

Summary

1. This report is advice from the School Food Trust to Government on two aspects of school food other than lunch. These are:
 - i. New nutritional standards for food and drink served in school other than lunch.
 - ii. The application of the food based standards for school lunches to other school food outlets including tuck shops and vending machines.
2. In formulating the advice the School Food Trust has focussed on the normal school activities but excluded charity events and fundraising activities. Our aim is to promote the education and health of children and young people by improving the quality of food available within a school environment.
3. The Trust's advice is the following mandatory standards should apply to all food sold in schools throughout the day:
 - (i) no confectionery should be sold in schools;
 - (ii) no bagged savoury snacks other than nuts and seeds (without added salt or sugar) should be sold in schools;
 - (iii) a variety of fruit and vegetables should be available in all school food outlets. This could include fresh, dried, frozen, canned and juiced varieties;
 - (iv) children and young people must have easy access at all times to free, fresh, preferably chilled, water in schools so that children do not have to depend on going to the lavatory to get water;
 - (v) the only other drinks available should be bottled water (still or sparkling), skimmed or semi-skimmed milk, pure fruit juices, yoghurt and milk drinks (with less than 5 per cent added sugar), drinks made from combinations of these e.g. smoothies, low calorie hot chocolate, tea and coffee. Artificial sweeteners could be used in yoghurt and milk drinks;
 - (vi) every school should have a whole school food and nutrition policy, preferably reflected in its single School Plan.
4. These mandatory food-based standards represent the first step in transforming school food provision. They will be accompanied by further guidance from the School Food Trust which helps schools interpret and translate these standards into positive healthy food services. This guidance will include sample menus and product mixes for different food services, plus good practice case studies. It will recommend that cakes and biscuits should not be allowed at mid-morning break but should be allowed at lunch and after-school meals. A summary of types of food which would be available at different times of the day is given in Annex A.
5. The School Food Trust's view is that while nutrient standards are appropriate for school lunch, it is inappropriate to set standards expressed in nutrient terms for food services for the whole school day. School lunch

is a statutory provision provided by professional caterers. Other provision is not a statutory obligation and the emerging picture is of fragmented services with diverse patterns of provision. It became clear that there is less evidence on which to base nutrient standards. There is a danger of overburdening schools and caterers and diluting the future hard work necessary to meet lunch standards.

Background

6. The School Food Trust established a Committee chaired by Paul Kelly to oversee this work. Six members of the Trust served on the Committee and, to provide continuity, all members of the School Meals Review Panel were invited to participate in the evidence taking sessions and early consideration of the way forward. The Committee received considerable co-operation from witnesses from industry, trade associations and voluntary organisations and are very grateful to all concerned. The advice however is the responsibility of the School Food Trust. The Committee determined at the outset that schools should represent an environment where the healthy choice is the easy choice and that the school lunch service should not be undermined by the availability of products outside of lunch that are not healthy. The members of the Committee and the people and organisations who volunteered evidence are recorded at Annex B.

Priorities

7. In formulating the priorities the Trust was mindful of the obligation on schools and others dealing with children to promote their well being. We have taken account of a number of key health and nutrition priorities:
 - (i) escalating rates of childhood obesity. Since the early 1990s the number of school aged children in England and Wales who are overweight or obese has doubled (1). Approximately a quarter of children are now either overweight or obese (2). This is having a dramatic impact on the prevalence of diabetes. Type 2 diabetes is increasingly being diagnosed in children (3). Obese individuals have a 92 fold increase in risk of diabetes (3).
 - (ii) dental health. 53 per cent of 4-18 year olds have dental decay and two thirds of school children have erosion of either their primary or permanent teeth (4). Caries are linked to the amount and frequency of consumption of sugary foods and drinks. Frequent consumption of acidic drinks, increases the risk of dental erosion. The latter includes carbonated soft drinks, juices and squashes (5).
 - (iii) future cardiovascular health is linked to high intakes of saturated fat and salt amongst children (6).
 - (iv) nutrition. Many children eat poor diets. In particular:
 - (a) sugars provide about 17 per cent of food energy in children's diets (6) compared to a recommended average of 11 per cent. The main source is soft drinks and confectionery;

- (b) Children eat on average less than half the recommended five portions of fruit and vegetables a day. 1 in 5 ate no fruit at all during a survey week (6);
 - (c) 50 per cent of 15-18 year old girls have inadequate intakes of iron (6);
 - (d) 19 per cent of 15-18 year old girls have inadequate intakes of calcium (6).
- (v) Many children are not physically active. 3 out of 10 boys and 4 out of 10 girls do not take part in the recommended minimum of 1 hour physical activity. Levels decrease with age, especially among teenage girls (7).

8. After considering these priorities the Committee examined three groups of non-lunch food provision in schools:
- mid-morning break services provided by caterers;
 - breakfast and after school meals; and
 - vending and tuck shops.

The mid morning break

9. Approximately one third of catering transactions in 96 per cent of secondary schools are now made at mid-morning break (8). These services are run by the same caterer who provides school lunch. Common foods available are sandwiches, filled rolls, pizza slices, sausage rolls, pies, pastries, cakes and biscuits. Some secondary school pupils use mid-morning break as their main meal break of the day. Allowing sales of foods at mid-morning break that are not allowed at lunch time would undermine those standards. So for simplicity and effectiveness we recommend the standards listed in paragraph 3, should apply at mid-morning break. These standards should apply to sales of school food provided by caterers throughout the morning. The Trust will be producing guidance recommending that any products caterers use should meet target nutrient specifications.

Breakfast and after-school meals

10. School breakfasts are provided by a wide range of people including charities, teachers and parents with only a small minority run by school caterers. No data is available on after school meals but as these services develop as a result of extended school hours, a similar pattern of diversity of provision may emerge. As well as promoting the consumption of food before school these services help children and young people from families where parents' working hours extend beyond the usual school day. In view of the diversity of organisation and provision of these food services at either end of the school day, our recommendations for school food standards are expressed in terms that can be readily understood by everyone. We recommend therefore that the core standards should apply to breakfast and after school meals.

Vending and tuck shops

11. Confectionery and bagged savoury snacks are generally high in fat and/or salt and/or sugar. The Government's own healthy eating guidance set out in the 'Balance of Good Health' indicates that these foods may be eaten occasionally and therefore not part of a child and young person's everyday diet. The Committee reviewed ways of distinguishing healthier confectionery and bagged savoury snacks and was encouraged by evidence from the Food and Drink Federation (FDF) and the companies that chose to give evidence (Annex B) to consider restrictions based on Target Nutrient Specifications (TNS)¹. The Committee welcomed the move industry made during its deliberations, was grateful for the co-operation and wished to build on the goodwill and collaboration shown by the FDF and industry. However it noted there are no Target Nutrient Specifications for confectionery and the Food Standards Agency (FSA) has no plans to develop them. Doing so would take months and cause delay. The results would be difficult for young people, parents, volunteers and school staff to understand and work with as the large majority of these groups will not be familiar with Target Nutrient Specifications.
12. The Committee was conscious of the current work on cross Government guidance on vending in public buildings but felt that schools, as educational settings, have a particular responsibility to set a high example of healthy eating. In addition keeping a central list of acceptable products and expecting schools to consult government as to what products could be sold would be onerous for schools and incomprehensible to most children and young people, parents and governors. A clear food based approach, banning all confectionery and bagged savoury snacks will promote the health and education of children and young people, be clear and easy to understand.
13. The Trust recommends the same core food standards be applied to food sold from vending machines and tuck shops. By expressing these standards in terms that are easily understood it will be straightforward for a parent, teacher, governor or OFSTED inspector to know whether goods available in a vending machine or tuck shop comply with the standards. There will be questions as to what is meant by "confectionery" and by "bagged savoury snacks". These can be addressed in guidance and will draw on definitions from the Eurocode - 2 system consistent with the School Meal Review Panel (SMRP) proposals and reproduced in Annex G.
14. The FDF, the Automatic Vending Association (AVA) and their members already operate a voluntary ban on vending in primary schools.

¹ Target Nutrient Specifications are developed by evaluating the nutrient content of a range of manufactured foods within the same category. Target levels for fat, saturated fat, salt, sugar and protein are then set to for a category of foods. These arbitrary targets are designed to be achievable but challenging and to drive manufactured foods in a healthier direction within categories.

Drinks

15. The School Food Trust recommends that free, fresh, preferably chilled, water be easily accessible at all times throughout schools so that children do not have to depend on going to the lavatory to get water.
16. Provision of other drinks was a focus of several of the evidence sessions. The arguments for and against 'diet drinks' in schools are set out in detail at Annex D. This includes evidence from industry and the view of dental experts, including the British Dental Association. The evidence from industry was that sales of diet drinks nationally now exceed sales of ordinary colas, that these are safe, and can contribute to minimising the risk of dehydration in children.
17. The overall conclusion of the Trust is that whilst soft drinks containing artificial sweeteners are considered by the Food Standards Agency to be safe and have some benefits in relation to reduced calorie content (compared with sugared drinks), they are not necessary for hydration. Most soft drinks, except for water and milk, increase the risk of dental erosion. This includes flavoured waters which are more acidic and so are likely to be erosive. Likewise the Trust is not persuaded that sports drinks are necessary in the school environment. Fruit juices however have positive nutritional benefits that in the Trust's view outweigh the erosive risk. In weighing up the balance of arguments, the Trust placed particular importance in schools setting the best possible example to their students in the sorts of drinks they make available across the school day.
18. The Trust's final recommendations are thus that the only other drinks available should be bottled water (still or sparkling), skimmed or semi-skimmed milk, pure fruit juices, yoghurt and milk drinks (with less than 5 per cent added sugar), drinks made from combinations of these e.g. smoothies, low calorie hot chocolate, tea and coffee. Artificial sweeteners could be used in yoghurt and milk drinks.
19. The SMRP proposal was that milk drinks with up to 10 per cent added sugar be allowed. However the Trust recommends that this limit should be reduced to 5 per cent. The rationale for this is twofold. Firstly the availability of lower sugar milk drinks has increased since the level of 10 per cent was suggested. Secondly 5 per cent added sugars is in line with proposals for school drinks guidance currently being considered in other countries of the UK.

Impact on sales and revenue to schools

20. The Trust sought evidence on the size of current sales from vending in school and the contribution they make to school budgets. The results are in Table 1 below. These estimates include sales of food and drink which would be allowed under the standards. However some of the vending machines are provided by firms who advise it will no longer be commercially viable to provide and service vending machines under the

new standards. In some cases sales of new healthier products such as smoothies are likely to replace them. Although there may be an impact on revenues to both schools and the firms concerned this has to be set against the health, social and educational benefits to children as well as the potential economic benefits to the NHS.

Table 1: Estimated sales and revenues to secondary schools from vending*

	Weekly turnover (inc VAT) per machine	Return to school a year
Snacks	Range £150-£250	Range £900-£1500
Cans/bottles	Range £150-£250	Range £800-£2500

*estimates provided by the Automated Vending Association, January 2006

The case for managing choice

21. To justify these adverse impacts on sales and school budgets robust arguments for helping manage choice need to be made. The case is based on the need to help children and young people establish good dietary patterns and eating habits by ensuring schools promote a consistent and positive message about food choices; and by encouraging parents to do the same. The Trust feels it is vital that messages on the benefits of a healthy diet (and exercise) are not contradicted by the food allowed in school. For children and young people to get all the nutrients required for good health, they need to eat a wide variety of 'nutrient dense' foods every day. Food and drink with little or no nutrient value may be consumed occasionally but should not be unrestricted in schools.
22. Guidance on healthy eating provided by the Food Standards Agency points to:
 - eating proportionately larger quantities of fruits, vegetables and starchy foods;
 - selecting moderate amounts of lower fat protein sources, such as lean meats, fish and dairy foods; and
 - restricting the amounts of foods containing high fat, salt and/or sugar.
23. Translating this to a school environment means increasing the variety of products which centre on fruit, vegetables and starchy foods. This is a massive challenge for school food providers who have come to rely on popular products containing significant amounts of fat, sugar and salt. Case studies illustrate this challenge but also show that schools can work towards and achieve this transformation (Annex E).
24. During the evidence sessions some sections of the food industry expressed concern that managing choice could result in an increase in the prevalence of eating disorders in children. The Committee sought the views of an expert in child behavioural psychology and diet. She reviewed the available evidence and advised the Committee that "healthy eating

interventions have either had no effect or a positive effect on disordered eating”.

