

ShowCase

Bostin Value

Topic:

Nutrition

Organisation:

NHS Dudley

Location:

Dudley (West Midlands)

Dates:

September 2007 to November 2010

Budget:

£59,750 (Big Lottery Fund)

Website:

www.dudley.nhs.uk/foodandnutrition

Contact:

Stacey Jones (Food for Health Advisor)

Email:

Stacey.Jones@dudley.nhs.uk

Telephone:

01384 322 082



Overview

This Big Lottery-funded project aimed to improve fruit and vegetable consumption in Hawbush, a deprived neighbourhood in Dudley. The Public Health Food and Nutrition team at NHS Dudley were keen to use social marketing to help structure the project's design and implementation. In autumn 2007, this project became one of The NSMC's 10 learning demonstration sites.

Scoping identified the need to address both supply and demand to encourage the target audience (parents of young children) to consume more fruit and vegetables. To improve supply, a local greengrocer was commissioned to sell fresh, seasonal fruit and vegetables twice a week at a local pilot school. To increase demand, a Food for Health Advisor ran educational sessions for children and parents at the pilot school to improve their skills in preparing and cooking seasonal produce and raising awareness of healthy eating.

Results

The mean portions of fruit consumed weekly by parents significantly increased from 2.4 portions in April 2009 to 3.1 in July 2010. This was mirrored in children whose weekly portions increased from 2.6 to 3.7. The mean number of different fruits and vegetables tasted by children also increased, as did the percentage of parents claiming that they and their children had tried a new fruit or vegetable in the last month.



The government-led '5-a-day' programme aims to increase fruit and vegetable consumption by raising awareness of the health benefits and improving access. Eating at least five portions of fruit and vegetables each day reduces the risks of cancer, coronary heart disease and many other chronic diseases.

However, adults living in Britain currently consume an average of less than 3 portions of fruit and vegetables a day and only 14 per cent consume the recommended daily amount. In Dudley, a local Health and Lifestyle Survey identified that residents in the most deprived areas were the least likely to consume 5-a-day, at only 18.4 per cent compared with 31 per cent of the population from the least deprived areas.

In June 2007 the Food and Nutrition team at NHS Dudley successfully bid to the Big Lottery Fund for a healthy retail project, receiving £59,750 for a project that aimed to improve fruit and vegetable consumption by addressing food access issues within a deprived neighbourhood of Dudley.



LOTTERY FUNDED

After securing their funding, in autumn 2007 the project team subsequently successfully applied to become 1 of 10 pilot projects in The NSMC's learning demonstration site scheme.

The initial focus of the project was access to fruit and vegetables, based on the hypothesis

that access to healthy food was a driver of consumption. The Public Health Nutrition team at NHS Dudley undertook a literature review of existing evidence in the area and found:

- Little clear evidence highlighting a link between improved food consumption and location of food retail outlets in deprived areas
- That focus should not be purely on supply, but should also be on stimulating demand



Target areas

As resources did not allow a focus on Dudley as a whole and there were clear health inequalities in the region, the team decided to identify three estates within the borough to focus on. Based on high levels of deprivation, poor access to fruit and vegetables and low levels of fruits and vegetable consumption, three areas were chosen:

- Hawbush (Brierley Hill ward)
- Gad's Green (St Thomas ward)
- Fatherless Barn (Hayley Green ward)

Secondary research

1. Food retail mapping

A list of registered food and drink outlets was obtained from Trading Standards/ Environmental Health, locating small local food retail outlets within each estate. Using MapInfo software, the team mapped these outlets within the 20 per cent most deprived areas. Three shops – one from each ward – were selected and Food for Health Advisors from NHS Dudley visited these outlets to explore the availability and quality of fresh fruit and vegetables.

2. Population mapping

The Transport Planning Team at Dudley Council used Accession software to identify the population (based on Census 2001 data) within 200 to 600 metres walking distance of each shop. MOSAIC software was also used to supplement the demographic data and help develop a picture of the type of people who lived in the areas.

3. Review of local data

Using data from the Dudley Health Survey 2004 and Health Behaviour Survey 2006 (conducted with school children) the team estimated fruit and vegetable consumption for the identified populations. Findings from the Dudley Health and Lifestyle Survey helped provide more information on the motivations behind fruit and vegetable consumption.

