

Y Gwir Anrh/Rt Hon Rhodri Morgan AC/AM
Prif Weinidog Cymru/First Minister for Wales



Llywodraeth Cynulliad Cymru
Welsh Assembly Government

Ein cyf/Our ref: MB/FM/333/08

Nick Bourne AM
National Assembly for Wales
Cardiff Bay
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May 2008

Dear Nick

At First Minister's Questions on Tuesday 13 May 2008, I undertook to let you have details of any assessments of the cost of the free breakfast scheme.

Expenditure during 2007-08 totalled £6.9m. Taking this into account, and reflecting that the number of schools participating in the initiative is likely to continue to increase we currently estimate that the total cost for 2008-09 could range from £6.9m to £7.9m. These figures will be revisited and revised on a termly basis to reflect information gathered on take-up by both schools and pupils.

You will know from information recently provided to you by the Minister for Children, Education, Lifelong Learning and Skills that currently 54 per cent of our primary schools are signed up to participate in the free breakfast initiative. We have always made clear that participation in the scheme is not compulsory but that we will provide the necessary funding for those schools and children who decide to do so.

This scheme should not be seen as a stand alone initiative, but one that supports our whole school approach to improving food and nutrition in schools. This is reflected in our Appetite for Life Action Plan. By providing the opportunity to have a healthy breakfast at school each day, our youngest children get a flying start in life because not skipping breakfast and getting a healthy breakfast assists learning, concentration and behaviour in schools.

Cardiff Institute for Society, Health and Ethics (CISHE) at Cardiff University, were commissioned to undertake an independent evaluation of the Primary School Free Breakfast initiative on our behalf. I attach, for your information, a copy of the executive summary of their third and final evaluation report. You will see recognition in this report that this initiative represents a potentially effective approach to addressing population dietary behaviour in the long term especially given that many of the intrinsic rewards and habitual behaviours associated with consumption develop at this age. It is also worth noting that it is seen as effective in promoting positive attitudes to breakfasts which represent important mediating targets for dietary interventions aimed at children. Copies of all the evaluation reports can be accessed via our website.

An Evaluation of the Welsh Assembly Governments Primary School Free Breakfast Initiative

Executive Summary

Cardiff Institute for Society, Health and Ethics

Authors: S Murphy, G Moore, K Tapper, R Lynch, L Raisanen, R Clarke, C Desousa and
L Moore

Background

The poor quality of children's diets has raised increasing concern (Foresight, 2007), particularly breakfast skipping (Balding, 2001) and its association with a wealth of deleterious health outcomes such as poor nutrition (Sjoberg et al, 2003), detrimental effects upon memory and concentration (Rampersaud et al, 2005) and obesity (Elgar et al, 2005). Efforts to facilitate change in dietary behaviours have been directed towards school children due to issues of efficiency, the fact that habitual behaviours developed in childhood may track into adulthood (Mikkila et al, 2004) and evidence that dietary improvements impact upon cognitive functioning and behaviour (Birch et al, 1987). Recognition of these potential benefits has led to a number of government funded school breakfast initiatives, first in the USA and more recently in the UK. However, evaluation findings have been inconsistent and the research has had a number of limitations.

The Primary School Free Breakfast Initiative

The Primary School Free Breakfast Initiative (PSFBI) provides funding for all children in maintained primary schools in Wales to have the opportunity of receiving a free healthy breakfast at school. The initiative aims to help improve the health and concentration of pupils, to assist learning and attainment and encourage healthy pattern of eating for life. The initiative is supported by a team based in the Department for Children, Education Lifelong Learning and Skills and the Public Health Improvement Division at the Welsh Assembly Government (WAG) and nominated co-ordinators within Local Education Authorities (LEA) and primary schools. WAG provides the funding for the breakfasts, a range of central support services and national implementation guidelines. LEAs provide advice and guidance for schools considering setting up the scheme, ensure compliance to guidelines, collate numbers of breakfasts served within schools in their area and administer the associated funds to schools. Schools have flexibility within the guidelines to decide how they provide and run the free breakfast sessions, although all breakfasts offered should be healthy and each child should be provided with the opportunity to have one item from one of four food groups; milk based drinks or products, cereal (not sugar coated), fruit and breads. The PSFBI was introduced incrementally, first in Communities First and then non Communities First areas. The national roll out was accompanied by an independent evaluation of its implementation and impact on school pupils.

The Evaluation

The evaluation adopted a cluster randomised controlled trial design, with a nested qualitative process evaluation (Moore et al, 2007). This aimed to obtain an accurate assessment of the impact of the scheme on children's dietary habits, cognitive performance, attitudes and classroom behaviour and to assess how the initiative was implemented, gain an in-depth understanding of the views of users and to establish the potential influence of context on outcome effects.

All primary schools in nine local education authorities in Wales were invited to participate in the evaluation. Recruitment took place in two phases which matched the

national implementation of the scheme. The study recruited 111 primary schools, of which 56 were randomly assigned to control condition and 55 to intervention (strata defined by LEA, school size, free school meal entitlement and Welsh language medium). Data were collected at each of three time points: baseline, 4 month and 12 month follow-up. In each school, one Year 5 (age 9 – 10 years) and one Year 6 (age 10 – 11 years) class were randomly selected, resulting in a repeated cross-sectional survey of approximately 4350 students at each data point.