Experience from other countries

25. Internet searches were carried out to find out whether other countries have developed standards to promote healthy eating for school food provision across the school day. The USA has minimum nutrient standards for school lunches and breakfasts, and has recently increased restrictions on the sales of foods of minimal nutritional value. In 2005, California passed legislation to raise nutrition standards for food sold in schools, including a ban on the sale of sodas on all campuses by 2009, allowing only milk, water, juice and electrolyte drinks to be sold. France went further than this, and in 2005, banned all vending machines selling food or drink in schools. A summary of the results of internet searches for international experiences is provided in Annex F.

Better regulation

26. The DfES's Implementation Review Unit has raised a number of issues arising from the 'Turning the Tables' report which are relevant to this advice. The clear and consistent approach recommended above should minimise the extra workload implied for schools, nevertheless an Impact Assessment which estimates the anticipated workload to schools is needed.

27. The requirement to have a whole school food and nutrition policy developed through wide consultation is one of the criteria for being a healthy school. The 2004 Public Health White Paper, Choosing Health says "The Government has a vision that half of all schools will be healthy schools by 2006 with the rest working towards healthy school status by 2009" (page 55). Incorporating a standard which requires schools to have a whole school food and nutrition policy builds on this existing requirement. Encouraging schools to include their whole school food and nutrition policy as part of the single School Plan will help ensure it informs all aspects of school planning.

28. The guidance the School Food Trust is due to produce by May 2006 will need to set out clearly how schools demonstrate whether they are meeting their school food responsibilities. That will be straightforward for the standards recommended here.

29. The Trust believes that by developing a whole school food approach in consultation with parents some of the onus should be put on parents and young people to comply with the policy. Schools need to promote very clear statements about the sort of food that should be bought in and brought to school and address differences of view through consultation with parents, teachers and children.

Views of other bodies

30. The representative from the Association of School and College Leaders (previously Secondary Heads Association) on the Committee favoured building on the “healthier” approach treating industry as a partner. They hope the standards are as succinct as possible to promote a perception that the standards will be easy to implement.
31. The Trust is pleased with the willingness of the Food and Drink Federation (FDF) and its members to adopt healthier practices. However the FDF’s preferred option for adopting Target Nutrient Specifications as the way for identifying healthier items to be served in schools would, in the Trust’s view, entail delay and be difficult for people working in schools, other than professional caterers, to implement.
32. The estimates of sales from machines provided by the Automatic Vending Association (Table 1 above) assuming an average of 3 machines used for 38 weeks a year in 2,000 secondary schools suggest the total turnover is in the region of £45 m a year. Some of this trade is likely to be displaced to local shops. Phasing in the standards would help them manage the change.

Timing

33. The School Food Trust recommends that all schools should be achieving these standards by early in 2007.

Suzi Leather

**Dame Suzi Leather
Chair**

Attachments

- Annex A:** Provision of foods at different food service occasions across the day.
- Annex B:** List of those who gave evidence
- Annex C:** List of References
- Annex D:** Assessment of the arguments for and against 'diet drinks' in schools
- Annex E:** Case studies of interventions promoting healthy food in schools
- Annex F:** International experience
- Annex G:** Definitions of confectionery and bagged savoury snacks

Evidence submitted is available on request from the:
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Annex A: Provision at different food service occasions across the day

✓ = food group should be provided at this food service occasion

x = food group should not be provided at this food service occasion

T = further details in 'Turning the Tables' (SMRP 2005)

NS = not specified, further guidance to follow

Food group	Break fast	Mid-morning break	Tuck shops	Vending	Lunch	After school snack	After school meal
Fruit and vegetables	✓	✓	✓	✓	✓	✓	✓
Oily fish	x	x	x	x	T	x	x
Deep fried products	NS	NS	NS	NS	T	NS	NS
Bread	NS	NS	NS	NS	T	NS	NS
Confectionery	x	x	x	x	x	x	x
Bagged savoury snacks	x	x	x	x	x	x	x
Nuts and seeds (no added sugar/salt)	✓	✓	✓	✓	✓	✓	✓
Cakes and biscuits	x	x	x	x	✓	✓	✓
Salt/highly salted condiments	NS	NS	NS	NS	x	NS	NS
Drinks: water (still or sparkling), skimmed or semi-skimmed milk, pure fruit juices, yoghurt and milk drinks > 5% added sugar, or combinations	✓	✓	✓	✓	✓	✓	✓
Drinks: Low cal hot choc, tea, coffee.	✓	✓	✓	✓	NS	✓	✓
Free, fresh, preferably chilled drinking water	✓	✓	✓	✓	✓	✓	✓
Examples of	Whole	Filled	Filled	Filled	Menu	Toast,	Two

Food group	Break fast	Mid-morning break	Tuck shops	Vending	Lunch	After school snack	After school meal
foods which could be provided, in addition to those specified above.	grain cereals, with skimmed or semi-skimmed milk. Toast, rolls, bagels, yoghurts, fromage frais. Eggs – boiled, scrambled, baked beans	rolls, wraps, sandwiches, baguettes, pizza slice, yoghurt, fromage frais	rolls, wraps, sandwiches, baguettes, crackers and cheese, yoghurt, fromage frais	rolls, wraps, salads, crackers and cheese, pasta mixes, yogurts, fromage frais	to meet SMRP nutrient standards	rolls, breadsticks, rice cakes, crackers with cheese, biscuits, cakes	course meal, e.g. jacket potato with tuna followed by melon

Annex B: Members of the Committee taking evidence and list of evidence submitted.

Members of the School Food Trust Board

Beverley Baker
Paul Kelly
Carmel McConnell
Michael Nelson – Interim Head of Research
Mark Perfect – Interim Chief Executive
Sheila Walker
Ian Wasson

Members of the School Meals Review Panel

Gaynor Bussell (Food and Drink Federation)
David Butler (National Confederation of Parent Teacher Associations)
Judy Buttriss (British Nutrition Foundation)
John Caperon (Secondary Heads Association)
Joe Harvey (Health Education Trust)
Christine Lewis (Unison)
Jenny Poulter (Independent nutritionist)
Mike Rayner (University of Oxford, Dept of Public Health)
Eileen Steinbock (Brakes)
Lynn Stockley (Independent nutritionist)

Observers

Jamie Blackshaw (Food Standards Agency)
Louis Levy (Food Standards Agency)

List of those providing written evidence

Association of School and College Leaders
Automatic Vending Association
Biscuit Cake Chocolate and Confectionery Association
British Dental Association
British Soft Drinks Association
Coca Cola
CoolMilk
Coventry City Council
DEFRA
Department of Health
Expert Group on Hydration
Food and Drink Federation
GlaxoSmithKline
Local Authority Caterers Association
Masterfoods
Milk for Schools
Nestle
Scolarest
Sustain
Sustainable Farming and Food Implementation Group
Snack, Nut and Crisp Manufacturers Association
Somerset County Council
tfX
The British Dietetic Association
The Dairy Council
The Green Machine
Waters and Robson Ltd
Which, The Consumers' Association

List of those providing oral evidence

Automatic Vending Association
Jane Wardle
Carmel McConnell
Beverley Baker and Sheila Walker
Michael Nelson
Nestle
GlaxoSmithKline
British Soft Drinks Association
Biscuit Cake Chocolate and Confectionery Association
Snack, Nut and Crisp Manufacturers Association
Expert Group on Hydration
Food and Drink Federation
Coca-Cola

Cadbury Schweppes
Kellogg's
Masterfoods
PepsiCo
United Biscuits
Local Authority Caterers Association

Annex C : References

1. Department of Health (2004) Choosing Health – Making healthy choices easier. London: DH.
2. Department of Health (2002) Health Survey for England 2002. London: DH.
3. House of Commons Health Committee (2004) Obesity: The report of session 2003-04, Volume 1, p18.
4. Walker et al (2000) National Diet and Nutrition Survey: Young people aged 4 to 18 years. Volume 2: Report of the oral health survey. London: The Stationery Office.
5. Moynihan, P (2002) Dietary advice in dental practice. British Dental Journal, 193, 563-568.
6. Gregory et al (2000) National Diet and Nutrition Survey: Young people aged 4 to 18 years. London: The Stationery Office.
7. Department of Health (2004) At least five a week. Evidence on the impact of physical activity and its relationship to health. London : DH, p 9.
8. Nelson et al (2004) School meals in secondary schools in England. DfES.

Annex D: School food standards: Assessment of the arguments for and against ‘diet drinks’ in schools

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1.0 Main arguments

The main arguments relevant to this subject revolve around: -

- Are artificial sweeteners safe?
- Does drinking products containing artificial sweeteners develop or maintain a preference for sweet tasting drinks or foods, and does this result in higher sugar intake?
- Or does drinking products containing artificial sweeteners help people to avoid drinks that are high in sugar or energy dense and so help to prevent obesity?
- Do acidic drinks play a role in dental erosion?
- To what extent does the contribution of vitamins and minerals by drinks that contain artificial sweeteners, or are acidic, offset these characteristics?
- Are sweet tasting drinks more likely to be drunk than other drinks that are advocated by the SMRP and so have a role to play in hydration which cannot be met by the recommended drinks.
- Should school children pay for drinks to hydrate themselves when water is free?
- Should schools as part of their corporate social responsibility make branded sweetened drinks (which offer no nutritional benefit) available?

2.0 Relevant work from the SMRP

2.1 The Nutrition Working Group of the School Meal Review Panel (SMRP) discussed this issue during their deliberations. The notes of the SMRP meeting held on 13th July summarised the areas explored by the Panel and these included: -

- Acidity and the possible effect of this on teeth.
- Artificial sweeteners.
- Effects on the palate.

2.2 The final proposals from SMRP made the following recommendation in relation to drinks: -

“The only drinks available should be water (still or fizzy), skimmed or semi-skimmed milk, pure fruit juices, yoghurt and milk drinks with less than 10% added sugar, or combinations of these (e.g. smoothies)”

Appendix 4 of the Report gives the following rationale: -

“.....this means that sugary or sweetened (i.e. ‘diet’) drinks of minimal nutritional value would not be available”

Thus the key points of the rationale for banning artificially sweetened drinks in the SMRP report are:-

- sweet taste
- minimal nutritional value

3.0 Weighing up the arguments

As part of the consultation on the proposed SMRP standards, there were several responses which questioned the banning of drinks with artificial sweeteners and this was interpreted to include some types of flavoured waters, juice drinks and carbonated ‘diet drinks’ . Therefore, as part of the work of the School Food Trust’s Committee on ‘Other School Food’, it was agreed that the arguments for and against ‘banning drinks with artificial sweeteners’ should be examined more closely.

This has been done in relation to the six points listed in Section 1.0 of this document, and this is summarised in Table 1.

In addition the Committee considered whether the existing reference to 10% added sugars in milk drinks in the SMRP proposals should be reduced to 5%. The rationale for this was a) the availability of lower sugar milk drinks has increased since the level of 10% was suggested b) 5% sugars is in line with proposals currently being considered in other countries of the UK. It was agreed at the Committee meeting on the 13th January, that the 5% level should be adopted.

4.0 Summary:-

- The Food Standards Agency regards artificial sweeteners as ‘safe’

- There is no evidence that drinking products containing intense sweeteners develops or maintain a preference for sweet tasting drinks or foods, and there is no convincing evidence that drinking diet drinks results in a higher sugar intake.
- Drinks containing artificial sweeteners generally contain less energy than their sugared equivalents, and provide a low calorie alternative
- Acidic drinks play a causative role in dental erosion. Carbonated mineral waters have little effect, flavoured waters are more acidic and 'are likely to be more erosive', fruit juices and carbonated soft drinks of all types are erosive. This is particularly important if drinks are consumed frequently, or separately from food.
- The buffering and remineralising effects of milk and milk drinks offsets acidity to some extent, and therefore a minimal level of sugar and sweeteners would be permitted in these.
- Some drinks naturally provide nutritional benefits, and these may offset any negative characteristics.
- Hydration is a problem within schools. Whilst there appears to be some evidence that a variety of drinks may play a role in offsetting this there is also evidence that interventions designed to enhance access to water in schools leads to significant increases in fluid intake. Therefore the Committee's proposals are for a variety of drinks, as well as access to free, fresh chilled drinking water throughout the day. There is no evidence that this range needs to include drinks other than those which the Committee is proposing.
- Sports drinks are not necessary for the level of activity likely to be undertaken within a school. In addition 500mls of sports drinks delivers between 0.6-1.3g salt. These drinks are an expensive source of fluid for children.
- The current SMRP position is not consistent with some existing public policy initiatives. It will be particularly important in relation to the issue of drinks to ensure consistency with the current work on cross government guidance on vending provision, although there may be case for a more stringent approach within schools.