Key findings:

- All areas had a low fruit and vegetable intake compared to national average
- Most common reason for not eating the recommended 5 a-day was 'I just don't think about it', emphasising a purely supply-side intervention would not increase consumption
- Only two per cent suggested they did not eat enough fruit and vegetables because they could not buy it from their local shop



A Steering Group was formed to guide the development of the project, and was made up of the following representatives:

- Dudley PCT – from Nutrition, Communications and Analysis Teams
- Dudley Council
- Hawbush School
- London School of Hygiene and Tropical Medicine (LSHTM)
- The NSMC
- Fruit and Vegetable Consultant



Following the findings of the initial research, the Steering Group concluded that although there was strong justification to proceed with the healthy retail project, there was a lack of information about what would motivate the target audience to consume more fruit and vegetables, so further qualitative research was needed.

Qualitative research

1. Focus groups

To better understand the target audience and provide information for segmentation, The NSMC carried out 6 focus groups in December 2007 and February 2008 with around 60 residents in these areas. The aims were to explore:

- Residents' daily routine
- Influences at meal times
- Food purchasing culture
- Views towards fruit and vegetables
- Barriers to fruit and vegetable consumption
- Ways to increase fruit and vegetable consumption

2. Stakeholder research

Food for Health Advisors conducted stakeholder interviews including with a head teacher, school health advisors, local retailers, supermarkets and local primary care staff. The interviews aimed to explore the views of professionals who worked in the neighbourhoods and gather ideas on increasing fruit and vegetable consumption among local residents.



Target neighbourhood

Due to staff capacity and funding limitations, one neighbourhood – Hawbush – was selected for the project. This area had:

- Highest proportion of children aged 0 to 15 years
- Relatively high proportion of households without access to a vehicle
- Highest proportion of overweight and obese Year Six pupils
- Stakeholder knowledge of the area
- Previous links with the school and wider community

Target audience

The primary target audience were parents of young children aged 4 to 11 years, chosen due to the integral role parents play in healthy eating at this stage. School staff and the wider community were chosen as secondary audiences.

Key insights

The focus groups highlighted two factors that impacted fruit and vegetable intake:

- **Parenting** – ‘Pester power’ tactics, quarrels at meal times and parents’ desire for their children to eat something meant that children exerted a high level of influence over what they ate
- **Cost** – Parents were concerned about the cost of fruit and vegetables and the potential amount of wastage produced. Therefore any interventions needed to help parents provide a desirable offer to children and stimulate demand from children for fruit and vegetables

Exchange

Benefits

The perceived benefits and costs of consuming fruit and vegetables were explored in the focus groups. Overall, participants felt that the positives outweighed the negatives. The main perceived benefits participants cited of consuming fruit and vegetables were:

- **Good for your ‘health’ (especially in old age)** – Improves digestion, keeps colds away, helps you lose weight
- **Helps you look and feel better** – Good for your skin and hair, gives you more energy
- **Helps improve children’s behaviour** – Contains natural sugars, unlike sweets and chocolate, which can make children hyperactive

Barriers

- **Fear of wastage** – Wastage is a huge financial misuse, discouraging people from buying fruit and vegetables and experimenting with different foods
- **Local access to fruit and vegetables** – Some participants reported that local shops stock certain fruit and vegetables, commonly potatoes and onions, but there was not enough choice, the quality was low

and they were generally too expensive. Lack of access to a car or time to travel to buy fresh fruit and vegetables was cited as another barrier

- **Preparation time** – Generally participants felt that preparing fruit and vegetables took too much time, especially since one of the tactics used to encourage children to eat more fruit and vegetables was to cut them up or arrange them in an appealing manner
- **Skills and education** – There was a concern that children did not have good food skills and had little idea of how to cook and what foods were good or bad for them. Some felt that parents needed to improve their food preparation skills, so they could better educate and encourage their children to eat more fruit and vegetables
- **Price** – Some participants felt that fruit and vegetables were expensive, and since price was important in their purchasing decisions (particularly those with a large family), they were less likely to buy them
- **Habits** – Some participants felt it is difficult to get children to eat new foods as they get older, so it is important to ensure fruit and vegetables are incorporated into their eating routine as early as possible
- **Uncertainty over the benefits of fruit and vegetable consumption** – Some participants felt the positives associated with 'health' are not always dependent on fruit and vegetable consumption, for example someone can be thin without eating healthily

Competition

Unhealthy snacks, such as crisps and chocolate, are a major source of competition to fruit and vegetable consumption and are seen as convenient, cheap and tasty.

