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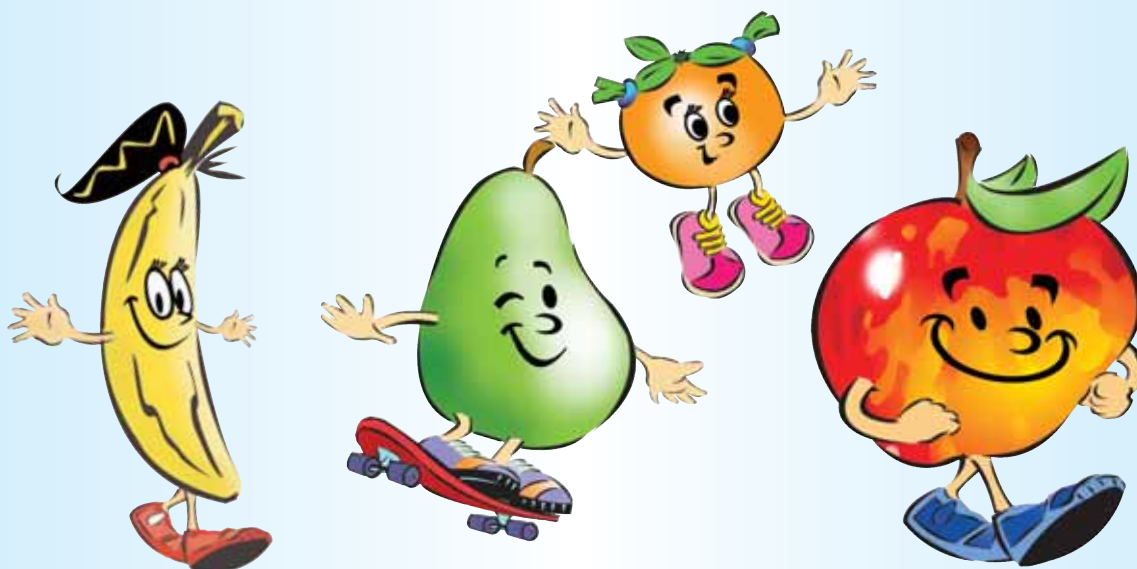
# Fresh Fruit in Schools

## Summary report 2002–2006

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# Introduction

## The importance of good nutrition

A balanced diet throughout both childhood and adulthood is essential for good health.<sup>1</sup> Eating a balanced diet from an early age helps growth and healthy tooth development. It also helps to develop lifelong healthier eating practices and can prevent obesity, diabetes and coronary heart disease.<sup>2,3</sup>

A study of 12 and 15 year olds living in Northern Ireland indicated that levels of overweight and obesity have increased by over a quarter in ten years.<sup>4</sup> The latest research in Northern Ireland indicates levels of obesity are increasing every year, with one in five boys and one in four girls in Primary one (P1) being overweight or obese. This trend is thought to be related to a lack of physical activity as well as poor diet.<sup>5</sup>

The *Eating for health?* survey published in 2001 highlights some concerns around the eating patterns of young children in Northern Ireland. The consumption of snacks that are high in fat or sugar is particularly common; one in two girls and two in five boys aged 5–11 years are reported to have confectionery at least once a day.<sup>6</sup>

In contrast, the consumption of fruit and vegetables was relatively low in the survey. Only 12% of children ate the recommended five or more portions of fruit and vegetables a day and 15% did not eat any fruit or vegetables on a daily basis.<sup>6</sup> These eating patterns are, however, widely reflective of that of the adult population. The *Eating for health?* adult survey reported that only 20% of adults eat five or more portions a day of fruit and vegetables. One in ten adults reported they do not consume any fruit or vegetables on a daily basis.<sup>7</sup>

Childhood eating patterns are often carried into adulthood, so eating patterns need to be addressed at an early age.<sup>8</sup> Those with a lower household income have less knowledge of healthy eating practices and face additional obstacles such as the accessibility, availability and cost of healthy food options.<sup>7</sup>

Therefore the school based setting is an ideal location for children to learn about and experience healthy eating practices. Introducing such schemes into schools provides a way to encourage healthy eating and makes it more acceptable to children as everyone is exposed equally to the message. Previous research findings also show that providing children with nutritional messages and encouraging healthy eating within the school can result in the spread of the message back to the home and community. This can result in dietary changes within the family environment.<sup>9</sup>





## Background to the Fresh Fruit in Schools pilot scheme

The Fresh Fruit in Schools scheme was launched in October 2002. The scheme is an action from Northern Ireland's public health strategy, *Investing for Health* (IfH).<sup>10</sup> This strategy was developed by the cross-departmental Ministerial Group on Public Health (MGPH). It provides a framework for action to improve health and wellbeing that focuses in particular on the determinants of good health and on inequalities in health.







