but also demonstrating Canada's commitment to the new Children's Agenda.⁹⁹

In October 2004, the Dietitians of Canada and the Ministry of Education released the 'Food and Nutrition Recommendations for Snacks and Beverages Dispensed by Vending Machines'. Although the food-based guidelines were produced in the State of Ontario, the information produced was intended for national use and aims to provide guidance on portion sizes, frequency of the service of food items, and nutrient needs of school aged children.¹⁰⁰ Following this, in June 2005 the Ministry of Children and Youth Services released the 'Student Nutrition Programme – Nutrition Guidelines' to assist providers to select nutritious foods to be sold in schools across the province.¹⁰¹ These are based around Canada's 'Food Guide to Healthy Eating' for the general population.¹⁰² Ontario is in the process of passing legislation to join other provinces that are banning trans-fatty foods from school cafeterias and vending machines, December 2007.¹⁰³

4.4.2. United States of America (U.S.A.)

During 1939-1942, schools in the U.S.A. received free food for school lunch programmes. In 1946, recognition of the need to make the status of these programmes permanent resulted in the introduction of the Nation School Lunch Act which had the overall aim of improving the health and well-being of the nation's youth. Two of the programmes under the Act are the National School Lunch Program (NSLP) and the National School Breakfast Program (NSBP), both federally assisted meal programmes providing nutritionally balanced, low-cost or free lunches and breakfasts to children each school day.¹⁰⁴ During the 1960s and 1970s, the programmes under the Act expanded, although it was not until 2003-2004 that the United States Department of Agriculture's (USDA) Food and Nutrition Service reviewed the programmes, including the NSLP. In June 2004 the Child Nutrition and Women, Infants and Children (WIC) Reauthorisation Act was signed into law to strengthen the nutritional service programmes. This gave the NSLP more power to promote healthy choices among children. It also addressed growing public health concerns that the federal school lunch programme was not doing enough to ensure that free and reduced-price lunch benefits were delivered to qualifying children.¹⁰⁵ It must however be noted, that although the NSLP is a national initiative and public or nonprofit private schools of high school grade or under and public or nonprofit private residential

child care institutions may participate in the school lunch program. Individual states are able to have further initiatives of their own.

Table 14. Aspects of school food provision and the dining environment in Canada

Provision & Dining	Canada
<p>Funding</p>	<p>The Federal Government does not provide funds for a national school meals programme.⁹⁹</p> <p>Schools are encouraged to develop and implement school food policies that provide students with easy access to healthy foods at an affordable cost. It is recommended that 'junk foods' are removed from elementary and high school vending machines and cafeterias.¹⁰⁶</p> <p>Individual Provincial and Territorial Governments operate their own programmes although the average Provincial and Territorial Government investment into school meals was just \$5.54 (£2.76) per student in 2005/2006. The Federal Government contribute nothing.¹⁰⁷</p>
<p>Catering Provider</p>	<p>Data not available.</p>
<p>Cost</p>	<p>During 1999–2000, a report found the average total spend on ingredients per child per day (including breakfast) ranged from CA\$0.63 - CA\$0.87 (£0.30 - £0.42).¹⁰⁹</p>
<p>FSM & Take up</p>	<p>The same report found the percentage of children taking school food ranges from 9.1% to 17.5%.¹⁰⁹</p> <p>Data on FSM provision and take up are not readily available.</p>
<p>Dining</p>	<p>The vast majority of children take packed lunches to school, although a small number purchase their food from school canteens, tuck shops or vending machines.¹⁰⁸</p> <p>Not all schools have canteen facilities and this varies across districts.¹⁰⁹</p> <p>In 1999 some provinces initiated the Healthy Minds Breakfast Program in which partial funding is provided by the Department of Education for the start-up and support of breakfast programmes in grades K-5.⁹⁹</p>

Table 15. Aspects of school food provision and the dining environment in the U.S.A.