Peer pressure from other family members and peers also has a big influence on the types of food children eat, which can have positive or negative outcomes.

Addressing demand and supply

The scoping research underlined the importance of a two-pronged approach to increasing fruit and vegetable consumption: focusing on making it easier to buy fruit and vegetables (through availability, price and preparation) and increasing demand for them (increasing skills and confidence, utilising children's 'pester' power and reducing waste).



Behavioural goals

The behavioural goals were to encourage parents of young children to consume more fruit and vegetables, consume a wider variety of fruit and vegetables more frequently, purchase more fruit and vegetables and reduce reported levels of wastage.



Concept testing

Based on the scoping research, the project team developed a number of different intervention models and tested these with members of the target audience.

An independent researcher was commissioned to undertake interviews in July 2008 with nine residents. All participants were female, White

British, aged between 27 and 42 years, with children and lived in the Hawbush estate.

A number of intervention ideas were explored with the residents, including:

- Mobile fruit and vegetable shop
- School fruit and vegetable stall
- Get Cooking! healthy eating sessions, linked with vouchers
- Supermarket scheme, including transport service and voucher scheme
- Increasing quality and quantity of fruit and vegetables in local shops

All respondents felt that the mobile shop and school produce stall would be most suitable in reducing barriers to fruit and vegetable consumption. Further discussions with industry experts and the Steering Group identified feasibility issues with the mobile fruit and vegetable shop (specifically sustainability, cost and staff implications). The project team therefore decided to proceed with the school-based intervention.

Strategy

The team developed a two-pronged approach to increase fruit and vegetable consumption.

Supply

Improving the availability of fruit and vegetables locally was important to address the physical access issues reported by some residents in the area, particularly those without access to a vehicle, older people who may be less physically mobile, and those who do their shopping on a weekly basis, who may run out of fruit and vegetables mid-week and could therefore use the school stall to 'top-up' their supply.

Supply would be addressed by setting up a fruit and vegetable stall at a local school to improve the availability of fruit and vegetables. The produce would be offered at competitive pricing compared with the favoured supermarkets (Tesco, Asda, Aldi and Lidl) and provide

special offers such as buy-one-get-one-free and half-price promotions. This would address the issue of affordability and cater for those who seek bargains frequently offered by large supermarkets.

Produce would be offered pre-chopped and in single-portion packs, to minimise concerns about food preparation and waste. Recipe packs, including for example stew packs, stir-fry packs, salad ingredients and recipe cards, were developed to make cooking with fresh produce more convenient and manageable.

Vouchers worth £1 would be given to children to encourage them to choose products and visit the stall, thus creating familiarity. Parents would receive money-off coupons (such as spend £2 and get £1 off) to encourage them to use the stall.



Demand

To increase demand, educational sessions were developed to raise awareness of healthy eating and the health benefits of fruit and vegetables. They would improve skills in preparing and cooking seasonal fruit and vegetables and provide suggestions on avoiding waste.

Taster sessions would be held to provide opportunities for people to try new foods without worrying about waste or family members' preferences. The sessions would suggest ways of cooking cheap, healthy meals from scratch.

To stimulate peer power from the children, a dedicated brand, 'Bostin Value', was created to promote the school fruit and vegetable stall. In the Midlands, 'Bostin' is synonymous with the meaning 'great' or 'excellent', and it was hoped that by branding the project in this manner, the parents and children would see the stall as a positive development.



The Bostin Value brand, logos and the pilot concept were pretested with five parents from a parent and toddler group at Hawbush Primary School. Results from this pretesting were fed back to a designer who amended the favoured logo design.

This brand and logo would be used on promotional flyers, vouchers, price lists and labels, a banner displayed outside the school, and on leaflets sent to parents. Some 5 a-day materials would also be distributed.