5.0 Conclusion

The overall conclusion is that soft drinks containing artificial sweeteners are safe. They have some benefits in relation to reduced calorie content compared with sugared drinks. However, they are not necessary for hydration. Sports drinks are not relevant to the school environment. Most soft drinks, except for water and milk, increase the

risk of dental erosion. This includes flavoured waters which are more acidic and so are likely to be erosive. Fruit juices however have positive nutritional benefits which outweigh this risk in the view of the Committee. In weighing up the balance of arguments , The Committee was swayed by the importance of schools setting the best possible example to their students in the sorts of drinks they make available across the school day.

Therefore the Committee recommended that the only drinks permitted in schools should be:

- **water (still or sparkling)**
- **skimmed or semi-skimmed milk,**
- **pure fruit juices**
- **yoghurt and milk drinks with less than 5% added sugar. Artificial sweeteners could be used in yogurt and milk drinks**
- **drinks made from combinations of the above (e.g. smoothies)**

In addition, the following hot drinks would be allowed:-

- **coffee, tea and low calorie hot chocolate**

This proposal will be reviewed in the light of current work on cross government guidance on vending provision

Table 1: Summary of assessment of the arguments for and against ‘diet drinks’ in schools

Argument	Evidence	Consultation responses	Decision on validity of argument
Are sweeteners safe?	The Food Standards Agency has strict controls and monitoring of types and levels of artificial sweeteners, and when necessary makes recommendations on intake of sweeteners for specific population subgroups.	As described in the evidence section	Artificial Sweeteners are ‘safe’
<p>a) Does drinking products containing intense sweeteners develop or maintain a preference for sweet tasting drinks or foods,</p> <p>b) Does this result in higher sugar intake?</p>	<p><i>Jane Wardle was asked to assess the evidence on this, and her summary is given below.</i></p> <p>a) It is possible that exposure to more sweet tasting foods in early life could enhance sweet preferences, but there is no evidence for this. People’s tastes for sweetness in drinks tend to be specific to the drink – e.g. preferring coffee with sugar but unsweetened tea. I know of no evidence that drinking a sweetened drink will make children prefer sweeter drinks generally.</p> <p>b) There is no evidence for this as such. Diet soft drinks are far less studied (than sugary drinks), but findings are also equivocal. Blum et al (2005) found that increases in diet soda consumption over two years were significantly greater for overweight</p>	BSDA’s view was that there was no evidence for either of these.	<p>a) There is no evidence that drinking products containing intense sweeteners develops or maintain a preference for sweet tasting drinks or foods</p> <p>b) There is no convincing evidence that drinking diet drinks results in a higher sugar intake.</p>

Argument	Evidence	Consultation responses	Decision on validity of argument
	<p>elementary school children and those who gained weight than for normal weight children. In Forshee & Story's large sample (2003) BMI was slightly, but significantly positively related to consumption of diet carbonated beverages in girls. This association might be the result of older children attempting to lose weight by drinking low cal versions.</p> <p>Two further studies have failed to find such an association in preschoolers (Newby et al, 2004) or in children with a mean age of 11 years (Ludwig et al, 2001).</p> <p>In a large epidemiological study Harnack et al (1999) examined energy intake of children who were high or low consumers of soft drinks and found that the former had a higher energy intake overall. They were unable to examine associations with diet drinks as too few children drank them regularly.</p>		
<p>Or does drinking products containing intense sweeteners help people to avoid drinks that are high in sugar or are energy dense and so help to prevent obesity?</p>	<p><i>Diet drinks contain less calories than sugared drinks, and so do not contribute so much to calorie intake</i></p>	<p>Diet drinks provide a useful stepping stone in a staged progression from sugary drinks</p>	<p>Diet drinks contain less energy than their sugared equivalents, and provide a low calorie alternative.</p>

Argument	Evidence	Consultation responses	Decision on validity of argument
<p>Do acidic drinks play a role in dental erosion?</p>	<p>'Diet' drinks are less cariogenic than sugar containing versions, but those that are acidic may contribute to dental erosion.</p> <p>"Frequent consumption of acidic drinks should be avoided to help prevent dental erosion (Levine & Lowe, 2004)</p> <p>"Dental erosion is perceived to be increasing. Evidence suggests that soft drinks, a major source of acids in the diet in developed countries, are a significant causative factor" (Moynihan, 2005)</p> <p>Consumption of carbonated drinks increases the chances of a 12-year-old suffering tooth erosion by 59 per cent. Heavy consumption of such drinks, drinking four or more glasses per day, increased a 12-year-old's chances of suffering erosion even more; by a massive 252 per cent. The effects of fizzy drinks on 14-year-olds were even more striking. Drinking any fizzy drinks at all was found to increase the chance of tooth erosion by 220 per cent. Heavy consumption at this age was found to increase the chances of suffering erosion by 513 per cent. Seventy six per cent of 12-year-olds surveyed reported drinking fizzy</p>	<p>The view of the British Dental Association and dental experts who were consulted was that diet brands of carbonated drinks contain acids, which can cause tooth erosion.</p> <p>The view of dental experts reflected that in the 'Scientific basis of dental health education' (Levine & Lowe, 2004), that milk and water are the only 'safe' drinks for teeth.</p>	<p>Acidic drinks play a role in dental erosion. Carbonated mineral water has little effect, flavoured waters are more acidic and 'are likely to be more erosive', and carbonated soft drinks of all types are erosive.</p> <p>This is particularly important if drinks are consumed frequently, or separately from food.</p>

Argument	Evidence	Consultation responses	Decision on validity of argument
	<p>drinks. Among 14-year-olds this figure had risen to over 92 per cent. For both age groups more than 40 per cent of those surveyed reported having three or more glasses of fizzy drinks per day (Dugmore & Rock, 2004)</p> <p>The role of drinks in tooth surface loss was assessed. Mineral waters had little effect on erosion, carbonated mineral waters has little effect, flavoured waters are more acidic and 'are likely to be more erosive', and all carbonated drinks are erosive (Rees, 2004).</p>		
<p>To what extent does the contribution of vitamins and minerals by drinks which contain intense sweeteners, or are acidic, offset these characteristics?</p>	<p>This is largely a matter of judgement of the balance of risk and benefit</p>		<p>Some drinks naturally provide nutritional benefits, and these may offset any negative characteristics.</p>
<p>Are sweet tasting drinks more likely to be drunk than other drinks which are advocated by the SMRP and so have a role to play in hydration which cannot be met by the recommended drinks.</p>	<p>Evidence from the industry referred particularly to two papers.</p> <p>(Bar-Or, 1998): This is a chapter in a book, and not a peer reviewed paper. The research is based on experiments in children at high intensity exercise levels (either 50% VO₂ max or VO₂ max).</p> <p>(Rivera-Brown <i>et al.</i>, 1999): This also described and</p>	<p>Independent research has demonstrated that around 44% more fluid is consumed during intense exercise if children are offered a lightly flavoured drink compared than if offered water alone (Wilk B and Bar-Or O, 1996; Rivera Brown <i>et al.</i>, 1999) (GSK)</p> <p>A variety in drink provision is more likely</p>	<p>Hydration is a problem within schools, and there appears to be some evidence that a variety of drinks may play a role in offsetting this.</p> <p>However, the Committee's proposals will be for a variety of drinks, as well as access to free, fresh chilled drinking water</p>

Argument	Evidence	Consultation responses	Decision on validity of argument
	<p>experiment at high intensity exercise levels, in 12 boys (2 x3hr sessions at 60% VO2 max), in a tropical climate where water and soft drinks were provided free and in unlimited quantities</p> <p>The Committee's view was that it is unlikely that children in schools would achieve these levels of exercise intensity.</p> <p>Other sources of evidence Pilot studies cited in the Food In Schools Toolkit and one peer reviewed study (Loughridge and Barratt, 2005) all demonstrate increase in fluid intakes amongst children following interventions to enhance access to free water in schools.</p>	<p>to result in a higher intake. When the representative from the Expert Committee on Hydration was asked whether the proposal that children should have access to water all day, and a choice of fruit juices, water and milk drinks in vending machines would provide sufficient variety to enable hydration, and his view was that this is probably the case.(Expert Committee on Hydration)</p> <p>'Sports drinks'</p> <p>Functional sports drinks are designed to rehydrate and re-energise more effectively than water(GSK)</p> <p>Although there may be electrolyte imbalances that are important in elite athletes, these do not apply in school children, and special drinks are not necessary (Oral evidence from the Expert Committee on Hydration)</p>	<p>throughout the day. There is no evidence that the range need to include drinks other than those which the Committee is proposing.</p> <p>Sports drinks are not necessary for the level of activity likely to be undertaken within a school</p>
Other		<p>The proposals to ban diet drinks are not consistent with the approach proposed in Scotland, the FSA nutrient profiling approach for use in relation to advertising foods to children, or the FSA's label</p>	<p>The current SMRP position is not consistent with some existing public policy initiatives, and it will be particularly important in relation to this issue to ensure consistency with</p>

Argument	Evidence	Consultation responses	Decision on validity of argument
		<p>signposting scheme.</p> <p>Schools are an important setting, in which it is important to have standards which support good practice. It might be valid to have standards within schools which are more stringent than those which apply elsewhere.</p>	<p>the current work on cross government guidance on vending provision. However, it may be appropriate in the school context to have standards which are more stringent than those developed for other contexts.</p>

6.0 References

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ANNEX E

SCHOOL FOOD NOT LUNCH: CASE STUDY I BREAKFAST CLUB

The school

Thomas Fairchild Community School is an inner city primary school in one of the nation's poorest boroughs, Hackney, London. It has children from over 20 different nationalities and 58% of its 250 pupils have free school meals. The school's lunch time catering is organised by a private company that services 16 schools, and serves organic food daily.

When, why and how the initiative was set up, and who was involved

The school has been running its Breakfast Club since 2002. Prior to that time, a substantial number of children had been coming into school without having eaten or even had a drink since the previous night. Others were starting the day with a 'breakfast' of chocolate and a fizzy drink en route to school. In the classrooms teachers reported a variety of problems amongst children which they sensed could be linked to their poor dietary start to the day; lethargy, poor concentration, restlessness and in some cases, children unable to sit up properly at their desk because they were so weary. There was a belief amongst the head teacher and staff that offering children breakfast might make a real difference to their general energy levels and possibly their attention and performance during the morning's learning. They have been successful in obtaining small community grants to help finance the initiative through the awarding body 'Shoreditch Our Way: a New deal for Community'. The head teacher feels the cost of running the Breakfast Club is very good value for money; a little goes a long way. Since 2001 the school has also been supported by the registered charity The Magic Breakfast which is funded by social enterprise Magic Outcomes (a school based training firm). Magic Outcomes provides innovative development programmes to a range of large organisations, donating all profits towards free school food deliveries. It also offers practical assistance to schools wishing to improve their food provision, through a consultancy support programme. As part of the Magic Breakfast scheme, free bagels and healthy breakfast cereals are delivered as 'fuel for learning' to 17 schools in deprived parts of London. The Magic Breakfast prioritises primary schools with over 50% free school meals, where the school leaders are committed to healthy school award accreditation.

How the initiative works

The running of the breakfast club is covered by two staff members who are teaching assistants. They are paid for an extra 11.4 hours each day to come in at 7.30am and run the club. All the Breakfast Club's equipment and supplies are stored in their own walk-in cupboard in the corner of the dining room. Children can arrive at Breakfast Club from Barn and all children are usually in by 8.20am. For security the main entrance to the school is locked at this time of day. Breakfast club children ring the bell downstairs when they arrive, are monitored on screens in the dining hall and allowed in only when breakfast club staff operate the door release system.

Children attending Breakfast Club range from Year 1 to 6, with a predominance of children in years 5 and 6. Reception children are not allowed to join as there is a minimum attending age of 5 years. About 40 children each day attend Breakfast Club out of a total school roll of 250. They are charged 40p a day for breakfast, but there is flexibility about payment. Although run by staff the children are very involved in helping, with monitors for everything: breakfast monitors, fruit monitors, washing up monitors, clearing up monitors and library monitors. Some of the children really like to get involved whereas others are less interested in helping.

The breakfast menu is quite simple and includes warmed cinnamon and raisin bagels, various types of breakfast cereal, milk, fruit juice, toast/bread with jam and fresh fruit. The bagels are donated free of charge, by the Magic Breakfast. Two boxes (100 bagels) are delivered at a time and they are stored in a large deep freezer in the school caretaker's house and heated each morning as needed. Any bagels left over after breakfast are taken out into the playground on trays, still warm, by bagel monitors at 9am, before school starts at 9.15am. They are offered freely to all children and every child knows that they can have one. The aim is for no child to go into school without having had something to eat.