Provision & Dining	U.S.A.
Funding	<p>The Child Nutrition Division of the Food and Nutrition Service (USDA) administers the NSBP and the NSLP at the federal level, while state education agencies operate the programmes through agreements with school food authorities at the local level.¹¹⁰ In 2003, the US Department of Agriculture said the programmes cost \$7.1bn (£3.7bn).⁶²</p> <p>The Fresh Fruits and Vegetables Program (FFVP) is part of the NSLP in a limited number of schools. Currently the FFVP operates in 4 states and three tribal Organizations.¹¹¹ In the administration's 2007 Farm Bill proposal, \$500 million over the next 10 years has been allocated for the purchase of additional fresh fruits and vegetables within the NSLP and NSBP.¹¹²</p>
Catering Provider	<p>School food service settings range from satellite kitchens that serve pre-cooked and heated foods to full-scale central kitchens.¹¹³</p> <p>In the U.S.A., most school districts operate their own school meals programme, which started 60 years ago with the enactment of the NSLP. Some districts now contract out to a single, large food management company. The U.S.A. uses the lowest cost bid approach in an effort to operate within the constraints of federal reimbursement levels. This has led to a number of problems, including questions about the quality of the food served. Also, the federal regulations governing procurement prohibit 'geographical preferences' for sourcing, and therefore, prohibit choosing locally-grown foods first, over other produce available.¹¹⁴</p>
Cost	<p>Pupils in the U.S.A. pay for the meals, although there are Government subsidies to reduce the price for some pupils. Pupils living in families in receipt of social security benefits may be entitled to a free school meal.</p> <p>The average purchase price of a regular paid canteen lunch is \$2.00 (£0.98).⁶² Most of the support that the Department of Agriculture provides to schools in the NSLP comes in the form of a cash reimbursement for each meal served. For a regular, paid canteen lunch, a reimbursement of \$0.21 (£0.10) is received. In addition to this, the current basic cash reimbursement rates are: \$2.24 (£1.10) for free lunches; \$1.84 (£0.90) for reduced price lunches.¹¹⁶</p>
FSM & Take up	<p>The NSLP reaches a large proportion of American children aged 5 to 8 years. In 2006, 70% of children in the U.S.A. purchased their lunch from the NSLP, 25.9% of whom received it for free or at a reduced price. Those living in rural areas are more likely to receive free or reduced priced lunches.¹¹⁵</p> <p>A child who lives in a family with income under 130% of the Federal Poverty Guidelines (\$26,000 (£12,700) for a family of four in 2006) may be eligible for FSMs. If family income is between 130% and 185% of the Federal Poverty Guidelines (up to \$37,000 (£18,000) for a family of four in 2006), the child may be eligible for reduced-price meals. Children receiving food stamps are automatically eligible for free meals.¹¹⁶</p>
Dining	<p>In the U.S.A. the majority of schools serve lunch, usually in the form of a canteen style service. The minority of schools provide packed lunches only and, in all cases, pupils are able to take food from home.</p> <p>The NSBP has operated, mainly in low-income districts, to children since 1998. The Federal Government has also given schools money to provide snacks to students who participate in after-school programmes.⁶²</p>

4.5. Australasia

4.5.1. Australia



In 1995, the National Health and Medical Research Council (NHMRC) developed 'Dietary Guidelines for Children and Adolescents' which are based on principles of good nutrition, ecological sustainability and equality.¹¹⁷ These were subsequently reviewed in 2003 and apply to the general population of healthy children from 0-18 years of age. Few children eat in school canteens, and as a consequence, Australians are still considering whether school canteens should be a high priority as the foods and drinks served contribute little to children's nutrient and energy intake.¹¹⁸ It is felt, however, that whilst less than approximately 3% of the total annual energy and nutrient intakes for children aged between 5-15 years comes from school canteens during the course of an academic year, the food served has a major influence on children's knowledge of nutrition and healthy food choices.¹²³ There are currently no national standards based on the NHMRC 'Dietary Guidelines for Children and Adolescents' for school food. In 1989, the Australian Nutrition Foundation created guidelines for school tuck-shops (Food Selection Guidelines for Children and Adolescents). In 2000 these were revised to identify products suitable for sale in food outlets (with a focus on schools) aimed at children and adolescents.¹¹⁹ In 2005, the 'Nutrition in Schools Advisory Service' was established by the Australian Nutrition Foundation to provide up-to-date nutrition information for tuck shops, canteens, teachers, students and parents, in an effort to keep the school community abreast of the latest nutrition information and to help promote good nutrition within the whole school community.¹²⁰ Since 2005, various Government-supported models have influenced how school canteens operate and these models vary between states and territories.

