

BREAKFAST CLUBS AND SCHOOL FRUIT SCHEMES: PROMISING PRACTICE



This Evidence Nugget should be cited as: Lucas, P. Breakfast clubs and school fruit schemes: Promising practice. What Works for Children group Evidence Nugget April 2003.

WHAT WORKS FOR CHILDREN?

Supplementing children's diets through breakfast clubs and fruit schemes may improve child nutrition and school performance.

- Poor diet in childhood is associated with poor child and adult health.
- Missing breakfast may have adverse health effects in the long term, and adverse educational and social effects in the short term.
- Eating breakfast has been associated with improved academic outcomes, improved concentration, increased school attendance, decreased school lateness and improved mood at school.
- Breakfast schemes can provide a safe place for children to meet their friends before school.

The searches for this Evidence Nugget were done in 2002 with some updates in spring 2003 in response to reviewers' comments. As new research becomes available, this version of the Evidence Nugget will become dated.



What are breakfast clubs and fruit schemes?

Breakfast clubs and fruit schemes are designed to provide free, or subsidised, nutritious, healthy food through school-based initiatives. Breakfast clubs run before school and usually incorporate a child-care element. Fruit schemes provide free, or subsidised, fresh fruit daily in school. Fruit may be given to targeted groups of children in class or at playtime, or it may be provided for all children through fruit tuck shops that charge at cost or subsidise the cost to children.

Children's diets may also be supplemented through the distribution of milk to primary school children, or the provision of nutritionally sound school meals.

Why are breakfast clubs and fruit schemes important?

Children's food intake in the UK has been found to be high in fats and sugars and low in fruit and vegetables.^{3,4} One in sixteen children surveyed in 2001 had eaten no fresh fruit or vegetables in the previous week.⁵ As well as nutrient deficiency, obesity in children and adults is a problem with rates of obesity among children rising since 1984. In the UK 14% of children are overweight and a further 9% obese.⁵

Surveys have found that dietary deficiencies show a social class gradient. Households in the lowest income brackets consume less fresh fruit and vegetables, skimmed milk, fish, fruit juices and breakfast cereals than all-household averages.⁶ One reason for this is thought to be differences in food access. Those who live in the poorest areas are likely to have reduced access to good quality food. Locally available food in deprived areas has been shown to cost considerably more (24-60% more) than that available in large supermarkets.⁷ Families with children and households with lower incomes spend a greater proportion of their income on food than the better off⁶ and there is some evidence that adults in poverty protect their children's diets at the cost of their own.⁸ Interventions that relieve food poverty have the potential to reduce these inequalities in diet and expenditure among the poorest families.

The government has realised the importance of increasing fruit intake in children because of the impact of childhood intake on both child and adult health outcomes.⁹ Evidence suggests that diet-related disease patterns may be set in childhood or before¹⁰ and, conversely, healthy eating in childhood may protect against adult heart disease. The Acheson Report on Inequalities in Health recommends increasing the availability and accessibility of foodstuffs to reduce health inequalities throughout life.¹¹

Providing breakfast or additional fruit to children has the potential to improve diet and affect immediate and long-term health.

Impact

Size of the problem

It seems that breakfast is a particularly common meal to miss. In a survey of Year 6 children (aged 10/11 years) 5% reported eating no breakfast that day, 3% just a drink, and a further 9-13% eating crisps or chocolates for breakfast. More worrying still, 21% of year 10 girls (aged 15/16 years) reported eating no breakfast, a further 19% just a drink and 15% eating no lunch the day before.¹²

Short and long term effects

Meal skipping at any time, but particularly at breakfast, may create problems at school. Short-term fasting is reported to affect cognition, memory, concentration and behaviour in school.¹⁰

Who will benefit the most?

A UK evaluation of breakfast clubs indicates that children of working or studying parents are more likely to use breakfast schemes, as are children of parents reporting higher levels of emotional stress and children with high levels of social or behavioural difficulties.¹³

Breakfast clubs and fruit schemes are likely to have an impact on the nutritional status of those who take part and, for breakfast schemes, may improve educational outcomes. The health impact will vary according to the nutritional status of the child, with greatest effects seen in those with poorest diet.

Research evidence

Systematic Reviews:

A systematic review is a method of comprehensively identifying, critically appraising, summarising and attempting to reconcile the research evidence on a specific question.^{1,2}

A **meta-analysis** is a statistical technique combining results from several studies into one overall estimate of the effect of an intervention.