The social part of the Breakfast Club is very important because it holds special appeal amongst the children. There is a range of activities and the children vote each morning to choose which they'd like to do. There's table football or indoor hockey which are both popular, or the computer suite is available. Sometimes they choose self-directed play. The Breakfast Club now also has full use of the library and the school is piloting a scheme extending a free breakfast to parents, which is funded by ContinYou. They hope to entice volunteer parents to become more involved with helping children with their reading and learning.

The Breakfast Club tries to bring in specific children who the school believes would benefit. The facility is there not only to ensure the children are fed but also as one of the strategies to help children when the family is in a crisis. On very rare occasions a mini-cab has been funded to bring the child into school.

Issues encountered and how they have been overcome

Ensuring the continuous smooth running of Breakfast Club when staff are absent or ill, has depended on tremendous flexibility and commitment from the people involved. So dedicated and pragmatic are the staff members; that they always take full responsibility for ensuring cover when necessary. They 'see each other right'.

There has been a degree of compromise in the type of breakfast cereals offered at Breakfast Club. The children prefer the more highly sugared or chocolate-coated varieties but the school is keen to limit the choice to only sugar-free wholegrain cereals like Shreddies and Weetabix. Despite the attempts of the staff involved, the children are hugely resistant to healthier

varieties of breakfast cereals so a range of different cereals continues to be available.

The school has a philosophy of inclusion and Breakfast Club currently has five children with Special Educational Needs. There is always the potential for behavioural problems and there have been occasional incidents. Children are now fully aware that the schools behaviour policy (three strikes and you're out) applies in Breakfast Club, just as at other times in the school day. As a result, few behavioural problems now occur.

Impact and outcomes

Although there has been no formal evaluation data collected the headteacher believes that the breakfast club has had a positive significant impact. The headteacher emphasised the huge effort made by staff and the whole school to keep the initiative running every day. However the head believes there are obvious pay-offs in that no child starts the day too hungry to learn. He feels the cost is relatively small relative to the huge perceived benefits. Better concentration and behaviour in children are consistently noted by staff but are hard to truly quantify or measure. There are many anecdotal examples of children who would have otherwise been regularly upset, sad or angry at the start of the school day, and who now have a much more positive start to their day, because of the Breakfast Club.

Breakfast Club is very popular with children and there is a waiting list to join. Children know that it an every day event — so it is always there. They say it has a really nice atmosphere. There's no stigma about going to Breakfast Club, in fact it's considered really cool and the school has worked hard to create that image and perceived accessibility.

Breakfast Club is now such an integral part of school life that it features in the school's video to prepare new children coming in. The breakfast club staff and children are all very proud of their club and its status in school.

Complementary activities

The school believes that all opportunities to feature healthy food in the school day should be seized to reinforce such an important message. As a result the school is part of a fruit and vegetable co-operative available to parents through the school. This Farmer's Choice scheme is a 'not for profit' scheme run by Abel & Cole, a supplier of organic products based in the South East of England. The company delivers packs of freshly harvested organic fruit and vegetables (also containing a newsletter with recipes) to the school. Participating parents collect their bags in the playground at the end of the school day, pay and order for the next week. At Thomas Fairchild school the bags are sold for the cost charged by Abel & Cole, though the scheme is set up to sell at a slightly higher price to enable the PTA to receive 25% of the selling price of the bag and this money helps to boost school funds.

Further website information

Thomas Fairchild School

www.thomasfairchild.hackney.sch.uk

Magic Breakfast

www.magicbreakfast.org.uk

ContinYou

www.breakfastclubplus.org.uk

Abel & Cole

www.abel-cole.co.uk/theframerschoice

SCHOOL FOOD NOT LUNCH: CASE STUDY 2 BREAKFAST CLUB

The school

Newhall Park Primary School, Bierley, Bradford serves a sub-urban catchment (largely centered on a former council estate) including areas of deprivation. In recent years many of the homes have become privately owned by families who were previously tenants.. The children in the school are mainly white with 7% Asian and —4% African Caribbean. Of the school's 340 children 38% have free school meals. There are 15% with Special Educational Needs (without a statement) and 2% SEN with a statement. The School has Extended School status and will receive funding for development into a Children's Centre.

When and how the initiative was set up, including who was involved

The school's Breakfast Club started in 2002 as a basic food service offering popular cereals (generally the higher sugar varieties) with milk, white toast and orange squash. Funding was obtained from the bakery business Greggs plc. The company had pioneered the concept in 1999 following a Business in the Community visit to a primary school in a deprived part of Newcastle. The Breakfast Club at Newhall Park Primary School is co-ordinated by the school's Learning Mentor whose interest had been sparked in school meetings where the problem of hungry children was regularly discussed. She felt that a Breakfast Club was the obvious solution. It is now available free of charge to all children within the school and between 80 and 100 children attend each morning. The school view it as a tremendous success and very popular with the children. They believe it is one of the largest and best attended breakfast clubs in the region. The financial support from Greggs (approximately £3,000 -3,200/year) to fund the scheme continues, for which the school is very grateful. The type of food being offered to the children has evolved over the years and now is more in line with healthy eating principles. Greggs has been happy to continue supporting the Breakfast Club since the changes were brought in and the introduction of the healthier range of foods has not proved to be any more expensive.

How the initiative works

The Breakfast Club is the responsibility of one dedicated staff member who delivers the service with the help of a number of volunteer parents. Smooth running of the scheme depends on a great deal of good-will and commitment from all involved. The menu now includes three types of breakfast cereal; Weetabix, Rice Crispies and Cornflakes with milk and wholemeal toast. There is also a daily variety of fruit and vegetables with three different options available each day. Fruit choices often include melon, oranges or bananas (but not apples because it is felt that children can easily eat those anytime) whilst vegetable options include cucumber and cherry tomatoes. All the fruit and vegetables are peeled and prepared creatively ready for eating, to encourage the children to take them. For example, staff use 'flower' cutters for halves of tomatoes, cucumbers are cut into interesting long strips, oranges are segmented and bananas are peeled and cut into halves. Also the menu now extends to pasteurised yoghurt, rice pudding and occasionally warm pitta

bread filled with ham or cheese, French rolls or croissants. The children's favourite is the low fat pancakes from the local supermarket, which are served with syrup but no butter.

Every 4 weeks Greggs bakery supply 80 loaves of bread which the school collects from their nearest local shop. This is stored in a large freezer in the technology classroom. For additional storage, the school has one large catering fridge dedicated to the Breakfast Club and this is located in a corridor, separate from the main kitchen. There is a small core group of volunteers (usually mothers but sometimes grandparents too) involved every day. At times there has been enough additional help from the parental community to create a rota.

The children arrive in the school dining hall at about 8am where breakfast service continues until 8.20am. School starts at 8.45am so in the time they have left, the children can get games out, watch DVDs (but *not* the television) and some will do their homework. The children participating in the scheme are also encouraged to contribute practically within this time. For example two children from each class are water monitors. They fill all the children's water bottles for the classroom each day. Others are asked to complete small tasks like opening windows in classrooms or watering plants. In this way children are involved and the school feels this all helps to build self-esteem. A careful daily register is kept of children attending Breakfast Club and the Foundation children are escorted by the Breakfast Club helper to their classrooms for the start of school at 8.45am. All other children make their own way to the classes ready for the start of lessons.

Issues encountered and how they have been overcome

The Breakfast Club relies heavily on the school's Learning Mentor who has to make special arrangements for cover to ensure continuity of the service for any

At the start some parents of younger children used the Breakfast Club in lieu of a child-care service. They were keen to drop children at school at 8.30am in order to get to work. This problem was discussed and a letter was sent out to all parents informing them that children had to be in Breakfast Club at 8am. The door is now closed at 8.20am and parents do not abuse the system.

Impact and outcomes

There has been no formal evaluation of the scheme, however Greggs has received feedback from head teachers of all the schools involved in their scheme, saying there has been marked improvement in attendance, punctuality and concentration levels in class. Some also say there has been an improvement in achievement levels for specific pupils. Many schools say the breakfast club has the biggest single impact on improving school/parent relationships and children's behaviour.

The staff members involved in the Breakfast Club feel it has helped develop social skills and provided a calm start to the day for some pupils who

experience a chaotic home life. The fact that children know it's there for them means that no child should start the school day feeling hungry. The children eat well and have a really enjoyable time. Children or families that the staff think would benefit from attending breakfast club are specially targeted and invited to join. The Breakfast Club has also helped some less-obvious children who've had dizzy spells during the morning at school, through lack of food. They've said they 'don't feel hungry' for breakfast at 7.30am at home, so Breakfast Club is perfect for them.

At certain times of the year Breakfast Club children practice for special activities like school concerts. For example children have rehearsed for the school's own version of 'Stars in their Eyes' and the Christmas Concert. All of this helps build bonds between the Breakfast Club children.

As a new initiative, Breakfast Club is now specially extended until 8.30am to accommodate children who take part in SATs booster classes in the Spring term. These classes are offered to selected Year 6 children who appreciate access to breakfast after their early morning tuition. In this instance breakfast is seen as a reward for the extra effort put into learning. The pupils feel 'special' and a separate Breakfast Club register reinforces this notion.

Complementary activities

The school is offering children in years 3, 4, and 5 an omega-3-supplement every day and this now extends to selected children (who are not engaging in the curriculum) from years 1 and 2. This idea began with special funding from Excellence in Cities, and Boots the Chemist is currently sponsoring this innovation. The company provides the supplements free of charge and would like to run the scheme as a formal trial.

All Key Stage 2 children are offered a health package including a free portion of fruit (as in Key Stage 1) and drink of milk as well as the omega-3 supplements. This is funded by the money (£1,020) provided by central Government to all schools, for any Health Initiative.

Further website information

Newhall Park Primary School www.newhallpark.bradford.sch.uk

Greggs Bakery www.greggs.co.uk/communityinitiatives

SCHOOL FOOD NOT LUNCH: CASE STUDY 3 MID-MORNING BREAK

The school

Strathpeffer Primary School, in Strathpeffer, a village in the Scottish Highlands has a roll of 167 children of which approximately 5% have a free school meal. A significant proportion of children travel in each day by bus from rural areas within a radius of about 10 miles. Strathpeffer School was selected as a pilot school to work with the Soil Association's Food for Life primary schools programme.

When and how the initiative was set up, including who was involved

Nutritional changes in catering practice in all schools across Scotland had already begun through the challenges set by the Scottish Executive's Hungry for Success initiative. The Soil Association's Food for Life Project was established in 2003 and complements the healthy eating targets of Hungry for Success by linking them with the targets of sourcing local and organic food wherever possible. 'Food for Life' was looking to run a pilot project with a small number of primary schools who were keen to further develop these principles and cultivate a rather different food culture. The Soil Association was keen to work with the Highland Council and Strathpeffer School was selected as a school which had already made significant changes but which was keen to develop even further.

The drive to work towards the Food for Life targets has been met with enthusiasm by Highland Council's Catering team who run the school catering service. They take great pride in the extent to which local produce is used and see Food for Life as a natural extension of the ongoing developments in food procurement within the Council's catering service. The Food for Life scheme demands that produce conform to three key measurements:

75% non processed food 50% local produce 30% organic produce

At the time the current school cook joined the school five years ago, children were eating the standard lunches of dishes like mince and potatoes followed by a sponge pudding and custard on most if not all days of the week. The mid-morning break service was very popular with children and offered the usual range of home-baked high fat, high sugar tray bakes, millionaire's shortbread and all varieties of chocolate flavoured cakes and buns. Drinks previously included flavoured waters and squash.

How the initiative works

The schools' mid-morning break service now operates within the context of the whole school, which was one of the first in the Highlands to achieve Health Promoting School status three years ago. Clear, specific and up-to-date guidance on all aspects of running the mid-morning break service is provided by the Highland Council in their manual for school caterers, in a customised folder, which includes standard recipes, portion sizes and practical tips. The changes to the range of items offered to children at mid-

morning break have been made gradually and it now runs a fairly simple but sufficiently varied range of items including:

- Drinks: Organic milk
 Pure Fruit Juice
 Water
- Fruit: Fruit Bowl – organic when possible
 Chopped Fruit – organic where possible
 Fruit platters – organic where possible
 Fruit kebabs – organic where possible
- Snacks: Toast with ‘high polyunsaturated’ fat spread
 Baked scone]
 Plain sponge]
 Pancakes] All using organic flour and incorporating fresh/dried
 fruit
 Flapjack] and seeds wherever possible
 Fruit loaf]

Children of all ages through the school (aged 5 to 12 years) can and do use the mid-morning break service and about 35-40 pupils buy something there most days, which represents about a quarter of all children in school.