Table 16. Aspects of school food provision and the dining environment in Australia

Provision & Dining	Australia
Funding	<p>During 2005-2006 various Government-supported models have influenced how school canteens operate. Many schools receive joint funding from the Department of Education and the Parents and Citizens' Association.⁷⁵</p> <p>The Commonwealth Government is offering healthy eating grants of AU\$1500 (£645) per school, under the Building a Healthy Active Australia, Healthy School Communities Program, to those schools which register.¹²¹</p>
Catering Provider	<p>In Western Australia, not all schools operate canteens. Some use outside providers such as delicatessens, service stations or catering companies to provide a food service to their school.¹²²</p>
Cost	<p>An average sandwich would cost AU\$2.50 (£1.07), sushi pack or noodles with vegetables AU\$2.00 (£0.86) and watermelon slice AU\$0.50 (£0.21) each. An average school lunch of a sandwich and fruit would cost approximately AU\$3.00 (£1.29).⁷⁵</p>
FSM & Take up	<p>The vast majority of children take packed lunches to school.²</p> <p>Only 14% of Australian children have been reported to purchase food from the school canteen.¹²³</p> <p>FSM data are not available.</p>
Dining	<p>Children from the ages of 5 through to 18 generally have access to a school canteen on a daily basis although only a few purchase their food from school canteens, tuck shops or vending machines.¹²⁴</p> <p>There is information and advice available to promote healthy lunchboxes.¹²⁵ One study showed that the majority of children take their snacks and lunch from home and the minority of children use the school canteen. The children who ate from the canteen were found to eat less healthy foods and more high sugar drinks than those taking a packed lunch.¹²⁶</p> <p>The New South Wales Canteen Association¹²⁷ and the Centre for Health Promotion¹²⁸ in Adelaide provide resource material on how to run a healthy canteen. In a 2004 survey of 18 Victorian primary schools found that, of the 17 with a food service, all sold meat pies, but only five sold fruit on a regular basis.¹¹⁸</p>

4.6. South America

4.6.1. Brazil

Brazil has had a National School Meals Programme (PNAE) since 1955. It provides Federal funds, through the Ministry of Education, for school meals to children in day-care, care centres, pre-school and primary schools in the public school system. The Ministry of Education transfers funds directly to state and municipal departments of education for the programme's implementation. The PNAE is seen as an important step towards providing improved school meals to schoolchildren aged 7-14 years (more than 37 million) and towards obtaining better coherence within the school setting between educational messages about food habits and school meals. In 2000, new Brazilian legislation was established and the local School Meals Councils (CAEs) were formed to oversee the implementation of the PNAE locally. CAEs comprise two representatives from Government, two parents, two teachers, and a representative from civil society. In 2001 legislation required that 70% of Federal funds must be spent on basic products and local food according to local food habits and local production.¹²⁹ Previously, LAs had been giving priority to the purchase of pre-cooked industrial foods for practical reasons, as it was claimed the proper preparation of food in schools required too many resources.¹³⁰

4.6.2. Chile

Government efforts to improve human nutrition have a long history in Chile. The complementary feeding programme (CFP), although not the largest, is a major food programme which has been operating since 1924. The CFP has constituted a very important part of the Chilean welfare system, targeting infants and preschool children (0-5 years of age) and schoolchildren. The school feeding programme (SFP) for those aged 6-14 years in public education was initiated in 1964 for low-income schoolchildren, providing them with on-site food rations. In 1988, more than 517,000 children received complete benefits (breakfast plus lunch) at an annual cost of approximately US\$35 million (£17.6 million). In addition to this, the day-care centre food programme (DCCP), under the management of the National Board of Day Care Centres, provides on-site food rations to low-income infants and preschool children who attend these centres. In 1990 the DCCP covered over 60,000 children at an annual cost of approximately US\$16 million (£8 million). Both the SFP and DCCP are administered by the National Board of School Assistance and Scholarships (Junta Nacional de Auxilio Escolar y Becas or NBSA) which depends on the Ministry of Education.¹³¹ The NBSA's main objective is to provide social and food assistance to low income children attending state-supported schools. The main goal of the SFP is to promote school attendance by providing free meals to those children who might otherwise drop out from school (often the most impoverished ones).¹³²