253 breakfast clubs were allocated funding under the Department of Health pilot scheme during 1999/2000.¹³ The proportion of children in each school attending breakfast clubs has been reported to be in the range 5-25% of primary aged children.¹⁴ An evaluation of the pilot breakfast schemes in the UK reported on average 6% of the secondary pupils using a school breakfast scheme.¹³

There is a body of evidence supporting the importance of breakfast in the diet of children in the developed world. The negative impact of missing breakfast

has been well established in adults.^{15,16} A review of the results of 16 studies examining breakfast fasting and cognition concluded that missing breakfast is associated with poor performance on memory tasks. Breakfast schemes themselves were associated with better school attendance and performance.¹⁷ There are three problems with the findings of this review in the UK context. Firstly, many of the positive changes in response to breakfast provision in schools have been in areas or samples where children were at high risk of poor nutrition. While long-term under-nourishment is known to affect development, the effects of individual periods of fasting in otherwise well-nourished children is unclear. Some studies have found effects in well-nourished children^{18,19} while others have not.^{20,21} Secondly, evidence for increased attendance from studies where school attendance is very low (e.g. rural areas of developing countries) may overestimate the attendance effects of providing breakfast in areas where most children routinely attend school. Thirdly, much of the research has concentrated on children in the age group 9-12, but in developed countries it may be adolescents who are most at risk of voluntarily skipping breakfast²² whilst younger children are more likely to have adequate, regular energy intakes.

In a survey of 13 year olds in Australia 18% of girls and 5% of boys reported regularly skipping breakfast.²² The high proportion of girls missing breakfast may relate to the higher number of girls in this age group reporting restriction dieting and dissatisfaction with body shape or weight.²² Other studies have found that up to 60% of girls in the age group 11-18 years report themselves to be on "slimming diets".²³ The social aspect of a breakfast club may encourage these girls to eat breakfast, as the study of Australian adolescents found that those who ate with others were less likely to miss meals.²²

Some food initiatives in US schools have reported success in changing diet.²⁴ Increased participation in school breakfast schemes in the US has also been shown to be associated with increased school achievement and decreased absenteeism.²⁵ In the UK pilot work is being carried out, funded by the government, of both breakfast schemes and fruit schemes. Findings from the evaluation of the breakfast schemes suggest that teachers are finding improvements associated with the schemes.¹³ Participants found that the schemes accommodated social settings and thereby improved relationships between staff and pupils, and across age groups.¹³ Increased self-esteem and sense of independence were also widely reported. Parents identified breakfast clubs as a safe source of childcare, and felt that attending breakfast clubs improved their morning routines and provided children with extra choice of food items.²⁶ The evaluation of the pilot National Fruit Schemes suggests that schools are positive about its effects and its implementation. They report that children are happy to eat the fruit provided and schools do not find the organisation of distribution to be over-burdensome.²⁷ Both breakfast and fruit pilots report qualitative findings that the schemes have promoted social as well as nutritional outcomes. Fruit was often given out in class in the format of "circle time" when children had the chance to sit together and talk as a group.²⁷

In summary, children in this country are often deficient in micro-nutrients and regularly miss meals, which may hinder cognitive performance. Breakfast can

play an important role in reducing dietary deficiencies, and breakfast schemes may improve school outcomes. Providing a nutritious breakfast for children or supplementing their daily diet with fruit are interventions which are not yet proven in the UK, but they have the potential to make a significant impact on children's health and well-being.

What are the policy and practice implications?

There is evidence that the diet of British schoolchildren is inadequate, with insufficient consumption of fresh fruit, vegetables or dietary fibre. Breakfast-skipping is a common problem, particularly in adolescent girls. Poor diet is associated with poor health in childhood and beyond. More immediately, being hungry is unpleasant, and being poorly nourished is likely to affect school achievement. Providing breakfast or extra fruit through schools has the potential to improve the quality of children's diet, health outcomes and school achievement. There may also be social benefits for children through the opportunity to spend time before school with their friends.²⁸

If food supplementation schemes are to reduce health inequalities it is important that those in greatest need use the scheme. There is no evidence to date of whether breakfast and fruit schemes achieve this, and it may be difficult to balance the need for encouraging uptake among those in greatest need with universal schemes which are less likely to stigmatise children. The low uptake of free school meals in the UK is thought to be caused in part by stigma associated with targeting.²⁹ Factors affecting uptake may also vary between children of different ages. There is currently an absence of evidence to advise on ways to promote uptake of breakfast or fruit schemes among the most disadvantaged, but examples of good practice have been reported.³⁰

Providing a breakfast or fruit scheme in a school does not mean that universal coverage will be achieved. In particular children who are voluntarily missing meals are less likely to take part in breakfast schemes.²²

Policy makers must decide whether payment should be made to support schemes. In the US where free provision for all is available in some areas, payment is thought to be a barrier to use.¹³ Pilot schemes in the UK have been divided on whether free provision increases or decreases uptake.¹⁴ Concern has been raised by providers about the sustainability of universal free provision¹³, but when charges were introduced parents reported this as a barrier.²⁶

Some economists suggest that "benefits in kind" (i.e. where resources are given rather than cash) enable policy makers to target interventions more efficiently than monetary benefits. For instance; where meals are provided for children, they do not simply pass on a cost saving to families, but tend to be used in addition to existing home food budgets.³¹ This "additional" benefit may be less valuable in the case of lunch provisions, where a free meal is probably a substitute for home provision,³² but may be larger if there is little or no home provision (e.g. fruit schemes).