A combination of classroom and individually administered questionnaires and tests for the students, and teacher completed and parent completed questionnaires were used. A pre-specified analysis plan was agreed in which the following were identified as primary outcomes: the proportion of students consuming two breakfasts over two days (i.e. breakfast skipping); episodic memory; number of ‘healthy’ food items (bread, cereal, milk and fruit) consumed at breakfast and number of ‘unhealthy’ food items (sweets and crisps) consumed at breakfast. Secondary outcomes were identified as attitudes towards eating breakfast; rest of day food items; scores on the hyperactivity/inattention scale of the teacher-reported strength and difficulties questionnaire, and parental reports of frequency of eating breakfast at home and at school. The process evaluation employed questionnaires, semi-structured interviews and case studies, with students, school staff, and local authority scheme coordinators as key informants.

None of the 111 randomised schools withdrew from the study, although five schools randomised to the control group set up a free breakfast scheme prior to 12-month follow-up, and 10 schools randomised to the intervention group did not set up the scheme within the follow-up period. For each outcome variable, the primary analysis was a school-level weighted regression model adjusted for baseline score and stratification variables. These primary analyses were conducted on an intention-to-treat basis, in which each school was coded according to the treatment condition to which it had been randomised (control = 56, intervention = 55). A second analysis was undertaken for each outcome, in which treatment group was coded according to whether or not a free breakfast scheme was actually set up prior to outcome measurement.

Results

At 12-month follow-up, 41% of pupils in intervention schools which had started a scheme attended at least once a week. Of these, 30% reported attending the scheme 5 days per week.

Students in intervention schools reported significantly higher numbers of healthy food items consumed at breakfast (+0.23, 95% CI: 0.09, 0.37, $p < 0.01$) and more positive attitudes towards eating breakfast (+0.74, 95% CI: 0.05, 1.43, $p < 0.05$). Parents of students at intervention schools also reported significantly higher rates of breakfast consumption at school (+ 0.19, 95% CI: 0.12, 0.26, $p < 0.01$) and lower rates for breakfast eaten in the home (-0.15, 95% CI: -0.21, -0.10, $p < 0.01$). The magnitude and statistical significance of each of these effects increased during secondary analysis, in which

treatment group was coded according to whether or not a free breakfast scheme was actually set up

There was no evidence for an effect on breakfast skipping, episodic memory; the number of healthy and unhealthy food items consumed throughout the day or hyperactivity/inattention.

No significant differences emerged in school based implementation across phases, with only minor variation in relation to the reasons for schools wanting to start the scheme and perceived influences on uptake compared to Communities First areas (Lynch and Murphy, 2007).

Discussion

The current study addressed a number of methodological shortcomings previously identified, notably a lack of randomisation, appropriate control groups and contamination between trial arms. It also gained strength from a relatively long term outcome measure, high response rates and the retention of all schools for the duration of the trial.

Results provide partial support for the PSFBI as a dietary intervention. The intervention was not associated with a decrease in breakfast skipping. This is perhaps unsurprising given the relatively low numbers of breakfast skippers found at baseline and school uptake levels. Rather, parental reports indicated a move from home to school based breakfast eating amongst pupils. However, the intervention did improve the quality of children's breakfasts by increasing consumption of food items such as fruit, vegetables and wholemeal bread. A finding that supports a recently reported randomised controlled trial in the USA (Crensek, et al, 2006).

The PSFBI was shown to be ineffective in influencing cognitive abilities or classroom behaviour, despite previous studies suggesting such effects and process evaluation results that highlighted consistent implementer reports of changes in learning and school behaviour. This may well be a function of uptake levels within intervention schools, as analysis was conducted at the school rather than pupil level. Alternatively, the fact that the intervention was successful in improving the quality of breakfasts rather than reducing breakfast skipping may have resulted in reduced educational impacts.

Conclusions and recommendations

The PSBI represents a potentially effective approach for addressing population dietary behaviour in the long term; given that many of the intrinsic rewards and habitual behaviours associated with consumption develop at this age. It is also worth noting that it was effective in promoting positive attitudes to breakfasts which represent important mediating targets for dietary interventions aimed at children. Given high levels of implementer support for the initiative (Lynch and Murphy, 2006) the PSFBI can therefore be recommended as supporting current Welsh Assembly Government policy (WAG, 2006) concerned with nutrition and health. To impact on educational outcomes, it

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is recommended that further work is undertaken in promoting pupil uptake and reach to address breakfast skipping.

The PSFBI study provides a rare example of a rigorous randomised controlled trial evaluation of a national policy initiative. This is particularly important given the consensus on the need to develop an evidence base for health improvement interventions (Wanless, 2004). Support for trials of UK policy initiatives is increasing alongside frameworks to facilitate their implementation. It is recommended that the Welsh Assembly Government continues to take advantage of the opportunities provided by devolution to commission similar evaluations of policy initiatives to develop a national and international evidence base for public health policy. It should be noted, however, that this study did not represent a true policy pilot, as the initiative was implemented alongside the evaluation framework. It is therefore recommended that a longer lead in time to policy implementation is adopted within such evaluations.

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