Delivering the intervention

NHS Dudley utilised the knowledge and experience of an independent consultant who provided procurement, management, training and marketing services to organisations involved in selling, serving and promoting the consumption of fresh produce. The consultant led on the supply side of the project, while NHS Dudley led the demand side. A local fruit and vegetable supplier was selected to deliver the school stall, based on the following requirements:

- They were positive about the project and keen to be involved
- Business was under threat of closure, so would welcome the additional business
- The most local fresh produce specialist in the area
- Knowledge of area and established contacts with local convenience store operators
- Well known to the local community

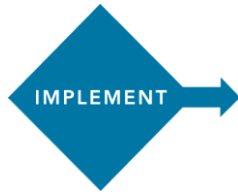
The supplier would sell fresh produce according to customers' demands, promote a wide range of seasonal fruit and vegetables and display them attractively on a table or cart.

To manage demand, a Food for Health Advisor for NHS Dudley was employed from April 2009 to:

- Plan and deliver the skills sessions and food demonstrations
- Liaise with the local fruit and vegetable supplier to organise purchasing opportunities and provide additional support to the stall
- Monitor and evaluate the outcomes of the project, including sending progress reports to the Steering Group, partners and funding body

The Advisor also regularly liaised with the supplier to ensure that the fruit and vegetable promoted during the educational sessions were matched with the supply.





A local greengrocer from 'Fruit and Veg' in Brierley Hill was commissioned to set up a stall at Hawbush Primary School to sell fresh produce to parents and local residents. The fruit and vegetable stall operated in the school playground twice a week, on Tuesdays and Thursdays, around school finishing time (2:45pm to 3:30pm) to capture the 'pick-up' market. A trial run of the fruit and vegetable stall took place in the week commencing 23 March 2009. This allowed for the logistics to be tested, such as how long the stall took to set up, driving the van into the school and displaying the fruit and vegetables. During this time the stall retailer also received training from the fresh fruit consultant. Following feedback during the trial, price labels were created to clearly show the price of the produce.

The stall began regularly operating in late April 2009 (after the Easter break) and ran until November 2010. It was reviewed after the first four sessions of supply and thereafter at the end of each term or as often as deemed necessary.

Originally it was planned that the recipe packs (recipe cards and pre-prepared stew, stir fry or salad packs) would be available at each session, however this proved difficult to plan and implement due to not knowing far enough in advance what seasonal produce the stall would have, and due to the fluctuations in produce prices. Subsequently these packs were produced every four to six weeks, rather than weekly.

The educational sessions were run as practical cooking and tasting sessions lasting 30 to 90 minutes depending on the audience and were linked to the seasonal produce available on the stall. The sessions for pupils were held during

class time, either as part of classroom activities or as separate small groups in the community room. Sessions for parents and the wider community were available once a week at the school using the community room. These practical sessions focused on preparing and cooking cheap meals using seasonal fruit and vegetables and leftovers, tasting new foods, and budgeting for food shopping.

To increase the consumption of fruit and vegetables during the school day, the pupils took part in the '100 challenge'. Each class was given a wall chart with 100 blank spaces. Children would collect a sticker to add to the wall chart for each day they bought a piece of fruit or vegetable as their break time snack. The first class to fill up their wall chart across the week and reach 100 was the winner. There were individual prizes to praise and reinforce the behaviour of the children who had made the most effort to bring in fruit and vegetable snacks.



A second intervention was used to increase sales at the stall. A loyalty card was designed and handed out to all parents at the school. Every time they spent £1 or more at the stall they would get a stamp on their card. When they had reached 6 stamps, they received a free bag of groceries worth £3.50. This was to encourage parents to purchase their fruit and vegetables from the stall and to generate repeat purchasing. This was found to be very successful.

Take up for the parent's sessions was initially very slow. The team received feedback from the head teacher of Hawbush Primary School that they had found it very difficult to get parents to engage in activities associated with the school. Parents' anecdotal responses to why they did not want to attend included:

- 'They can already cook'
- 'Haven't got time'
- 'Not interested in cooking'

To promote the sessions to the parents, a number of methods were tried, including:

- Promotions at parents evenings
- Letters sent home from the school to all parents
- Posters and flyers around the playground
- A 'pamper day' where parents were invited to attend a drop-in session to sample some of the recipes that could be cooked during the cooking sessions, as well as the option of a free hand and shoulder massage
- Incentives to encourage attendance at the cooking sessions, including money off vouchers for the fruit and vegetable stall and entry into a competition to win cooking equipment

To maintain the interest and encourage families to come back each week, the next week's 'menu' was posted to the parents who had attended, alongside a money-off voucher for the stall so they could buy the ingredients to continue cooking the recipes at home.