What are the resource implications?

Planning a breakfast club requires attention to health and safety on your premises. Attention to food storage, waste disposal, insurance issues and number of support staff is important in order to meet government regulations in these areas.³³

Most breakfast schemes are run by out-of-school children's clubs, which predominantly provide after-school care. Forty percent of privately run and 42% of educational/school run clubs provide breakfast clubs, whilst only 12% of local authority-run kids clubs provided breakfast clubs in 1999.³⁴ Education Action Zones (EAZ), Health Action Zones (HAZ) and Healthy Schools programmes have all been involved in the development of breakfast schemes.

Funding costs of breakfast club provision vary widely. The pilot schemes in the Department of Health schools breakfast club evaluation received an average grant of £2,500 for the school year 1999/2000.¹³ This figure probably underestimates costs since around half of the clubs applied for additional funding or resources from other sources, and a third did not require start up funding. Most of these schemes did not charge for breakfast.

Costs per pupil are likely to be higher in smaller than in larger schools because of economies of scale. While volunteers keep running costs low, training of volunteers is an issue when ensuring quality of care.¹³ The use of a play-worker may be important, since keeping children occupied once breakfast is over has been an important issue in UK pilot studies.^{13,35} Concern over the quality of supervision was raised by parents in the UK Breakfast Club evaluation.²⁶ Securing funding for schemes has been found to be time consuming for schools or management teams and is seen as a disincentive to running schemes.^{13,14}

The National School Fruit Scheme (NSFS), aims to provide a free piece of fruit for all children in infants' schools (aged 4-6 years) by 2004.⁹ In pilot schemes, this fruit has been predominantly distributed directly to children in class. Alongside this initiative there has been a growth in subsidised fruit tuck shops, selling fruit at cost or less to older primary aged children. Combining these schemes, and/or breakfast schemes could be a resource efficient method for delivering food to the whole school population.

Improving diet may, by improving health, result in a net cost saving to government. A US study of food supplementation for pregnant mothers on low incomes tracked infant health in the first 60 days of life. Researchers found that overall more money was saved in health expenditure than was spent during the mother's pregnancy.^{31,36} However, evidence of cost benefit is rare since improvements in health or educational outcomes are unlikely to occur in the short-term.

How will you audit a breakfast club?

Audit provides a method for systematically reflecting on and reviewing practice. It aims to establish how close practice is to the agreed level of best practice. This is achieved by setting standards and targets and comparing practice against these.

Consider whether breakfast or fruit schemes are appropriate to the needs of your local community and your agency. Is food provision a good way to meet the health and social care needs of children in your area? Are breakfast and fruit schemes the most effective way to deliver this?

If you decide that a breakfast or fruit scheme is an intervention you would like to implement, ask first whether the conditions in your agency are in place for this intervention to happen. Have you got the funds, people and training resources that you would need to implement food distribution? Are there existing schemes in your area that could be extended? Can you provide housing for the safe storage, preparation and distribution of food?

Further down the line, the question is; is it happening? What proportions of children in the school are using the scheme, and do they include the children in greatest need? What food is being provided, and is it of suitable quality?³⁷ You may want to include measures of food wastage, to estimate the amount and types of food actually eaten by children within the scheme. You may also wish to consider the impact of food provided in breakfast and fruit schemes on lunchtime intake, school milk schemes and on the number of children who bring fruit from home to eat.

Further information about implementation can be found from the resources listed below. In particular, advice on evaluation is available from <http://www.breakfastclubs.net/>

How will you evaluate a breakfast club?

Service evaluation may be defined as a set of procedures to judge a service's merit by providing a systematic assessment of its aims, objectives, activities, outcomes and costs. Audit may be one activity which takes place during a service evaluation, alongside other activities such as routine data gathering, incident reporting and interviews with staff and service users.

Identify changes you may be able to observe in children using the scheme and take measures of these before the scheme begins and some time into its implementation. Absences, lateness, meal skipping, concentration in lessons or school results could be assessed. You may wish to interview teachers or pupils to obtain some of this information. The best proof of gain will be available if you can compare changes in a school or area which has the scheme, to a similar area or school, which does not.

The views of the parents and children involved will be important to the success of the scheme. It may be important to establish the reasons that children, schools or parents give for using, or not using, the scheme. You may also wish to determine what section of the school population is using the scheme, for

instance those who were previously missing meals or children whose parents work or study.