The non processed food target is easily met at Strathpeffer School because all items for mid-morning break are prepared in the school kitchen. The pilot concentrates particularly on increasing the organic content of what the school offers. Organic eggs, milk, fresh fruit and vegetables and a variety of dry goods have been introduced as part of the pilot so the baked items on the menu use organic ingredients wherever possible. Extending the product range of both local and organic produce has created keen interest among local suppliers and the Soil Association helped by funding seminars to help the Council and small suppliers start working together.

Issues encountered and how they have been overcome

There have been no major issues with the changes apart from a few adverse comments from children when their favourite bun, cake or bake was withdrawn. Within days they had stopped complaining and started enjoying the alternatives.

The new mid-morning break service offering healthier items does not generate the same level of income as previously, for two reasons. Firstly, it is much less used overall than before. Secondly, children now spend less money each time they visit. From a revenue point of view, this is not a serious problem to the service and the fall in income is overridden by the obvious nutrition and health advantages for the children. Previously children were spending 70p or so each morning on 2 or 3 cakes. Now they can get a healthier slice of toast and a piece of fruit for just 30p.

From the catering and supply perspective the following hurdles have been overcome, usually through general adjustment and careful planning:

- the dirt on organic vegetables meant increased preparation time
- the shelf-life of organic produce is slightly shorter than non-organic equivalents
- frequency of delivery and delivery dates of organic suppliers is not always ideal
- irregularity of the size of fruit has caused pricing issues, for example an organic apple may range from the size of a plum to the size of a grapefruit!

Impact and outcomes

No formal evaluation of the scheme has been conducted though educationally, all teaching and catering staff are highly supportive of the changes and feel they must be 'a good thing'. Several parents have given positive feedback because their children who were previously picky eaters have accepted the healthy, wholesome food more readily than they would have imagined. Children have been taking ideas for healthy eating back home and influencing what is cooked and eaten. They have clearly understood and applied the principles learned in school, and modelled by the healthy mid-morning break service.

Whenever the school cook had received notification in advance of the next stage of guidance and menu or recipe instructions, she had anticipated that the children really would not be happy. She reported with amazement that, although a few might grumble for the first day or two, the children have adapted well and they now don't complain at all. On the positive side, the children remarked on the improved flavour of some foods when the organic items were introduced, especially milk and cucumber.

Complementary activities

An after school club called 'Groove' is run by an outside provider The Out of School Care Federation, which is a not-for-profit organisation with charitable status, currently operating only in the Highlands. The club can take 20 children, is run by two staff and is based in the community centre immediately next door to the school. Food is provided for the children, and hot food is prepared by one of the two staff who run the club, in the community centre's kitchen. The menu is planned each week, based partly on what the children say they would enjoy, but also on what is feasible within the time staff have available for food preparation. Whilst one staff member is busy in the kitchen, the other supervises the 20 children. Examples of the snacks provided include one of the following: pasta with tomato sauce/tuna & sweet corn, pizza, soup, sausage rolls, sandwiches with a variety of fillings or sometimes toast with jam or spreading cheese. The snack is followed by a choice of fresh fruit (e.g. apples, banana, tangerine, grapes, melon or kiwi) and there is also milk, fruit juice or water to drink.

Further information

The Highland Council Catering Service

www.highland.gov.uk/ecs

Scottish Health Promoting Schools Unit
www.healthpromotingschools.co.uk

Hungry for Success
www.scotland.gov.uk/Topics/Education/School-Education/18922/HfS

Soil Association's Food for Life
www.soilassociation.org/foodforlife

SCHOOL FOOD NOT LUNCH: CASE STUDY 4 THE FRUIT SHOP

The school

St Johns CE (A) Junior and Infant School, Golcar, Huddersfield is a church-aided primary school with 250 pupils aged 4 to 11 years. It is one of three primary schools in a small town which used to be a weaving village. The children are mainly white, with 2% from ethnic minority groups and 8% take up free school meals.

When and how the initiative was set up, including who was involved

The fruit shop was set up in 1996 after a small group of innovative children had approached the head teacher to ask if they could organise a shop in school where they could buy a snack to eat at break times. At that time there was no School Council to discuss the idea. Informal discussion amongst the school community revealed support for some sort of outlet selling snack items but consensus that this initiative needed to be carefully thought through. Specifically there were questions about the type of shop, what it would sell and how it would operate. After several months of consultation and planning, the Fruit Shop opened for business, Initially the school ran the shop from a classroom table which was moved out into the main corridor at mid-morning break. The school found funds to pay for a money tin and supplies of fruit were ordered from the village shop. The Fruit Shop has evolved over the 8 years since its inception and is now seen as an integral part of the school day providing an important service to children as well as contributing to their learning.

How the initiative works

The Fruit Shop is run by Year 6 children with 'hands-off' adult supervision from the Head Teacher. The shop sells a wide variety of fruit, priced at 10p or 20p, to all children throughout the school. The shop now consists of a customised trolley (decorated with oversized wooden carrots) which has been bought for the shop's profits. Other acquired equipment includes aprons, bowls, knives, spoons, cling film and paper bags. The shop now gets its basic supplies from the fruit and vegetable supplier used by the education authority for the free fruit scheme. Additional seasonal or special fruits are purchased weekly by the head teacher when she does her own personal shopping. Standard items available in the shop include apples, clementines/satsumas, bananas and scoops of raisins. In addition there may be slices of melon, kiwi fruit, pears, pea pods (3 for 10p) and in the summer, strawberries and chilled fruit juice. The shop also sells replacement water bottles to the children, for 50p, similar to a product which retails at the supermarket for £3.

All Year 6 children have a chance to be involved in the fruit shop. A rota is drawn up at the start of the school year and there seems to be a relationship between pupil enthusiasm and the efficiency/profitability of the shop. Year 6 children have a responsibility to train up the Year 5 children who will provide continuity for the next academic year. This training is conducted outside classroom time and the children have produced a training manual to ensure that all the essential areas are covered. Training includes:

- o How to set the stall up
- o Handling money
- o How to organise queues
- o Politeness to customers
- o Health and Hygiene
- o How to tidy up the stall

The training is rigorous and before Year 5 children are deemed competent to run The Fruit Shop, their performance is tested. This checks for example, that pupils would be able to give the right change, can demonstrate hygienic practices, or know the names of different fruits, and that they would not give I.O.U.s. The skills acquired by the children in running the shop are all components of the PHSE curriculum.

There have been special theme days when parents have helped with the preparation of fruit smoothies or fruit salad which are then sold in The Fruit Shop. Where chopping or liquidising of fruit is required, safety is paramount as the use of knives by the children requires close adult supervision. A grant of £200 was obtained for the Caribbean day from 'Involving Young Citizens Equally' (IYCE). Exotic fruits like mango, papaya and pineapples were sold at the shop along with fruit smoothies. The profits made were enough to buy a fridge for The Fruit Shop, which the children ordered on-line, took delivery of, and celebrated with a big 'Switch on'. The fridge is now used for storing fruits and cartons of fruit juice.

Issues encountered and how they have been overcome

One of the most frequent difficulties relates to children wishing to buy items for which they don't have enough money. At times there has been a shortfall in revenue as individual shop keepers (as a favour) have accepted lower payments for fruit. On occasions the cost of supplies has not even been covered. Getting the training right has rectified this. The training manual has been introduced to make sure shopkeepers are trained not to allow people to buy things more cheaply than the selling price under any circumstances, and never to allow I.O.U.s.

Although the shop is predominantly run by the children, it needs a committed adult co-ordinator to oversee it, and to trouble-shoot if necessary. This responsibility has inevitably fallen on the head teacher. She feels that the benefits of The Fruit Shop are worthwhile so she makes it a priority on her time at the mid-morning break.

When the Free Fruit Scheme was introduced for Key Stage/children 2 years ago, there was concern that the volume of business at The Fruit Shop would drop, making it less viable. This has not proved to be the case, and many KS1 children not only have their free fruit, but also buy fruit from The Fruit Shop, getting two of their five daily portions at mid-morning break.

Impact and outcomes

There has been no formal evaluation of the Fruit Shop. However the head teacher believes the educational benefits are enormous. In her view it

develops numeracy skills and helps children become more independent and confident. It helps them build up trust and learn to work as part of a team. Peer support is always evident as older children help the younger children to handle their money. Children with special educational needs in Year 6 are involved in running the shop, and are paired up with a more confident child, with obvious benefits to their self-esteem.

One overriding nutrition and health benefit to the children is that no child in school hates fruit because they all love buying it from The Fruit Shop.

SCHOOL FOOD NOT LUNCH: CASE STUDY 5 HEALTHY VENDING (DRINKS)

The school

William Farr CE Senior School, Welton, Lincolnshire is a large secondary school in a village in rural Lincolnshire. Most of its 1,450 pupils travel in from a 5 mile radius by bus. 2% of children have free school meals. Except for 6th formers, children are not allowed off the school site during the school day. The canteen is open and selling breakfast items from 8.15am until school starts at 9am. In 2003 the three vending machines selling fizzy soft drinks plus two others selling confectionary items were removed from school site.

When and how the initiative was set up, including who was involved

Review of the vending machines came out the school's work towards achieving Healthy School status in 2003. The notion of removing the fizzy drinks and confectionary machines was first mooted with the pupils through School Council. Representatives were asked sound out pupil's views on removal of these machines and their substitution with a healthier vending service. On the whole children at the school were supportive and a decision to remove the confectionary and soft drinks vending machines was actively recommended by School Council.

Subsequently the Co-ordinator of the Healthy Schools Award and Head of School Council planned some careful consultation and communication with the children about the proposed changes. There was a real build-up by talking at any opportunity, about removing the vending machines, for example in 'Year Groups' and in assemblies. In particular, the potential benefits to them personally of 'reducing the junk' such as improvements in their concentration and behaviour were explained.

Once an agreement had been made, the children all knew the vending machines were going to be removed and to the amazement of staff, many children seemed to welcome it. A letter was sent out to parents asking for their support. The catering team were keen to be part of the changes but felt they needed time to adjust their services. All members of the teaching staff were supportive because they felt there were possible knock-on benefits in terms of children's performance, and ultimately in their academic results.

How the initiative works

The 3 year contract with the previous drinks vending machine provider, Coca-Cola was due for renewal so the timing was good. The two replacement drinks machines are supplied and stocked by a local company called Cool Milk (a 'Winner of 2004' Caroline Walker Trust Awards which recognise innovation in the food and health arena). The school has negotiated a one year contract with Cool Milk which they feel now gives them more flexibility to review their drinks provision on an annual basis.

At present the drinks vending machines stock fresh milk, flavoured milks, yoghurt drinks, flavoured water and fruit juices and the school feel that

revenue from this has been 'good'. The school would now like to add a third drinks machine to the school site.

As a separate element of the gradual introduction of changes, the multi-bar chocolate machines have been replaced with 'Vitality' vending machines. These are supplied and stocked by Spring Fine Foods and contain a mix of ambient items including bars and snacks made from dried fruit, cereal bars and lower salt crisps. At this stage the school has no plans to install refrigerated vending to make filled rolls or other more substantial lunch time items available as the canteen is open at breakfast, break and lunch times to sell these.

The school's head teacher feels strongly that the school's timetable should be designed to allow children to 'refuel and refresh' regularly in order to optimise children's blood sugar levels. In his school breaks are built in every 2 hours. School therefore starts at 9am, with a mid-morning break at 10.20am and lunchtime is at 12.30pm. He believes that a 3 hour gap would be too long and in schools that have a late mid morning break (11 .20am), late lunch (1.30pm) and no before school breakfast facility, he believes that children's learning in the first few hours of the day is almost certainly compromised.

The school's water policy, whereby children can have their drinking water bottle on their desk at all times through the school day, has been in place since 2003. This is perceived to have made a massive difference to pupils' concentration.

Issues encountered and how they have been overcome

The fizzy drinks and confectionary machines were a source of significant revenue for the school and before they were removed the financial implications were considered very carefully. The head teacher anticipated that they would lose substantial income. Indeed it is estimated that revenue has fallen by about £20,000-£25,000 per year — about two-thirds of the cost of a full time teacher. However the headteacher perceives there to be strong moral and educational issues involved in promoting highly sugared drinks to children, in their learning environment. The head teacher says "This was a moral decision for the school. What would we rather have? Children who are so badly fed that they perform poorly, or a hole in the budget? There's absolutely no question in my mind that enabling our pupils to eat healthily — and showing them what healthy food and drink is all about — is an integral part of their education."