The Fresh Fruit in Schools scheme was developed as a pilot project that would initially provide fruit free to P1 and P2 pupils in selected schools. The Fresh Fruit in Schools scheme was informed by earlier models of good practice running throughout the UK, including “Grab 5” and England’s “5 a day programme”.<sup>11,12</sup> Funding was initially secured by the MGPH to run the scheme between October 2002 and June 2004. After this time additional funding was secured to extend the scheme for a further two years until June 2006. During this extension the steering group sought to examine different models for the scheme within schools and then focused on the scheme becoming self-sustaining within the school setting. The scheme was coordinated regionally by the Investing for Health team within the Department of Health, Social Services and Public Safety (DHSSPS). It was managed and delivered locally by the four Health Action Zones (HAZs). The Health Promotion Agency for Northern Ireland (HPA) designed and produced publications, promotional items and a website, and designed and carried out the regional evaluation.

The Fresh Fruit in Schools scheme aimed to provide one piece of fruit per day to children in P1 and P2. The main objectives of the scheme were to raise awareness of the benefits of fruit consumption among children and foster healthy eating practices at an early age. Initially 85 schools were chosen from within the four HAZ areas to participate in the scheme. Over the four year period of the scheme this was extended to involve 101 schools.

### Aims of the Fresh Fruit in Schools pilot scheme:

-  to provide access to fruit for P1 and P2 children within selected schools;
-  to promote awareness of the benefits of healthy eating and good food hygiene;
-  to encourage children to develop the habit of eating fruit;
-  to encourage children to adopt and sustain healthy eating patterns in school, at home and in the community.

Schools throughout the four HAZ areas were selected using a number of indicators, including:

-  the proportion of school pupils receiving free school meals (FSM);
-  the Noble indicators;<sup>13</sup>
-  the level of decayed, missing or filled teeth (DMF) among pupils;
-  the school type (controlled or maintained);
-  the rural/urban location (Armagh and Dungannon and Western HAZ);
-  the geographical spread within the HAZ area.

Different arrangements were in place in each HAZ area for the supply of fruit to the schools. Full details of how the scheme was initially operated and managed across the four HAZ areas are available in the *Fresh Fruit in Schools evaluation 2002–2004: summary report*, available at <http://www.healthpromotionagency.org.uk/Resources/nutrition/freshfruit05.htm>




## Aims of this report

This report follows on from the *Fresh Fruit in Schools evaluation 2002–2004: summary report* and presents results of the evaluation of the final years of the pilot, 2005–2006, during which new arrangements were tested. It draws conclusions on the basis of all the evaluation work of the scheme. However, by way of background for this report a summary of the findings from the first two years is also presented.



## Evaluation summary 2002–2004

The main aims of the 2002–2004 evaluation were to assess:

-  the best means of delivering and distributing fruit to schools;
-  the impact this has on children's diet, and other effects on the child, classroom, school and parents;
-  the sustainability and wider application of the project.

A number of methodologies were used to meet these aims. These included quantitative and qualitative techniques, such as assessing teachers' and parents' views using both focus groups and postal questionnaires, and determining children's fruit consumption using a questionnaire adapted for use with that specific age group. Further details of methodologies used are provided in the 2002–2004 summary report.

The key findings emerging in the initial two years of evaluation are described for the three key target groups (school, child and parents/family) below.

### Schools' views

The majority of schools (93%) were satisfied with their fruit deliveries. Initially concerns were evident about the time taken to prepare fruit for young children, but these were alleviated within the first three months of running the scheme. All schools involved in the scheme reported the necessity of classroom assistants or volunteers to aid in the preparation of fruit.

Many teachers also reported satisfaction with the materials that accompanied the scheme. They considered these resources to be well thought out and useful as a teaching aid for many topics from health education to information technology.