Table 17. Aspects of school food provision and the dining environment in Brazil

Provision & Dining	Brazil
Funding	<p>In 2002 the Brazilian Federal Government devoted *BRL\$850 million (£245.5 million) to the PNAE which increased to an annual total of BRL\$1.5 billion (£414 million) in 2006. The daily amount transferred for each student thus rose from BRL\$ 0.18 (£0.04) to BRL\$0.22 (£0.06).^{133 134}</p> <p>Increasing in the outlays on the PNAE will benefit around 37 million students throughout the country.</p>
Catering Provider	<p>The PNAE is decentralized, with the municipalities and states being in charge of selecting and controlling the quality of foods, from production to their distribution to school units. Within this autonomy, the municipalities can opt to prepare the meals either in a centrally located kitchen or in different, external locations, i.e., each school has its own kitchen where the food is prepared.¹³⁵</p> <p>According to the new 2001 legislation, it is mandatory that a minimum of 70% of the programmes' annual budget is spent on fresh vegetables, fruits and minimally processed foods, preferably purchased from local producers and cooperatives of small farmers.¹³⁰</p>
Cost	Meals are free to those receiving meals from PNAE.
FSM & Take up	A study conducted in 2005 across 10 municipalities and involving 2,678 pupils showed that 46% of students consumed school meals from the PNAE on a daily basis and 17% never participated. ¹³⁶
Dining	<p>A school day in Brazil can be as short as four hours so many children go home to eat or eat elsewhere.</p> <p>Meals provided by the PNAE should provide 15% of a child's' daily nutrient needs.¹³⁷</p>

*BRL\$ - Brazilian Real

Table 18. Aspects of school food provision and the dining environment in Chile

Provision & Dining	Chile
Funding	<p>The SFP targets only public or state-subsidized schools (around 9500 or 95% of them in the country). The meals provided depend the child's age and the school's vulnerability index, which is indirectly related with the poverty level of its students and determined yearly by a targeting model. There are two models, one for children in primary and the other for those in secondary schools.¹³²</p>
Catering Provider	<p>Since 1976, the provision of meals was gradually (1976–1980) transferred from NBSA to the private sector, contracting with private suppliers. The NBSA is however, still responsible for the bidding process in which annually, private food companies are selected to provide services to one third of the schools for a 3-year period. These companies are responsible for the entire process, that is, from the purchase of ingredients to the actual distribution.¹³²</p>
Cost	<p>Contracting out the provision of meals reduced administration costs borne by the Government, from 40% of the total budget to about 5%. The unit cost of producing a meal, i.e. breakfast or a snack plus lunch, reduced from US\$1.20 (£0.60), to US\$0.60 (£0.30).</p> <p>For those children not in receipt of a meal from the SFP, since the year 2000, schools (with the contribution from parents) have the option to purchase from the company that distributes the SFP meals, the same meals for non-beneficiaries and at the same price.¹³²</p>
FSM & Take up	<p>The SFP is available free to those below the national poverty line. In 1999 the SFP targeted 40% of all primary pupils and 30% of all secondary pupils (secondary education is not mandatory and the poor have lower levels of access to it).</p>
Dining	<p>Not all children in participating schools receive the benefit of the SFP. Those children who do not receive meals from the SFP have to take their own food, i.e., a packed lunch with them to school.</p> <p>Primary and secondary children within the same school receive only one type of meal. For the primary schoolchildren, the energy content of the meals contains either 1000, 700 or 250 kcal/day. The 1000 and 700 kcal/day meal consists of breakfast plus lunch or lunch plus an afternoon snack; the 250 kcal/day meal, only breakfast. For children in secondary level, 650 or 350 kcal/day are provided as lunch or breakfast alone respectively. The type of meal provided depends on the vulnerability index of the school.¹³²</p>