Immediately after the fizzy drinks machines were removed the school also introduced a separate vending machine for dispensing bottles of chilled water. This didn't prove to be popular; the children would rather save money and fill up their own drinking bottles from the water fountains.

Another key issue was the heavy reliance on the goodwill of the catering team, who were not always able to put healthy eating as their top priority. Changing attitudes and winning their commitment has been a gradual process because this could never have been achieved overnight.

Other points learned:

- 1) Make it a whole school commitment and stick to it
- 2) Make the financial decisions and bite the bullet because children's health is even more important than balancing the budget
- 3) Don't try and impose it top down. It must come from the children though they will need some guidance
- 4) Keep it simple and do it in stages so it can be subtle — you get pleasant surprises
- 5) Remember the teaching staff are very important — they also need to be well fed
- 6) Get the canteen staff on side and involve them in decisions at all stages

Impact and outcomes

Although there no hard data has been collected to evaluate this project, feedback from school staff suggests that:

- children accepted withdrawal of vending machines selling soft drinks and confectionary — in this school there was on outcry. Ongoing feedback through the School Council supports this
- from the start parents were supportive of plans to change school vending services. Indeed the Parent Teachers Association offered to make up any shortfall in vending income, from PTA funds, as a signal of their support to the school in its decision to remove the fizzy drinks machine.
- there has been perceived improvement in behaviour and attainment amongst pupils

The school has recently undergone an OfSTED inspection and was rated 'outstanding' in all areas.

Further information

William Farr CE Senior School wfarr@williamfarr.lincs.sch.uk

Cool Milk (Tel. 0800 781 0157) www.coolmilk.com

Vitality (food) vending www.vitalitybar.co.uk

The school

Milford Haven Secondary School, Pembrokeshire is a large comprehensive school with 1,300 pupils, serving a fairly economically deprived population which is mainly urban but with some rural sections. 22% of children are entitled to free school meals.

When and how the initiative was set up, including who was involved

The concept of healthy vending began in 2001 just before the School Council was convened. There were two reasons; firstly, health and behaviour, and secondly, litter problems. The head teacher was concerned about children's deteriorating behaviour, which seemed to be particularly evident in the afternoons. A possible link was suggested with the large amounts of fizzy drink, confectionary and crisps being consumed by the children at lunchtime. School staff also felt that these vending products generated a large amount of litter within the school. In particular the ring-pulls from drinks cans dropped by children were a safety hazard.

School staff came to a unanimous agreement to remove vending machines from the school site. A letter went out to parents and there was not one objection. It was done in stages. Following withdrawal of the drinks machines staff said they immediately noticed a huge difference in children's behaviour in the afternoons.

Next, the possibility of removing the chocolate and sweets machine was raised at School Council and with the Parent Teachers Association and there was agreement to take similar action. Again the school carried out careful dialogue with parents.

Despite the decision, the school caterers were tied into a contract with the vending machine provider and had to wait 18 months until summer 2005, when the contract expired and the confectionary machines were removed. The difference in children's behaviour on removal of the confectionary machines was less noticeable than when the fizzy drinks machines went, but amazingly, their removal caused little protest from the children who were resigned to their departure.

How the initiative works

Healthy vending at Milford Haven School means vending using replacement refrigerated machines, stocked with light meals and snacks prepared by the school caterers. The school has been inspired and supported by the Healthy School Initiative (as are all eight secondary schools in Pembrokeshire) with further help from Pembrokeshire's Public Health Team.

The changes have meant working very closely with the catering staff to develop a suitable range of vending foods. This now includes sandwiches, baguettes, yoghurts, pasta salads, crackers with cheese and grapes, fruit

smoothies and flavoured milks. The caterers, who are part of the Local Education Authority team, have been very willing to use newly specified ingredients as standard (e.g. low fat mayonnaise), to modify quantities (e.g. less cheese in baguettes), take on different ideas (such as serving crackers and a small piece of cheese with a handful of grapes) and experiment with recipes (e.g. tea breads sweetened with banana instead of sugar).

The children were consulted on what they would like to buy from the vending machines. They asked for many things that have proved to be popular and healthy. For example, they wanted a smaller half portion of filled baguette as a quick filling snack after school before sports or other activities. They also asked for a variety of prices and a supplier has been located who will provide small cups of orange juice with a foil lid, for just 20p.

Finding suppliers of suitable drinks products has been helped by having precise specifications, as set out in the guidance booklet for schools 'Think Healthy Vending' produced by the Health Promotion Division of the Welsh Assembly Government. A local dairy producer, Daioni, had asked if schools would consider stocking their flavoured, fresh organic milks which were 'in development'. The company were able to formulate the product to meet the nutritional criteria of less than 5% sugar, and now have a contract to provide supplies to the school. Although not cheap (65p), the fresh flavoured milks are proving very popular with children.

The vending machines are located in the canteen area so they can be easily re-stocked and maintained by catering staff. The area is not open continuously throughout the day, but is accessible at 11am, 1.20pm and 3.10pm for the close of school. Many children buy their lunchtime food from the vending machine at the mid morning break, either consuming it straight away or keeping it for later at 1.20pm, though many actually eat it at break time. The machines are re-filled as school ends for those staying for after school clubs or children simply wanting to refuel before their journey home. It is currently not open first thing in the morning before the start of the school day.

Issues encountered and how they have been overcome

At the pilot stage there was a request for the vending machines to be available 'on tap' throughout the whole school day so that children could use the facility between lessons. The head teacher was concerned that because this wouldn't be monitored by staff, it could be problematic – in terms of litter and general behaviour.

When the confectionary machines were first withdrawn a couple of pupils tried to cash in and brought in boxes of bulk chocolate supplies to sell on to children for profit. The school quickly prohibited this practice after explaining the reasons why.

One key problem with the new vending system is that currently it is not accessible to children entitled to free school meals. The potential stigma is something the school has been working hard to avoid. In other parts of

Pembrokeshire, the use of a SWITCH card system is currently being trialled. This takes advantage of modern technology by enabling cards to be 'topped up' by parents or by the school for those having free school meals. Dinner money can then be spent in the school canteen or at the vending machines and the SWITCH cards double up as ID and registration cards for use throughout the school.

In another school in Pembrokeshire the School Council had expressed concern that the stock in the vending machines at the schools on-site leisure centre was inconsistent with the new healthy vending in school. They felt this was unfair and gave a mixed message to children and leisure centre users. As a result, the on-site leisure centre in that school is now being brought in line with the healthy vending policy, and confectionery and fizzy drinks will be removed.

In terms of backlash the only complaints received followed removal of confectionery vending came from school staff who regularly bought sweets and chocolate from the machines.

Impact and outcomes

Again, there has been no formal evaluation conducted. However, school staff made key observations. They said they noticed a 'dramatic improvement' in afternoon behaviour. The headteacher also believes that the refrigerated vending service offering a healthier range of products is financially viable. Since the changeover queues for vending have not decreased. During the pilot phase, the finances were examined very closely and healthy vending was profitable at that stage, even though the other vending machines were still running in parallel.

Since the removal of confectionery and drinks machines, the head teacher believes that some children may bring in chocolate and crisps from home. She has not found a way to prevent that but at least she knows that the children have got the clear message that school doesn't promote or approve of such snacks because of the link with behaviour. Even though these changes were implemented before Jamie Oliver became involved in influencing school food, the children now say it was all because of Jamie Oliver and they don't mind because he's a man they really approve of.

Further information

'Think Healthy Vending' is a booklet by the Health Promotion Division of the Welsh Assembly Government. It can be downloaded from www.healthschool.org.uk

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Annex F: REVIEW OF INTERNATIONAL ACTIVITIES RELEVANT TO INTRODUCING STANDARDS FOR SCHOOL FOODS OTHER THAN LUNCH.

Contents:-

- 1.0 Summary
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1.0 Summary

Internet searches were carried out to locate international activities relevant to developing standards. This was not a comprehensive exercise, the intention was to assess whether other countries are undertaking work similar to that currently being carried out in the UK, in relation to school food (especially outside of lunch provision).

The USA appears to be taking a lead in initiatives to set standards for foods in schools. This might be partly due to rising obesity levels, and because of the huge U.S. Department of Agriculture's "Food and Nutrition Service" which includes the National School Lunch Program, National School Breakfast Program, and Special Milk Program. Recent changes to legislation in the "Child Nutrition and WIC reauthorisation Act of 2004" are particularly relevant. These include minimum nutrient standards for school lunches provided under the Program, and also for school breakfasts, and further restrictions on the sales of foods of minimal nutritional value.

The individual states in the USA have their own initiatives, and in 2005, California passed legislation to raise nutrition standards for food sold in schools, including a ban on the sale of sodas on all campuses by 2009, allowing only milk, water, juice and electrolyte drinks to be sold.

France went further than this, and in 2005 banned all vending machines selling food or drink in schools.

There are various pieces of guidance relating to tuck shops and snack provision, but this rapid review did not identify any statutory standards.

2.0 Methods

Internet based searches were used to look for “International initiatives to set standards, or develop guidance, or promote healthier choice, through breakfast, mid morning, vending, snack/tuck shop, or after school provision in schools”. Searches were restricted to sites in English and used a mixture of key words with or without country qualifiers or known government agencies.

3.0 Findings

Most of the initiatives to set standards or develop guidance for healthy ‘non-lunch’ based nutrition policies and practices in schools are from the USA, and some of the overarching work from there is described in Section 3.1. International experiences relative to specific food service occasions are described in Section 3.2.

In some instances, non-profit organisations have set up their own schemes, but these have generally not been examined in this paper.

3.1 Important U.S. based initiatives

The USA appears to be taking a lead in initiatives to set standards for foods in schools. This might be partly due to rising obesity levels, and because of the huge U.S. Department of Agriculture’s (USDA) “Food and Nutrition Service” which includes the National School Lunch Program, National School Breakfast Program, and Special Milk Program. All children up to high school grade in public and nonprofit and private schools are eligible to participate. These programs reach millions of pupils every day, and standards have been developed to provide consistency and accountability. During 2003 and 2004, the legislation behind these programmes was reviewed, resulting in the “Child Nutrition and WIC reauthorisation Act of 2004” which is in the process of phased implementation. Information on ‘Reauthorization Implementation’ can be found at www.schoolnutrition.org/Index.aspx?id=1079. Details of the proposed rules issued in December 2004 can be found at www.fns.usda.gov/cnd/Governance/regulations.htm. Much of the content is concerned with administration of the schemes, but some rules relating to nutrition are summarised below: -

- Lunch must provide one-third of the Recommended Dietary Allowances (RDA) of protein, calcium, iron, vitamin A, and vitamin C, by specific age/grade groups; with breakfast providing one-fourth of the RDA for the same by specific age/grade groups. Meals will provide specific mealtime energy allowances/calories for children based upon certain age/grade groups. A limit on the percent of calories from total fat to 30 percent based upon the actual number of calories offered. A limit on the percent of calories from saturated fat to less than 10 percent based on the actual number of calories offered. A reduction in the levels of sodium and cholesterol. An increase in the level of dietary fiber.

- Pilot programs, under the school breakfast and lunch programs, to increase: (1) use of fortified fluid milk, including an information program; (2) offerings of fruits, vegetables, legumes, cereals, and grain-based products; and (3) consumption of low-fat dairy products and lean meats and poultry products
- Amendments to Child Nutrition Act of 1966: Directs the Secretary to develop model language that bans the sale of competitive foods of minimal nutritional value anywhere on elementary school grounds before the end of the last lunch period (Note: previously only applied at time of meal service). Requires the Secretary to provide through State agencies: (1) such model language to elementary schools; and (2) to secondary schools, copies of regulations concerning such sale

The US Department of Health and Human Services, Centres for Disease Control and Prevention (CDC) conduct a periodic national survey called “school health policies and programmes study” from State to classroom level. This provides a great deal of useful information to planners and policy makers. The last study was done in 2000, with a new study planned for 2006. A list of the factsheets they produce is available at cdc.gov/HealthyYouth/shpps/factsheets.

Of particular relevance to this research is the fact sheet on foods and beverages sold outside the school meal programs cdc.gov/HealthyYouth/shpps/factsheets/pdf/outside_food.pdf, and the factsheet on Nutrition Services cdc.gov/HealthyYouth/shpps/factsheets/pdf/nutrition.pdf

The U.S. has a complex system of federal and state laws and initiatives. This results in considerable variation in the school nutrition policies in different states. “ Informed Eating”, part of the Organic Consumers Association in the USA, has conducted an analysis of School Nutrition Bills in the USA between 2003 and 2005 (www.organicconsumers.org/school/informedeating). It found: “45 states introduced 287 bills related to the sale of soft drinks and junk food in public schools. (Many bills also contained other provisions). Only 21 states were successful in passing any bill, and only 31 bills out of the 287 were enacted. Of these 31 bills, often, what would have been a stronger, more restrictive bill, wound up being a weaker, watered-down version.”