Since research in this area is still developing, alternative strategies could be applied and compared. For instance, charging at cost, or provision of a play-worker could be employed in one scheme and not in another. Comparing the success of these schemes could give information to improve provision of this service both in your area and others.

Further Resources

Information on starting, evaluating and funding your breakfast club is available from <http://www.breakfast-club.co.uk/> or call 020 8709 9900. They produce example questionnaires for parents, teachers and kids, information on their programmes and grant small awards to start up or support breakfast clubs.

New Policy Institute has information on breakfast schemes. New Policy Institute, 109 Coppergate House, 16 Brune Street, London E1 7NJ Telephone: 020 7721 8421 Email: info@npi.org.uk or <http://www.npi.org.uk>

Further advice on the evaluation of breakfast clubs is available from <http://www.breakfastclubs.net/>

The government provides information on its own fruit and breakfast schemes at <http://www.doh.gov.uk>

The Sustained Food and Farming Alliance provides information and advice on improving food access, as does the Food Poverty Network. They publish "Making links: A toolkit for local food projects" which offers advice to organisations wishing to begin local food distribution projects, which is available at <http://www.sustainweb.org> or through Sustained Food and Farming Alliance, 94 White Lion Street, London, N1 9PF Telephone: 020 7837 1228 Fax: 020 7837 1141

Sustain also promote the Grab 5! programme, and provide ideas for schools to increase fruit and vegetable consumption. See http://www.sustainweb.org/grab5_index.shtm

The Child Poverty Action Group is part of the Food Poverty Network and is based at the same address (see above) or at <http://www.cpag.org.uk> They have published work on the uptake and nutritional quality of free school meals.

School Nutrition Action Groups promote healthy food in schools, and are supported by the Health Education Trust. See <http://www.healthedtrust.com/pages/snaq.htm> or Health Education Trust, 18 High Street, Broom, Alcester, Warwickshire B50 4HJ

The British Dietetic Association has a campaign to increase consumption of fruit and vegetables called Gimme5. The campaign home page is <http://www.bda.uk.com/faw01.html> or contact; The BDA, 5th Floor, Charles House, 148/9 Great Charles Street Queensway, Birmingham B3 3HT Telephone: 0121 200 8080 Fax: 0121 200 8081 Email: info@bda.uk.com

The kids club network is an association of out-of-hours school clubs and can be contacted at <http://www.kidsclubs.co.uk/> or on 020 7512 2100

Many areas already have their own initiatives whose websites may contain helpful information on the way they run their scheme, for instance see http://www.coolschools.org.uk/who_can/health/nhs/tuck_shp.htm (healthier tuck shop project run by North Tyneside Food Action group) and in Wales http://www.hpw.wales.gov.uk/pressrel/cfi_projects_e.htm To find more projects like these, try searching on www.google.co.uk using the words breakfast, fruit, school and the area you work in.

Search Strategy:

A search strategy documents how studies were found; which databases/libraries/other contacts were used to find studies and when, what key words were used to locate them and what limitations were put on the search.

Date limits: Date of latest search; 6 November 2002. Publication dates 1992-2002, supplemented with some further information from referees and others in 2003.

Study group age limits: 5 to 18 years, or school age as appropriate.

Search terms: ("nutrition" or "adolescent nutrition" or "child nutrition" or breakfast club*.mp or fruit.mp or "food intake" or "food habits" or "food preferences") and ("meta-analysis" or "review article"). Alternative search strategy ("nutrition" or "adolescent nutrition" or "child nutrition" or breakfast club*.mp or fruit.mp or "food intake") and ("randomized controlled trials" or "program evaluation").

Databases searched : Cochrane database of systematic reviews, Database of Abstracts and Reviews of Effectiveness (DARE), Medline, PsycINFO, ERIC, British Educational Index (BEI), Cumulative Index to Nursing & Allied Health Literature (CINHAL), ChildData, Google (Breakfast club evaluation; fruit scheme school evaluation UK only).

No reviews of evidence were found. In the absence of sufficient evidence from reviews, data from individual studies was examined, prioritising those with experimental research design and UK examples.

In addition experts in the field were contacted for guidance on other sources of information, and bibliographies of sources viewed were examined for additional references.

The conclusions made should be viewed in the light of this restricted search strategy, and we would recommend a systematic review in this area is overdue.

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This Evidence Nugget was produced by the ESRC funded initiative 'What Works for Children?'
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Acknowledgements

What Works for Children? would like to acknowledge the helpful assistance of the following who commented on the Evidence Nugget or provided information. The views expressed in this publication are those of the authors and not necessarily those of the colleagues who read and commented or the Economic and Social Research Council (ESRC).

- Julie Green, Centre for Community Child Health, University of Melbourne
- Mary Shaw, Department of Social Medicine, University of Bristol
- Colleagues from the Health Development Agency

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