5. Conclusion

This review highlights the variation in school meal systems between countries. In the last decade, there has been a raft of activities worldwide which recognize the importance of providing healthy and nutritious food in schools as there is a long held belief that children's diets and their immediate and long-term health are linked. The increasing prevalence of childhood obesity has resulted in a significant global policy response from Governments with the implementation of school based initiatives such as increased physical activity programmes and modification of school lunch systems, such as providing an improved dining experience.¹³⁸

Anecdotal evidence suggests that when children are fed a nutritionally balanced diet that there are improvements in their concentration, behaviour, learning and academic performance in the classroom.¹³⁹ This global shift demonstrates a new energy and commitment to children's health and wellbeing reflecting that health and education are both important factors rather than just a narrow focus on pupil's attainment in school. Many countries have focused on the development of guidelines for schools and caterers, although not all of these are Government-driven. There are also substantial variations in funding models and facilities. Other issues such as the use of sustainable and locally produced seasonal ingredients are also being addressed.

5.1 Funding

Subsidies

Governments appear to be reluctant to fully subsidise school meals systems. Eleven of the eighteen countries (information on Germany and Canada was not obtained) partly subsidise the service with the remainder of the cost being borne by the family. However, in France school funds have been established to assist families with those costs they are unable to meet. This assistance is provided through the Social Fund for Canteens or a school fund which assists in covering or part covering the cost of the school meal that is usually borne by the parent. There are four countries where the full cost is met by the Government. In Sweden and Finland all costs are covered, free meals are provided for all children and no extra funds are expected from parents or guardians. In the other two countries, Brazil and Chile, the Governments bear the full costs of providing meals but only for those children who are from deprived backgrounds; all other children must provide their own food. The Republic of Ireland and the U.S.A. also run meal school meal programmes although these mainly allow free meals or reduced price meals to be made available to those from deprived backgrounds. In Australia, the Government has not invested in school meals although investments have been made to support models influencing the operation of canteens. In Canada, the Federal Government also does not invest in a national school meals programme. Here, schools are encouraged to develop and implement school food policies that provide students with easy access to healthy foods at an affordable cost. Individual Provincial and Territorial Governments do however operate their own programmes although investment is low.

Costs

In eight of the eleven countries who receive partial Government funding for school meals (including those in the U.K.), and where part of the cost of the school meal is met by the parents, average meal 'charge out' prices varied from £1.00 to £2.00. The average school lunch in Australia also ranges from £1.00 - £2.00. Meals in France, Spain and Italy however can cost £2.50 or more. These high costs are due to the higher average spend on ingredients per meal which can be more than £1.00 (data for Spain was not available). In Japan, the average spend on ingredients per meal is also over £1.00 and this is paid by the families, however all labour costs in Japan are paid by the LAs thus keeping the price of the meals low for all. This is important as Japan, along with Australia, are the only countries who do not provide FSM (information for Germany and Canada was not available). Only Wales, Canada and Chile appear to spend an average of less than £0.50 on ingredients per meal.

5.2 Free and Reduced Cost School Meals

Provision

Only Sweden and Finland provide FSMs to all pupils in compulsory education regardless of their ability to pay. FSMs are available to those who are eligible, from lower socioeconomic backgrounds in all countries (with the exception of Australia where FSMs are not available) although in Scotland FSMs are available at the discretion of individual education departments of LAs and in Spain, some children, but not many (figures not available) are entitled to FSMs (again, information on Germany and Canada was not obtained). Reduced price meals are also available to those who need a degree of assistance with costs in the Republic of Ireland, France, Italy, Hong Kong, Japan and the U.S.A.