Schools also reported the scheme helped consolidate rules which they had wished to implement within the school setting, but were initially unsure of the best approach. Many schools reported other effects of the scheme such as reduced litter, an increased healthy eating ethos in the school and the promotion of other healthy eating schemes. Improvements were also reported in children's concentration in the classroom, especially where snacking restrictions were also in place.

### Impact on children's fruit consumption

A sample of children in P1 was chosen in the first year of the scheme and their fruit consumption measured over three time points: prior to the scheme (October 2002), at the end of year one (June 2003) and at the end of year two (June 2004). Over the initial two years of the Fresh Fruit in Schools scheme, 54% of children in the consumption study sample demonstrated increased fruit consumption, 27% of children showed no change in fruit consumption and 19% showed a decrease. Findings from other research conducted with parents indicated that negative change was most likely because parents used fruit in school as a replacement to children's fruit consumption rather than as a supplement.

The greatest positive change in consumption was observed in girls, those from the high FSM schools and those with snacking restrictions in school. The overall mean fruit score (the number of times a day a child reported eating fruit) increased from 0.78 in October 2002, to 1.30 in June 2003 to 1.48 in June 2004. This illustrated that the net gain observed in the first year was sustained at the end of two years.

Further analysis of results by time of day showed that while all pupils consumed more fruit at break time, outside school girls showed a further increase in fruit consumption while consumption for boys was actually shown to be decreasing.

Conversely the scheme appeared to have no impact on overall snacking on high fat and/or high sugar foods. A significant rise in snacking outside school was observed over the course of the scheme in all groups, but especially in areas with snacking restrictions in schools and a high proportion of FSM. There was also a significant rise in snacking outside school among girls and pupils in the largest schools. While the scheme helped reduce consumption of these types of snack foods for children in school at break time, there was little knock on effect during the rest of the day.

### Impact on parents' knowledge and attitudes

Research with parents reinforced the observation that fruit in school was viewed by some as a replacement rather than a supplement. Over half of parents reported they no longer needed to send fruit to school anymore. However parents were positive about the scheme in other ways, with 94% being aware of the scheme and 58% reporting they thought the scheme meant their child would now eat fruit. Parents also reported their children (especially girls) were communicating the healthy eating message they learnt in school into the home, with 84% of parents reporting they had tried to have their family eat more fruit and vegetables; indeed qualitative research with parents highlighted several examples of changes to parents shopping and family eating habits. Parents were convinced of the positive effect of peer influence which meant everyone had the same options at break time and praised the scheme for positively influencing children who had previously refused fruit.

### Scheme developments 2004–2006

A magazine called *Fresh* was produced by the HPA and distributed by the HAZs at the end of the 2004–2005 academic year. The key objectives of *Fresh* were to try and address the findings that parents were using the Fresh Fruit in Schools scheme to replace rather than to supplement fruit in their children's diet and to highlight to parents the importance of eating five or more portions of fruit and vegetables each day. *Fresh* provided practical suggestions for incorporating more fruit and vegetables into dinners and lunches. It was anticipated this would encourage parents to reinforce, at home, the healthy eating message that children were being taught at school.

Increased funding in 2004–2005 provided an opportunity to expand the scheme. In the Western HAZ additional schools joined the scheme. In the North and West Belfast, Northern Neighbourhoods and Armagh and Dungannon HAZs the fruit provision was extended up to P3 within the original group of schools.

With provision of funding for a further year and the adoption of different approaches in the four HAZs, the opportunity was presented for further investigation into the effects on fruit consumption on children who had been receiving fruit for two years, ie would the first two years' fruit eating habit be sustained by year three and what would the impact on consumption be of withdrawing free fruit in P3.

By September 2005, 101 schools were involved in the Fresh Fruit in Schools scheme. Since inception of the scheme in 2002 additional schools had joined and some schools had extended fruit to other year groups. In a bid to examine factors for sustainability, a number of schools in each of the HAZ areas were selected to formally try a different approach to the scheme. The evaluation sought to examine the process and sustainability of the new models. Some schools were asked to manage their own budget and fruit supply while others had reduced funding and passed on the costs of the fruit in full or in part to parents.






## Evaluation 2004–2006

This section of the report presents details of changing arrangements within schools during the period 2004–2006. It also presents the evaluation findings having examined different models of sustainability within different schools. It assesses the impact of this on schools, the children and their parents.