Feedback from parents included the need for a crèche, fewer children to adults and fewer recipes to cook, therefore aiming for quality rather than quantity. In light of this feedback, crèche workers were employed for the cooking sessions to look after younger children, while parents and older children took part in the cookery classes during phase two. This encouraged parents with younger children to attend.

July 2010 marked the beginning of the school summer holidays. A sustainability strategy was devised to allow the project to continue running once funding had ceased. To further strengthen supply, the greengrocer from the Bostin Value stall delivered fruit and vegetables to two out of five local convenience shops to sell to the local community, thus meeting the increased demand generated by the project. This was trialled for a period of two weeks, but practicalities such as stock not being replenished regularly, poor communication between the shop keepers and greengrocer, and a view from the shop keepers that the greengrocer was competing for their custom, resulted in this not being continued on a long term basis. The greengrocer also reported that he was not making a substantial profit from the delivery as the price of the stock had to be kept to a minimum in order for the shops to make a profit.



Methodology

The final results were analysed by NHS Dudley's Public Health Intelligence Team. The project received independent support from the London School of Hygiene and Tropical Medicine on the data collection and evaluation methods.

The evaluation plan consisted of five elements:

1. Pre- and post-intervention survey of parents/carers to assess progress made by the project in reaching its objectives to: increase fruit and vegetable consumption; increase the variety of fruit and vegetables consumed; increase the trial of different kinds of fruit and vegetables; reduce reported levels of wastage; increase fruit and vegetables purchased; and improve access to fruit and vegetables. The 'post' survey also measured brand recognition, awareness, use of the market stall, and awareness of and attendance at the skills sessions
2. Pre- and post-intervention survey of children to assess progress made by the project in reaching its objectives to: increase fruit and vegetable consumption; increase the variety of fruit and vegetables consumed; and increase the trial of different kinds of fruit and vegetables
3. Audit of fruit and vegetable stall to explore volume and type of sales, and to profile those using the stall
4. Evaluation of skills sessions to explore the extent to which they were seen as appropriate and useful by participants
5. In-depth interviews with key stakeholders (for example parents, staff and project workers) to explore the acceptability of the intervention and to examine factors that may have helped and/or hindered

The initial baseline evaluation data was collected in April 2009, prior to the implementation of the project at Hawbush School. This consisted of surveys to parents at the school, and a fruit and vegetable knowledge quiz, likes and dislikes questionnaire and food diaries with the children.

Evaluation data was collected in December 2009, July 2010 and in December 2010 to assess any behaviour change or increased knowledge compared to baseline data.

A control school (no intervention) was identified and baseline data was collected in December 2009. This survey was then repeated in July 2010 and again in December 2010 to assess if changes at Hawbush School were brought about by the project's interventions.

Results

Awareness and usage

Of parents surveyed at Hawbush School in December 2010:

- 100 per cent had heard of the fruit and vegetable stall
- 94 per cent had used the fruit and vegetable stall, and 41 per cent of these used it regularly
- 94 per cent had heard of the cookery sessions, and 35 per cent had attended the sessions (this figure remained static from July 2010)
- 86 per cent had heard of the fruit and vegetable tasting sessions for children, and 81 per cent responded that their children had attended these sessions

Increasing fruit and vegetable consumption

The mean number of portions of fruit eaten by adults (parents/carers) at Hawbush School each week increased significantly between April 2009 and July 2010 from 2.4 to 3.1 ($p=0.03$). This figure was significantly higher than that of the control school during the same period ($p=0.02$).

The mean number of portions of vegetables eaten by adults each week also increased significantly between April 2009 and July 2010 from 2.7 to 3.4 ($p<0.001$). However, these increases in the test school were not sustained and in December 2010 the average number of portions consumed weekly (2.5 and 3.2 respectively) was not significantly different from either the baseline or the control school.