California is seen as being in the forefront of school nutrition initiatives, and in January 2001 the California Center for Public Health Advocacy established a panel to develop recommendations for nutrient standards for competitive foods sold in schools in California. They recommended establishing mandatory minimum standards for elementary and secondary schools for beverages, fat and saturated fat, sugar, portion sizes and the availability of foods and vegetables. Their recommendations can be seen at www.publichealthadvocacy.org and have been copied here as Appendix A

More recently, on September 15th 2005, California signed landmark legislation to raise nutrition standards for food sold in their schools. It will ban the sale of

sodas on all campuses by 2009, and according to the San Francisco Chronicle:

“SB12 sets nutrition standards for schools with the aim of limiting the amount of calories and sugar content that children consume. SB965 will extend the state’s ban on the sale of soda during school hours to high schools, allowing only milk, water, juice and electrolyte drinks to be sold. The ban already applies to elementary and middle schools.

The restrictions will apply only to food sold at schools and does not affect what students can bring to campuses”

A third bill, SB281 provides \$18.2 million to provide fruits and vegetables for school breakfast programmes.

3.1.1 Financial implications

In October 2001 a state-wide pilot programme was established in California (known as SB19) to look at the financial impact on schools of implementing rigorous nutrition standards “for all foods and beverages sold outside of the school meal program (foods sold a la carte, in vending machines, in school stores and as fundraisers). The pilot program showed that middle and high schools could implement nutrition standards without any loss of revenue. Some schools even made more money selling healthy foods than they did selling unhealthy foods.”

www.publichealthadvocacy.org/limits/standards2001.html

The California Department of Education then piloted 16 projects under the name LEAF (Linking Education, Activity and Food). These projects were evaluated by the Center for Weight and Health (CWH) at the University of California, Berkeley. In a news release on 13 May 2005 www.cde.ca.gov the California department of Education discusses the main findings:

“The CWH financial evaluation makes a valuable contribution to the policy discussions underway. As you can see in the enclosed Executive Summary, the CWH found that LEAF schools implementing SB 19 nutrition standards tended to see:

- A reduction in sales at their snack bar, vending machine, and a la carte venues.
- An increase in school meal participation, with an overall increase in food service department revenue.

However, the CWH also found that a variety of factors influenced these outcomes, including, but not limited to:

- Improvements in school meal menu offerings and kitchens and/or eating areas.
- Increased outreach efforts to promote meal program enrolment.

- Student involvement in selecting menu options.
- Meal reimbursement rates that do not reflect the rising cost of labor.
- Inadequate technology for menu planning, nutrient analysis, and/or accounting/inventory.
- Insufficient points of sale that result in long lines and increased stigma associated with meal program participation.
- Competition between school-based groups for food and beverage profits.
- Short meal periods.
- Open campus status (that results in competition from outside vendors)".

The CWH also found it likely " ... that at least some of the one-time food service expenditures would be required in order to improve the meals, kitchens, and eating areas and thereby attract student participation in the meal program. In addition, some initial and ongoing coordination and evaluation would be required to ensure a successful transition to, and institutionalization of, SB 19 nutrition standards and related LEAF activities."

The full report is available on the CWF web site at <http://cnr.berkeley.edu/cwh>. The California Department of Education also discuss their views on implementing SB19 nutrition standards in a white paper called "Healthy Children, ready to Learn"

www.cde.ca.gov/eo/in/se/yr05healthychildrenwp.asp

3.2 Food Service Occasions

3.2.1 Breakfast

In the United States, recent changes under the Re-authorization Act are described in Section 3.1. The US Department of Agriculture operates the Child Nutrition Program. The School Breakfast Program (SBP) is part of this scheme (www.fns.usda.gov/cnd/breakfast/). The program provides cash assistance to States to operate non-profit breakfast programs in schools and residential childcare institutions.

According to the school health policies and programs study (SHPPS) 2000 <http://www.cdc.gov/HealthyYouth/shpps/factsheets/pdf/>, 63.8% of US schools participated in the USDA school Breakfast programme in 2000.

An evaluation of a scheme to extend the School Breakfast Programme (SBP) through provision of universal-free school breakfast in December 2004 noted that around 7 million children on the SBP were from low income backgrounds (www.fns.usda.gov/oane/MENU/Published/CNP/). This 3 year pilot study of elementary schools in six school districts concluded:

“The availability of universal-free school breakfast significantly increased school breakfast participation but had little impact on other outcomes measured over the course of the evaluation including academic achievement test scores, attendance, tardiness, health, and discipline. Although treatment school students were more likely to consume a nutritionally substantive breakfast than control school students, there was almost no difference in average food and nutrient intakes at breakfast or over the course of the day. It should be noted that these findings do not negate the importance of eating breakfast. What these findings suggest is that simply offering free school breakfast to all elementary school students would not, on average, be expected to improve academic or behavior outcomes beyond what occurs in schools already offering the SBP.”

See Appendix B for a copy of the USDA school breakfast meal planner.

3.2.2 School fruit and vegetable schemes

In 2003 the USDA conducted a pilot fruit and Vegetable scheme which was summarised in a report to congress as shown below

www.ers.usda.gov/publications/efan03006/ :

“Almost all schools participating in USDA's Fruit and Vegetable Pilot Program (FVPP) consider the program to be very successful and would like the pilot to continue. The Nutrition Title of the 2002 Farm Act provided \$6 million to the FVPP for the 2002-03 school year to improve fruit and vegetable consumption among the Nation's schoolchildren. The FVPP provided fresh and dried fruits and fresh vegetables free to children in 107 elementary and secondary schools—100 schools in 4 States (25 schools each in Indiana, Iowa, Michigan, and Ohio) and 7 schools in the Zuni Indian Tribal Organization (ITO) in New Mexico. The intent of the pilot is to determine the feasibility of such a program and its success as assessed by the students' interest in participating. Of the 105 schools reporting on feasibility, 100 believe that it is feasible to continue the pilot if funding were made available. The pilot provided ample funding that averaged about \$94 per student. Schools believed that 80 percent of students were very interested in the pilot, and 71 percent reported that students' interest had increased during the pilot period. Many schools reported that the 10-percent cap on non-food (for example, labor) costs out of each grant was too restrictive. This report provides an early review of the pilot.”

The Swedish Medical Centre (<http://www.swedish.org/16683.cfm>) usefully summarised some of the USDA study information:

“The table below lists the USDA recommendations for fruit and vegetable consumption in children of different age groups and sexes.

Sex/Age	Daily servings of fruit	Daily servings of vegetables
Boy and girls, ages 2-6	2	3
Older boys and girls, teenage girls	3	4
Teenage boys	4	5

3.2.3 Mid-morning

No information was found specifically about mid-morning.

3.2.4 Vending machines

In the USA the Surgeon General recommended that “healthy snacks and foods are provided in vending machines, school stores, and other venues within the school’s control; prohibit student access to vending machines, school stores, and other venues that compete with healthy school meals in elementary schools and restrict access in middle, junior, and high schools” (US Dept of Health and Human Services, 2001). This was supported by a recent report by the Democratic Party as part of a review of the Children's Bill, which was finally passed in May 2004 (Democratic Staff of the Senate Committee on Agriculture Nutrition and Forestry, 2004). This report also provides a useful overview of recent initiatives in different states of the USA to improve availability of healthy foods in vending machines.

The American School Food Service Association (ASFA) produces various resources to support healthier food provision (<http://www.asfa.org/childnutrition/fsoperations>). This includes a publication on ‘Healthy school snacks and beverages: selected policies and guidelines’, which is only available to members. ASFSA’s website also contains a guide to assessing the healthiness of foods for vending machines, from Utah (American Food Service Association, Date unknown).

Another example of guidance is from San Antonio in Texas (Health Collaborative San Antonio, 2004). Snacks and beverages for vending machines were placed in 3 categories: healthiest, healthier, and excluded.

Snacks:

Healthiest – must meet both criteria

- 3 grams of Total Fat or fewer per serving (Nuts and seeds exempt from restrictions.)
- 30 grams of Carbohydrates or fewer per serving (All candies are considered unhealthy. Fruit in any form is permitted, regardless of carbohydrate count.)

Healthier – must meet both criteria

- 5 grams of Total Fat or fewer per serving (Nuts and seeds exempt from restrictions.)
- 30 grams of Carbohydrates or fewer per serving (All candies are considered unhealthy. Fruit in any form is permitted, regardless of carbohydrate count.)

Drinks:

Healthiest

- Milk – Low fat (1%) or non-fat preferred, any flavor
- Water – Pure
- Juice – at least 50% fruit or vegetable juice

Healthier

- Water – Flavored or vitamin enhanced
- Low-Calorie Beverage – (<50 calories per 12 oz serving)

On 28th July 2005 France banned all vending machines selling food or drink in schools. According to www.nutraingredients.com/news/ng.asp?id=62259-france-launches-controversial the law “bans the sale of any food or drink, from fruit and bottled water to Coca-Cola and Mars Bars, via automatic vending machines”. This blanket ban has been criticised by some as being too severe – with some arguing that the machines could be used to sell just healthier produces. The article goes on to say that a few weeks earlier “the American Beverages Association, backed by PepsiCo and Coca-Cola, introduced a voluntary ban on all drinks except water and 100 per cent juice in elementary schools, and all full-calorie soft drinks in middle schools in the US.” It goes on to say that “Calls for bans on vending machines in schools have still been seen in some other western nations, including as Ireland, the US and the UK. Some US states have banned fizzy sodas in middle and elementary schools, while California has just passed legislation to extend this ban to high schools”.

3.2.5 Snack / Tuck Shops

In Australia, the Pyramid Awards scheme for school tuck shops is promoted by the not-for-profit Nutrition Australia (the Australian Nutrition Foundation) and includes the following standards for its ‘awards’ scheme:

GOLD PYRAMID AWARD

- The tuckshop must not sell lollies, chocolate, snack bars, chips and soft drink
- Fresh fruit and vegetables available everyday
- Tuckshop has a choice of white and wholemeal bread
- 75% of products for sale meet Nutrition Australia’s Food Selection Guidelines for Children and Adolescents
- Tuckshop Convenor must have attended a training course in the previous 12 months.

SILVER PYRAMID AWARD

- Restricted access to lollies, chocolate, snack bars, chips and soft drink

- Fresh fruit and vegetables available everyday
- Tuckshop has a choice of white and wholemeal bread
- 50% of products for sale meet Nutrition Australia's Food Selection Guidelines for Children and Adolescents

BRONZE PYRAMID AWARD

- Restricted access to lollies, chocolate, snack bars and chips
- Fresh fruit and vegetables available everyday
- Tuckshop has a choice of white and wholemeal bread
- Choice of Nutrition Australia Registered Products

3.2.6 After School

At present there does not seem to be a federally sponsored U.S. After School programme along the lines of the USDA's School Food Lunch programme. Organisations such as the U.S. "Food Research and Action Center" (FRAC) are keen to promote such a programme, as they estimate there are at least 7 million 'latchkey' kids in the U.S. who could benefit from such a programme.