### Aims

- 1 To revisit the cohort of children used in the 2002–2004 consumption study to assess if the fruit eating habit that began in P1 and P2 was sustained in P3 and if this was dependant on the continued availability of free fruit in school during 2004–2005.
- 2 To assess the sustainability of the scheme using different models and investigate the wider impact of these models on schools, children and their parents (2005–2006).

### Objectives:

-  to provide an accurate assessment of fruit and high fat and/or high sugar snack food consumption in P3 children who do and do not receive fruit (2004–2005);
-  to assess the operation of the scheme under different models and establish what contributes to its success or failure (2005–2006);
-  to determine the wider views and implications for changing arrangements in schools, including the impact on children's consumption, parent's attitudes and the school setting (2005–2006).

### Methods to assess aim 1 (2004–2005)

To achieve the first aim, the method of data capture replicated that carried out for the baseline food consumption study phases one, two and three (see *Fresh Fruit in Schools evaluation 2002–2004: summary report* or Appendix 1). Briefly, information on fruit and snack consumption was gathered using an adapted version of the 'Day in the Life of' Questionnaire (DiLQ), which was originally designed to assess the fruit and vegetable consumption of seven to nine year olds.<sup>14</sup> The DiLQ was adapted for use with four to six year olds; information on this adaptation is supplied in the 2002–2004 summary report.<sup>9</sup> Individual child sampling stayed consistent, but the schools were purposely chosen to take part depending on whether or not P3 pupils received fruit via the scheme. Data were collected in June 2005 allowing for a full year of change before assessment.

*Results tables and bar charts contain mean percentages; however, because of rounding, percentages in each column or row may not total 100. Base numbers are included in all tables to indicate the number (n) of respondents on which percentages are based.*

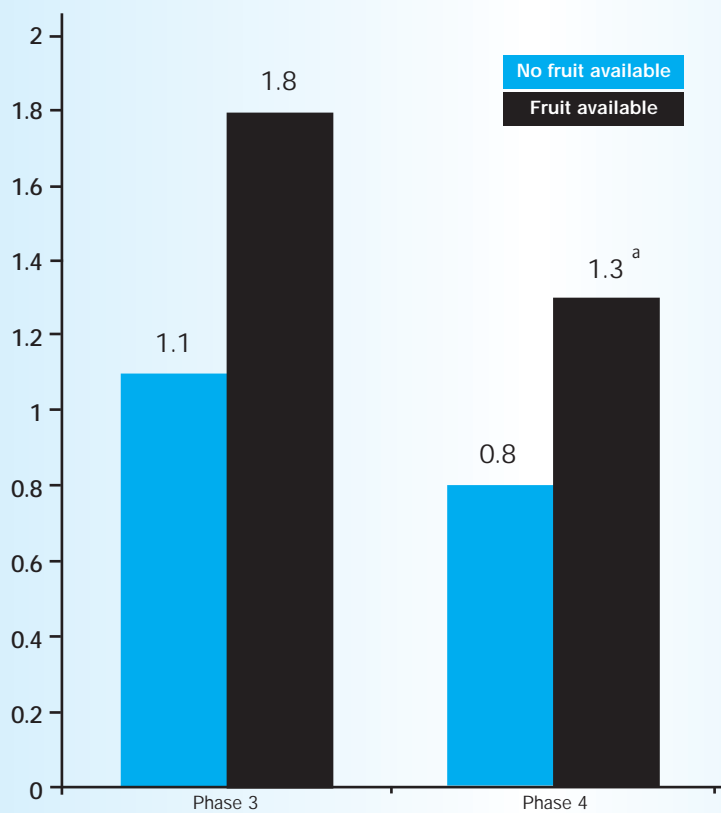
*Statistical analysis is performed by Chi square associations in all cases unless otherwise indicated and a P value of less than 0.05 is taken as significant (Sig) in all cases. Levels of significance are denoted in tables by asterisks - \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ . (NS) on tables denotes no significant difference.*

## Findings

Daily fruit scores (a score allocated to every child indicating the total number of times fruit was eaten in a day) between those who continue to receive fruit in school and those who do not were compared. This revealed that while the fruit score for all children has declined between P2 (phase three) and P3 (phase four) those children who received free fruit in school are achieving a significantly higher fruit score ( $p < 0.001$ ) than those who are not (Figure 1).