The average number of portions of fruit consumed each week by children at Hawbush

School increased significantly between April 2009 and July 2010 from 2.6 to 3.7 ($p < 0.001$). This figure was also significantly higher than in the control school during this period ($p = 0.001$). The increase at Hawbush School however was not sustained and in December 2010 the average number of portions consumed (2.3) was not significantly different from either the baseline or the control school. The mean number of portions of vegetables eaten by children showed no significant change in either the test school or the control school over the period of the study.

Consuming a wider variety of fruit and vegetables

The mean number of fruits (out of 14) tasted by children increased from 10.9 in April 2009 to 12.2 in December 2010 (with a peak of 12.4 in December 2009). The mean number of vegetables (out of 14) tasted by children increased from 9.7 in April 2009 to 10.9 in December 2010 (with a peak of 11.1 in December 2009). The mean number of fruit and vegetables liked, and the mean number identified remained stable throughout the pilot.

From the parents survey, the percentage of parents responding that they had tried a new fruit or vegetable in the last month increased from 25.5 per cent in April/June 2009 to 29.4 per cent in December 2010. The percentage of parents responding that their children had tried a new fruit or vegetable in the last month increased from 28.3 per cent in April/June 2009 to 41.2 per cent in December 2010.

Purchasing more fruit and vegetables

The audit indicated that purchases at the market stall tended to be fruit (rather than vegetables), for snacks (rather than meals) and for the whole family (rather than just for children).

Confidence in cooking fruit and vegetables

Parents at both Hawbush School and the control school were asked whether they agreed with the statement 'I am confident in preparing

and cooking different types of fruit and vegetables'. The majority of respondents in both schools either agreed or strongly agreed with the statement. The proportion of parents that strongly agreed with the statement increased over time at Hawbush School; however this increase was not significant.

Access to fruit and vegetables

Since the project began the number of respondents at Hawbush School that bought their fruit and vegetables from the fruit and vegetable stall increased, peaking in July 2010. Hawbush School used fewer sources for their shopping of fruit and vegetables at the baseline than the control school. The number of sources increased with the introduction of Bostin Value.

Reducing reported levels of wastage

There was no significant difference in the proportion of households reporting fruit and vegetables going to waste, with an average of approximately 14 per cent reportedly going to waste across the period of the pilot.





The stall holder plans to return to Hawbush School, following the completion of construction work on the school building, which was underway during 2011. In addition, the team was approached by a neighbouring primary school about implementing the project in their school. Subsequently, the stall holder has been visiting this school since September 2010 and feedback has been positive.

Lessons learned

Branding

Do not underestimate the importance of having a brand and a logo to give the project an identity. A 'uniform' of red T-shirts and hoodies, worn by the Food for Health Advisor when delivering the cooking sessions, children's tasting sessions and on the stall, gave instant recognition and promoted the project. This increased hype that in turn created 'pester power' from the children, who encouraged parents to purchase fruit and vegetables from the stall

Steering Group

The project was primarily driven by the Steering Group. The individuals' expertise and the fact that the head teacher of the primary school was part of the group reinforced the relationship between the school, the NHS and other partners involved in the project.

Expertise

Trust and familiarity was established between the local community and the local greengrocer, as well as between the school and Food for Health Advisor, which really helped drive and maintain the momentum of the project. Furthermore, having the expertise of the fruit

and vegetable consultant in an advisory role, and the local knowledge from the local greengrocer running the stall, provided a variety of skills.

Relationship building

A lot of time should be invested in building a rapport with parents and becoming a familiar face that they recognise and trust. It was very difficult to engage parents in practical cooking activities. They rarely engaged in organised activities with the school and were wary of new people or projects.

Challenges and areas for improvement

- The project's short-term funding meant it was difficult to recruit a project lead from the beginning. This resulted in a lack of consistent leadership or direction, particularly throughout the early stages
- The greengrocer must be business-minded, driven and passionate about selling fruit and vegetables to the community, and have the ability to use their initiative to offer promotions
- Longer-term advanced planning, such as a brief plan outlining activities and promotions for the forthcoming year would improve implementation
- Recruitment of a team of volunteers to support the delivery of the project should be conducted early, including volunteers from the local community