Packed lunches

Packed lunches are complicated to assess as no child consumes the same as another and often the packed lunches may contain different foods each day. As packed lunches are brought from home no general assessment of average nutritional provision can be made as it can be for hot school dinners. For this reason the table below has been included to detail the different foods that were found. These foods have been grouped to detail healthier and the less healthy options. All of these foods were found in different combinations amongst the packed lunches assessed.

Types of foods consumed by children eating a packed lunch

Healthier options[1]	Less healthy options
Wholemeal bread sandwiches	Cheese Strings
Wraps	Pepperami
Hummus	Crisps, mini cheddars, Pringles
Greek yoghurt, fruit yoghurts	White bread
Pasta salads	Dairy lea lunchables/dunkers
Cheese portions	Dairy lea fromage frais
Pumpkin seeds	Chocolate bars: Cadburys, Galaxy, Areo
Cheese/ham salads	Smarties, sweets
Fruit: bananas, oranges, apples, grapes, strawberries, plums, pears	Chocolate coated biscuit, twix, club, breakaway, wagon wheels, kitkat, penguin
Dried fruit: raisins, sultanas, apricots	Flavoured yoghurts, Fubes/Choobs
Fruit yoghurts	Winders fruit wheels
Water, fruit juice	Cereal bars
Jelly	Fizzy drinks, sugary drinks
Probiotic drinks	Scotch eggs
Crackers and cheese	Snickers, Mars bars
Cucumber sticks, carrot sticks, cherry tomatoes	Jelly sweets
	Cakes: Bakewell, muffins, iced buns, cake bars, mini rolls
	Sausage rolls, meat pasties

[1] Healthy and less healthy determined at researchers discretion with the use of food composition tables (FSA, 2002) based on the fat, sugar and salt content of the foods.

Typical packed lunches

These are pictures of typical packed lunches. Packed lunches often contained white bread sandwiches, crisps, two chocolate bars and a drink.

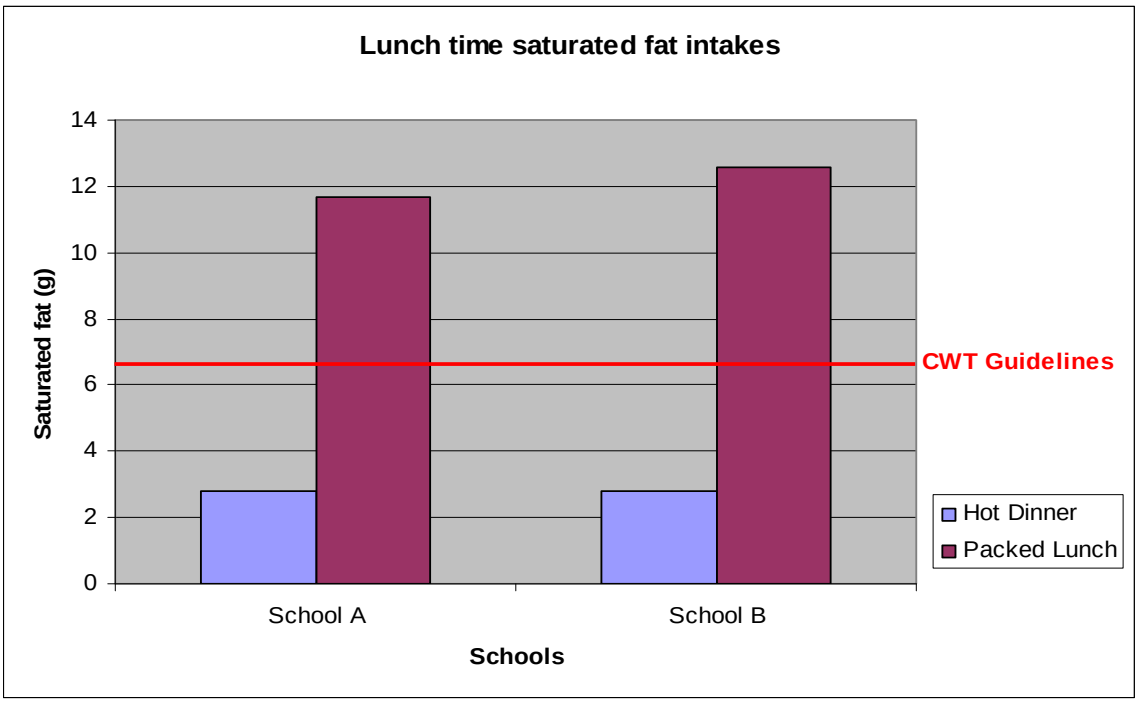
Mean lunch time nutritional consumption over five days from packed lunches in both schools in comparison to the CWT recommended guidelines

Nutrients	Recommended	% of recommended consumed in school A n = 38	% of recommended consumed in school B n = 33
Energy (kcal)	557	122	132
Fat (g)	≤ 21.6	**134**	**143**
Saturated Fat (g)	≤ 6.8	**172**	**185**
Protein (g)	≥ 8.5	222	223
Carbohydrate (g)	≥ 74.2	125	147
NME Sugar (g)	≤ 16.3	**158**	**220**
Fibre (g)	≥ 4.5	**83**	**88**
Iron (mg)	≥ 3.5	**69**	**81**
Zinc (mg)	≥ 2.8	**71**	**72**
Calcium (mg)	≥ 220	143	142
Vitamin A (µg)	≥ 200	**82**	**86**
Vitamin C (mg)	≥ 12	168	267
Folate (µg)	≥ 60	**85**	**97**
Sodium (mg)	≤ 600	**168**	**171**

Children consuming a packed lunch obtained more energy than the daily recommended guidelines suggest along with more fat, saturated fat, non-milk extrinsic sugar and sodium than the maximum amounts that the guidelines suggest should be consumed for lunch. Fibre, iron, zinc vitamin A and folate were all below the minimum recommended guideline amounts of what should be obtained at lunch. Protein and vitamin C were the two nutrients consumed at the highest levels, both are within the recommended amounts as there are no maximum levels in the CWT guidelines for these nutrients. Most of the

children's vitamin C intake was provided from fruit juice or flavoured drinks fortified with the vitamin, rather than from fresh fruits and vegetables. Protein was provided by meat or cheese sandwiches, cheese portions or processed cheese strings, processed meats such as pepperami and yoghurts.

Comparison of saturated fat intakes between children consuming a school dinner or a packed lunch



This graph highlights the differences in saturated fat intakes between those children who had a free healthy school dinner and those who had a packed lunch brought from home.

Conclusion

The packed lunch analysis revealed that children tended eat foods which were high in fat, salt and sugar; foods which public health policies recommend as occasional foods rather than daily foods, such as crisps, cakes and chocolate. Daily consumption of these types of foods led to average intakes of fat, saturated fat, sugar and sodium that were higher than the maximum amounts recommended at lunch. It was evident that children consuming a packed lunch, despite the increased food intake, were still consuming low levels of many of the micronutrients assessed. Fibre, iron, zinc, vitamin A and folate intakes were all below the recommended minimum amounts.