Take up

Sweden and Finland are the only countries (with the exception of Japan) to have a take up rate of over 80% and they provide free meals to all. Data on those who are eligible for a FSM is limited outside the U.K., however in England, Scotland and Wales, of those who are eligible, over 60% regularly take their FSM. In Scotland, one survey showed that of those registered for FSMs, 76.2% of primary and 50.1% of secondary pupils were found to take their FSM. Another survey in Wales found that 77% of those pupils who were registered for a FSM on a census day took their FSM.³²

Take up of meals by those in receipt of school meal programmes, where reduced price or free meals are available differs with 70% of children in the U.S.A. purchasing their lunch from the NSLP in 2006. In Brazil in 2005, a survey across 10 municipalities found 46% of pupils to consume school meals from the PNAE.

5.3 Catering Provider

The operation of catering services varies within each country, generally consisting of a mix of contracts organized by LAs, in-house catering and through private contracts often secured through tendering. However, in six countries, private contractors were the most frequent providers of school catering and only two countries, Italy and Japan, appear to have the capacity for most of their meals to be cooked in kitchens on the school premises.

5.4 Take up

Overall take up levels vary and are generally low, with rates below 40% in England, the Republic of Ireland, Spain, Canada, Australia and Chile and take up rates between 44-46% in Scotland and Wales. Take up appears to be slightly higher in Northern Ireland with figures ranging from 46% to 67% across the five ELBs. However, factors which influence take up vary between countries, for example, the length of the school day and the age at which compulsory education applies; secondary school in Chile is not compulsory hence this will impact on the number of children taking up the school meals programme.

Again, data on take up in countries outside the U.K. is not readily available and data that has been obtained may not be directly comparable. In Spain, 20% of children take their main meal at school whilst in Australia and Canada, only 14% and 9.1% of pupils respectively, have been reported to purchase food from the school canteens.

Take up figures in Sweden are around 85% and in Finland are around 95% where free school meals are available to all. These figures represent the percentages of children who have been reported eating a main course every day. In Japan take up figures in 1992 were found to be 98% in primary and 82% in secondary schools. Although meals here are not free, only the cost of the ingredients is borne by the parents and the city Government funds all other associated costs. In Hong Kong in 2006, take up figures in primary school were 70% and in many secondary schools, it is compulsory for the lower years to stay on site during the lunch time.

5.5 Dining Environment

Time for lunch

In the U.K., the lunch period typically runs from between 30 to 60 minutes although this varies between schools. In Finland the lunch period lasts for 30 minutes and in France, school meal guidelines state that at least 45 minutes must be allowed for the lunch period. In Japan, pupils up to twelve years of age have a lunch break that usually lasts 50 minutes although this period is reduced to 45 minutes for those pupils in secondary school. In Sweden, the lunch hour is often 70 minutes long.

Food service

Canteen facilities are common in the U.K., France, Italy, the U.S.A. and Australia. Canteens are also common in Sweden and Finland, who both operate a universal free meal scheme. Children are allowed to take packed lunches into schools in all countries (data was not available for Italy and Sweden) with the exception of Finland which has one of the highest take up figures of school meals of all the countries reviewed, where packed lunches are banned.

Breakfast clubs are becoming more common and many schools in the U.K. now run these. Other countries encouraging the use of breakfast clubs or healthy snacks at mid-morning break are France, Sweden and the U.S.A.

Dining arrangements

The dining experience differs across countries owing to differing dining room capacities and more often than not, space is limited although most countries try to accommodate pupils by providing adequate facilities and space for them to sit down and eat their school meal or packed lunch. In many countries, it is not possible for schools to have dedicated rooms for dining hence some dining areas are multi-purpose and so act as an assembly or sports halls and often hold other classes as well.

Dining areas are generally common in the majority of countries, although they are less frequent in countries such as Spain and German where school meals are consumed less frequently. Dining rooms are sometimes available in schools in Japan, but are rare in schools in Hong Kong owing to space limitations. In these countries it is normal to eat in the classrooms at lunchtime if other facilities are unavailable.

Integration into the school day

Many countries recognize the importance of the whole dining experience and encourage the use of attractively designed or decorated dining rooms. In some countries there is a strong recognition of the importance of the social environment. In Japan improving aspects of the school lunch environment is a philosophy which aims to contribute to the formation of proper eating habits. In addition, it is felt that sharing an enjoyable lunch in a pleasant atmosphere serves to promote good social relationships; in Finland, teachers and pupils eat at the same time and the school lunch supports the learning of manners and Finnish customs. Teachers and pupils also eat their lunch together in Italy where meal times are considered part of the children's cultural education and the use of table cloths and proper crockery and cutlery is encouraged.