However, those who continued to receive fruit in P3 actually show a significant decline from a mean daily fruit score of 1.81 in P2 to 1.34 in P3. For those children who no longer received fruit the mean fruit score has also fallen although not significantly from 1.07 to 0.78. No significant changes were seen in snacking scores over the day for either group of children.

**Figure 1: Changes in fruit consumption in P3 between June of P2 (phase three) and March of P3 (phase four):**



<sup>a</sup> Significant decrease at phase four (P3) compared to phase three (P2)

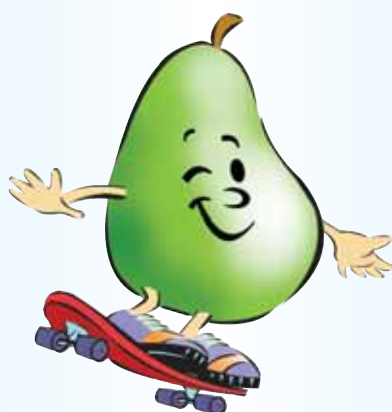
Further detailed analysis showed this decrease in fruit consumption in both groups of children to be related to decreasing fruit intake within the school and specifically fruit at break time (Table 1). No significant change in consumption was seen in either group of children between P2 and P3, either outside school or at lunch time.

**Table 1: Comparison of fruit score at P2 and P3 in those who do and do not currently receive fruit in school:**

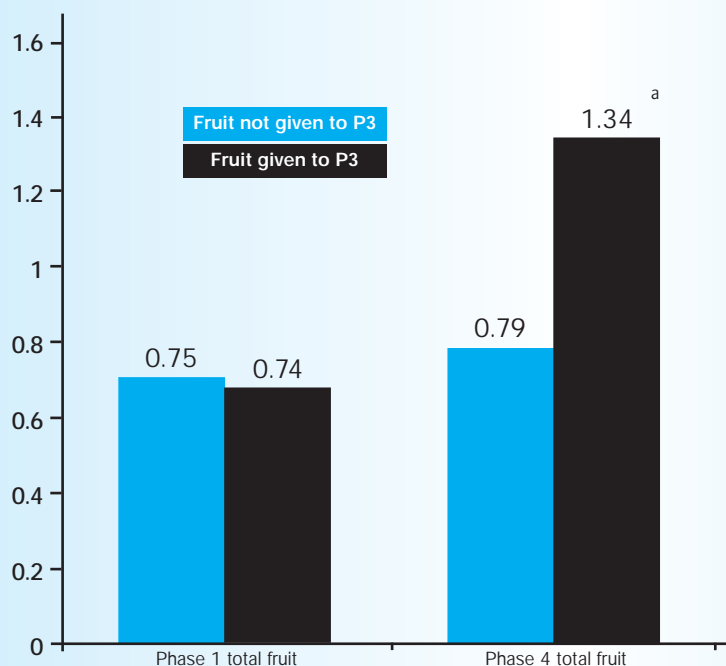
|                                  | Mean fruit score<br>P2 (phase 3) | Mean fruit score<br>P3 (phase 4) | Change<br>+ or - | Sig<br>(P) |
|----------------------------------|----------------------------------|----------------------------------|------------------|------------|
| <b>Fruit no longer available</b> |                                  |                                  |                  |            |
| Break time                       | 0.6842                           | 0.3684                           | -                | 0.000***   |
| Lunch time                       | 0.1579                           | 0.1404                           | -                | 0.836 (NS) |
| Outside school                   | 0.2281                           | 0.2807                           | +                | 0.650 (NS) |
| Daily fruit score                | 1.0702                           | 0.7895                           | -                | 0.084 (NS) |
| <b>Fruit available</b>           |                                  |                                  |                  |            |
| Break time                       | 1.3000                           | 0.8816                           | -                | 0.001***   |
| Lunch time                       | 0.1842                           | 0.1711                           | -                | 0.799 (NS) |
| Outside school                   | 0.3289                           | 0.2895                           | -                | 0.594 (NS) |
| Daily fruit score                | 1.8158                           | 1.3421                           | -                | 0.008**    |

**Fruit consumption at P3 compared to baseline (pre Fresh Fruit in Schools)**

The changes in fruit consumption within the two groups were further investigated, comparing the results from phase one (before children were introduced to the Fresh Fruit in Schools scheme) and phase four (at P3). Fruit consumption in the P3 pupils who still received fruit was significantly higher than when they first joined the Fresh Fruit in Schools scheme. However, looking at the group who currently do not receive fruit in P3, it can be seen their level of fruit consumption has decreased to that seen prior to the introduction of fruit in school (Figure 2).