Appendix A - Californian recommended competitive food standards

Copy of panel recommendations, California Center for Public Health Advocacy

http://www.publichealthadvocacy.org/school_food_standards/school_food_standard_pdfs/standards.pdf



School Nutrition Consensus Panel COMPETITIVE FOOD STANDARDS RECOMMENDATIONS

GRADE LEVEL	ISSUE	RECOMMENDATION	RATIONALE	EXAMPLES OF WHAT WOULD BE IN & WHAT WOULD BE OUT
ELEMENTARY SCHOOLS (Schools that have grade 6 or lower)	ALL COMPETITIVE FOOD	Eliminate sale of all foods sold outside the school meal program during the school day. Individual items sold during morning / afternoon breaks must meet the standards described below for secondary schools.	(1) Young children should not have the opportunity to make unhealthy food choices at school; (2) The school environment should model healthy choices.	Out: All individual foods sales except fruits and vegetables, 100% fruit juice, low fat / nonfat milk during the lunch period. In: Healthy options during nutrition break.
SECONDARY SCHOOLS	BEVERAGES	Allow sale of:		
		Beverages that contain at least 50% fruit juice with no added sweeteners	Fruits and vegetables contain necessary nutrients.	In: Fruit juices, Knudsen spritzer
		Water	Water is an essential nutrient and a healthy beverage choice.	In: Bottled water
		Low fat / nonfat milk	Availability promotes calcium consumption without contributing unnecessary calories from fat.	In: Low fat and nonfat milk and chocolate milk
		Eliminate sale of:		
Soft drinks, sports drinks, punch, ice tea, and other drinks containing less than 50% real fruit juice.	Eliminates beverages with little nutritional value and others that replace more healthful alternatives.	Out: Coke, Pepsi, Fruitopia, Sunny Delight, Snapple, Gatorade		
Beverages that contain caffeine (except chocolate milk)	Schools should not promote the consumption habit-forming substances	Out: Coffee, teas		

GRADE LEVEL	ISSUE	RECOMMENDATION	RATIONALE	EXAMPLES OF WHAT'S IN & WHAT'S OUT
SECONDARY SCHOOLS	SNACKS, SWEETS, SIDE DISHES	Portion Size: See attached chart	Larger serving sizes can lead to over-consumption	Out: All large size portions
		Fat: No more than 30% of total calories from fat	High fat foods add unnecessary calories to the diet	In: Baked potato chips, pretzels, some popcorn, some granola bars, some baked French fries
		Saturated Fat: No more than 10% of calories from saturated fat	Foods that are high in saturated fat increase the risk of coronary heart disease by raising blood cholesterol	Out: regular potato chips, fried french fries, some granola bars
		Sugar: No more than 35% by weight (except fresh, dried or canned fruits and vegetables)	Eliminate foods (1) that are high in calories and low in nutrients, and (2) that promote development dental caries.	In: some granola bars, trail mix, animal crackers, graham crackers, Devil's food cookies, Jell-O, fat free fudge bar, frozen fruit bar Out: some granola bars, some cookies, all candy
	ENTRÉE ITEMS and SIDE DISHES	Portion Size: No larger than portion served as part of school lunch.	Extra large size portions add unnecessary calories, including calories from fat and saturated fat.	In: Reasonable portions of pizza, hamburgers, burritos, chili dogs, chicken nuggets Out: all oversized portions
FRUITS AND VEGETABLES	Require the availability of quality fruits and vegetables any place competitive foods are sold	Fruits and vegetables provide needed nutrients without adding low nutrient dense calories. Students must have healthy food options	In: All fruits and vegetables: fresh, cooked, dried, and canned without additional sweeteners.	

School Nutrition Consensus Panel

RECOMMENDED PORTION LIMITS

Snacks and Sweets	1.25 oz
chips, crackers, popcorn, cereal	
trail mix, nuts, seeds, dried fruit	
Jerky	
Cookies / cereal bars	2 oz
Bakery items (e.g., pastries, muffins)	3 oz
Frozen desserts, ice cream	3 oz
Yogurt	8 oz
Beverages (no limit on water)	12 oz

Appendix B – USDA school breakfast meal planning

Copy of USDA Document from

<http://www.fns.usda.gov/cnd/breakfast/Menu/sbp-planning-approaches.doc>

MENU PLANNING IN THE SCHOOL BREAKFAST PROGRAM

School meals are intended to "safeguard the health and well-being of the Nation's children." Participating schools must serve breakfasts that are consistent with the applicable recommendations of the most recent Dietary Guidelines for Americans including: eat a variety of foods; choose a diet with plenty of grain products, vegetables and fruits; choose a diet moderate in sugars and salt; and choose a diet with 30% or less of calories from fat and less than 10% of calories from saturated fat. In addition, breakfasts must provide, on average over each school week, at least 1/4th of the daily Recommended Dietary Allowances for protein, iron, calcium, and vitamins A and C. To provide local food service professionals with flexibility, there are five menu planning approaches to plan healthful and appealing meals. Schools choose one of the approaches below. The choice of what specific foods are served and how they are prepared and presented are made by local schools.

The Traditional Food-Based Menu Planning Approach

Under the Traditional Food-Based Menu Planning Approach, schools must comply with specific component and quantity requirements by offering four food items from the following food components: vegetables and/or fruits; milk; and two servings of meat/meat alternate, two servings of grains/breads OR one serving of each of these components. Minimum portion sizes are established by ages and grade groups.

(See chart on following page)

TRADITIONAL FOOD-BASED MENU PLANNING APPROACH-MEAL PATTERN FOR BREAKFASTS			
FOOD COMPONENTS AND FOOD ITEMS	AGES 1-2	AGES 3,4 AND 5	GRADES K-12
MILK (fluid) (as a beverage, on cereal or both)	4 fluid ounces	6 fluid ounces	8 fluid ounces
JUICE/FRUIT/VEGETABLE: Fruit and/or vegetable; or full-strength fruit juice or vegetable juice	¼ cup	½ cup	½ cup
SELECT ONE SERVING FROM EACH OF THE FOLLOWING COMPONENTS, TWO FROM ONE COMPONENT, OR AN EQUIVALENT COMBINATION:			
GRAINS/BREADS :			
Whole-grain or enriched bread	½ slice	½ slice	1 slice
Whole-grain or enriched biscuit, roll, muffin, etc.	½ serving	½ serving	1 serving
Whole-grain, enriched or fortified cereal	¼ cup or 1/3 ounce	1/3 cup or ½ ounce	¾ cup or 1 ounce
MEAT OR MEAT ALTERNATES:			
Meat/poultry or fish	½ ounce	½ ounce	1 ounce
Alternate protein products ¹	½ ounce	½ ounce	1 ounce
Cheese	½ ounce	½ ounce	1 ounce
Large egg	½	½	½
Peanut butter or other nut or seed butters	1 tablespoon	1 tablespoon	2 tablespoons
Cooked dry beans and peas	2 tablespoons	2 tablespoons	4 tablespoons
Nuts and/or seeds (as listed in program guidance) ²	½ ounce	½ ounce	1 ounce
Yogurt, plain or flavored, unsweetened or sweetened	2 ounces or ¼ cup	2 ounces or ¼ cup	4 ounces or ½ cup

¹ Must meet the requirements in appendix A of 7 CFR 210.

² No more than 1 ounce of nuts and/or seeds may be served in any one breakfast.

The Traditional Food-Based Menu Planning Approach is designed to meet nutritional standards set forth in program regulations.

The Enhanced Food-Based Menu Planning Approach

The Enhanced Food-Based Menu Planning Approach uses the same meal pattern and age groups as the Traditional Food-Based Menu Planning Approach. The only difference is the addition of an optional age/grade group was added for grades 7-12 to better meet the needs of children in that crucial growth period by adding low fat calories from additional servings of grains/breads.

ENHANCED FOOD-BASED MENU PLANNING APPROACH-MEAL PATTERN FOR BREAKFASTS				
FOOD COMPONENTS AND FOOD ITEMS	REQUIRED FOR			OPTION FOR
	AGES 1-2	PRESCCHOOL	GRADES K-12	GRADES 7-12
Milk (fluid) (as a beverage, on cereal or both)	4 fluid ounces	6 fluid ounces	8 fluid ounces	8 fluid ounces
JUICE/FRUIT/VEGETABLE: Fruit and/or vegetable; or full-strength fruit juice or vegetable juice	¼ cup	½ cup	½ cup	½ cup
SELECT ONE SERVING FROM EACH OF THE FOLLOWING COMPONENTS, TWO FROM ONE COMPONENT OR AN EQUIVALENT COMBINATION:				
GRAINS/BREADS:				
Whole-grain or enriched bread	½ slice	½ slice	1 slice	1 slice
Whole-grain or enriched biscuit, roll, muffin, etc.	½ serving	½ serving	1 serving	1 serving
Whole-grain, enriched or fortified cereal	¼ cup or 1/3 ounce	1/3 cup or ½ ounce	¾ cup or 1 ounce	¾ cup or 1 ounce plus an additional serving of one of the Grains/Breads above.
MEAT OR MEAT ALTERNATES:				
Meat/poultry or fish	½ ounce	½ ounce	1 ounce	
Alternate protein products ¹	½ ounce	½ ounce	1 ounce	1 ounce
Cheese	½ ounce	½ ounce	1 ounce	1 ounce
Large egg	½	½	½	1 ounce
Peanut butter or other nut or seed butters	1 tablespoon	1 tablespoon	2 tablespoons	½
Cooked dry beans and peas	2 tablespoons	2 tablespoons	4 tablespoons	2 tablespoons
Nuts and/or seeds (as listed in program guidance) ²	½ ounce	½ ounce	1 ounce	4 tablespoons
Yogurt, plain or flavored, unsweetened or sweetened	2 ounces or ¼ cup	2 ounces or ¼ cup	4 ounces or ½ cup	1 ounce
				4 ounces or ½ cup

¹ Must meet the requirements in appendix A of 7 CFR 210.

² No more than 1 ounce of nuts and/or seeds may be served in any one breakfast.

The Enhanced Food Based Menu Planning Approach is designed to meet the nutritional standards set forth in program regulations.

The Nutrient Standard Menu Planning Approach

Nutrient Standard Menu Planning (sometimes called “NuMenus”) is a computer based menu planning system that uses approved computer software to analyze the specific nutrient content of menu items automatically while menus are being planned. It is designed to assist menu planners in choosing food items that create nutritious meals and meet the nutrient standards.

The Assisted Nutrient Standard Menu Planning

Assisted Nutrient Standard Menu Planning (sometimes called “Assisted NuMenus”) is a variation of Nutrient Standard Menu Planning. It is for schools that lack the technical resources to conduct nutrient analysis themselves. Instead, schools have an outside source, such as another school district, State agency or a consultant, plan and analyze a menu based on local needs and preferences. The outside source also provides schools with recipes and product specifications to support the menus. The menus and analyses are periodically updated to reflect any changes in the menu or student selection patterns.

Here are the required minimums for nutrients and calories for these nutrient standard menu planning approaches:

MINIMUM NUTRIENT AND CALORIE LEVELS FOR SCHOOL BREAKFASTS NUTRIENT STANDARD MENU PLANNING APPROACHES (SCHOOL WEEK AVERAGES)			
NUTRIENTS AND ENERGY ALLOWANCES	MINIMUM REQUIREMENTS		OPTIONAL
	PRESCHOOL	GRADES K-12	GRADES 7-12
Energy allowances (calories)	388	554	618
Total fat (as a percentage of actual total food energy)	¹	^{1,2}	²
Saturated fat (as a percentage of actual total food energy)	¹	^{1,3}	³
RDA for protein (g)	5	10	12
RDA for calcium (mg)	200	257	300
RDA for iron (mg)	2.5	3	3.4
RDA for Vitamin A (RE)	113	197	225
RDA for Vitamin C (mg)	11	13	14

¹ The Dietary Guidelines recommend that after 2 years of age “...children should gradually adopt a diet that, by about 5 years of age, contains no more than 30 percent of calories from fat.”

² Not to exceed 30 percent over a school week

³ Less than 10 percent over a school week

Any Reasonable Menu Planning Approach

This menu planning approach allows states and school districts to develop their own innovative approaches to menu planning, subject to the guidelines established in our regulations. These guidelines protect the nutritional and fiscal integrity of the program.

References

- American Food Service Association (Date unknown) A Step-by-Step Guide to Incorporating Healthy Foods into Your New or Existing School Vending Machine. American Food Service Association.
- Democratic Staff of the Senate Committee on Agriculture Nutrition and Forestry (2004) Food Choices at School: Risks to Child Nutrition and Health: Call for Action, Washington DC.
- Health Collaborative San Antonio (2004): Healthy Vending Guidelines: Part of the Fit City/Fit Schools campaign in San Antonio Texas.
- US Dept of Health and Human Services (2001) The Surgeon General's Call To Action To Prevent and Decrease Overweight and Obesity. US Dept of Health and Human Services, Rockville.

Annex G: Definitions of confectionery and bagged savoury snacks

Definitions for confectionery and bagged savoury snacks are based on the Eurocode – 2 system² and were adopted by the School Meals Review Panel.

Confectionery includes:

- Chocolate and chocolate products e.g. milk chocolate, plain chocolate and white chocolate bars, chocolate flakes, chocolate buttons, chocolate eggs, filled chocolate.
- Chocolate-coated confectionery bars.
- Non-chocolate confectionery, e.g. boiled, chewy, gum, liquorice and other sweets, sherbet, fudge, marshmallows, cereal chewy bars, cereal crunchy bars, chewing gum.

Bagged savoury snacks include:

- Potato-based, maize-based, wheat-based and rice-based snacks.

Additional snacks which should not be provided are:

- Salted nuts, sugared dried fruit, processed fruit bars, chocolate covered biscuits

² <http://www.ianunwin.demon.co.uk/eurocode/index.htm>

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