5.6 Summary

Although cultural and economic differences between the countries in this review can clearly be seen, common themes also appear to run consistently throughout aspects surrounding the provision of school food. Take up is highest in countries such as Finland and Sweden where full Government funding is provided and free meals are available to all and take up is lowest where Government funding is restricted, for example in Canada, and where FSM are not available as in Australia. Higher take up can also be seen in countries such as Italy and Japan where the school lunch is seen as central to their social education and development. This philosophy is also supported in Finland. Countries where the average spend on ingredients is equivalent to £1.00 or more per meal, such as Italy, Hong Kong and Japan also display high rates of take up.

The importance of school meals continues to grow owing mainly to public health concerns in relation to the 'global obesity epidemic'¹⁴⁰ that is being faced and in an attempt to provide a nutritional safety net for children on FSM and to protect nutritionally vulnerable groups. This has led to the development of food and nutrient-based standards for school meals and standards for food in schools other than lunch in many countries such as England, Scotland, France, Sweden and Finland to mention but a few. Although it is still too early to assess the positive impact such standards are hoped to have on public health and the economic benefits they hope to bring, it can be seen that Government commitment, in the sense of funding and providing FSMs (not necessarily just to those from deprived backgrounds) has a positive impact on take up. Investing in ingredients and the whole dining experience also appears to have a positive impact on take up. This in turn should foster a sound basis from which cultural and social lessons can be learnt which is important for society in all countries.

6. Glossary

FSM(s)	Free School Meal(s)
LA	Local Authority
SMS	School Meals Scheme
PRU	Pupil Referral Unit
SFT	School Food Trust
CWT	Caroline Walker Trust
LACA	Local Authorities Caterers Association
ELB	Education and Library Boards
DfES	Department for Education and Skills
PFI	Private Finance Initiative
FM	Facilities Management
D/S&FA	Department of Social and Family Affairs
WG	Working Group
AESA	Spanish Food Safety Agency
NAOS	Spanish Strategy for Nutrition, Physical Activity and Prevention of Obesity
DGE	German Nutrition Society
REVIS	Reform of Nutrition and Consumer Education in Schools
SNR	Swedish Nutrition Recommendations
NFA	Swedish National Food Administration
GDP	Gross Domestic Product
PDO	Protected Designation of Origin
PGI	Protected Geographical Indication
SEK	Swedish Kronor
MEXT	Ministry of Education, Culture, Sport, Science and Technology
DH	Department of Health
NSBP	National School Breakfast Program
NSLP	National School Lunch Program
USDA	United States Department of Agriculture
WIC	Child Nutrition and Women, Infants and Children Reauthorisation Act
FFVP	Fresh Fruits and Vegetables Program
NHMRC	National Health and Medical Research Council
PNAE	National School Meals Programme
CAE	School Meals Council
CFP	Complementary Feeding Programme
SFP	School Feeding Programme
DCCP	Day-care Centre Food Programme
NBSA	National Board of School Assistance and Scholarships
BRL	Brazilian Real
kcal	Calorie

7. Appendix 1

In this report, a summary of findings from both a grey literature search and a journal article search has been presented. The main period of literature review occurred during November and December 2007. (For the purpose of this report, the term 'grey literature' refers to any literature which has been found via internet searches including research published as Government reports).

Internet based searches for grey literature used the Google search engine.³ Government and health organisation websites were primarily visited as much of the information is available on these sites.

Electronic searches for published literature were conducted on the following database during November and December 2007:

- MEDLINE ® (1996 to end Dec 2007) via the Ovid interface.
- Relevant search terms were used such as: school, primary, secondary, child\$, food, lunch, meal, nutri\$, diet, dinner, health\$, country, Europe, U.K. and individual country names. Individual searches were conducted then a combination of these searches provided publications or relevance to this review.

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