**Figure 2: Changes in fruit consumption in P3 pupils between October of P1 (phase 1) and March of P3 (phase 4):**



<sup>a</sup> Significant difference at phase four compared to phase one

## Methods to assess aim 2 (2005–2006)

The second aim was achieved using a variety of qualitative and quantitative methods. They began with a survey of all schools involved in the scheme in 2005–2006 to examine their current arrangements. From this, case study schools were purposely selected to reflect various models of implementing the scheme or various school policies. Eight schools were selected (two from each HAZ). Each school was visited and an in-depth interview conducted with the school principal, the school coordinator, or a teacher. Each interview examined:

- 🍎 the history of Fresh Fruit in Schools and the current arrangements;
- 🍎 the perceived response to new arrangements (from parents and pupils);
- 🍎 the benefits/drawbacks of the current scheme;
- 🍎 how the scheme has acted as a catalyst (if at all) for further involvement in health schemes;
- 🍎 the potential for sustaining new arrangements.

Demographic details of the schools and their fruit arrangements for the year 2005–2006 are detailed in Appendix 2.








A postal survey with parents was repeated this year following the same methodology as the 2004 survey.<sup>9</sup> This assessed parents' knowledge of healthy eating practices in school and parents' attitudes to paying for fruit. Although it would have been of value to look at children's consumption in a further cohort it was considered that there was insufficient time for the changes implemented in the scheme in September 2005 to have had a measurable impact on children by December 2006.

## Findings

### Extent of new arrangements

In the 2005–2006 academic year new arrangements were formally introduced into a number of schools. The majority of organisational or management changes in this academic year were related to schools being only partially funded (26%), schools changing to a local fruit supplier (21%) or schools managing their own fresh fruit budget (16%).

The other major change to the arrangements for some schools was how they use their funding allocation. Previously all schools used their funding allocation to purchase fruit, but in this final year of the pilot some schools were asked to try a different approach. Case study schools were chosen to reflect the varying arrangements as follows:

-  a fundraising school;
-  a school with a fruit tuck shop;
-  two new schools in the scheme that immediately introduced payment for fruit;
-  a school with free fruit but no healthy eating scheme;
-  a school where all parents of children up to P7 pay for fruit;
-  a school with free fruit alongside a healthy eating scheme;
-  a school where P1/P2 parents who once received free fruit now pay.

### Uptake of fruit

One of the continued benefits of the Fresh Fruit in Schools scheme reported by all schools is the increased number of children who consume fruit compared with before the scheme was introduced. A number of schools reported that not only are the children eating more fruit but children and teachers alike are more aware of why they should be eating fruit.

*“Very few kids ate fruit before. I don’t know whether they’ll carry it through, but there would be much greater awareness among children and teachers. I suppose that coincides with everything in the press but it happens to be useful that it’s all coming together.”*

One of the most important issues in relation to children’s uptake of fruit is the quality and variety of fruit delivered to school. Schools in the North and West Belfast HAZ had sourced their own fruit supplies from the introduction of the scheme. However the Northern Neighbourhoods, Western HAZ and Armagh & Dungannon HAZ had fruit supplied through the school meals service. In 2005, 15 of the schools who had fruit supplied via school meals took the opportunity to source their own fruit. This change was greatly welcomed by staff and pupils. The quality and quantity of fruit the school could obtain from local suppliers has been reported in many cases as being cheaper and of better quality than the school had previously received. One school reported getting an extra week’s supply per month for the same cost.

*"I went to him [local supplier] and asked him to price for the week the same things as we were getting outside this area and he was about £15 cheaper. As there was no handling charge you were actually getting a week more every four weeks."*

*"We are finding now [with local supplier] it's much more satisfactory and there's a much better uptake of the fruit, especially with the little ones because they see it's good."*

Another factor for successful uptake is the variety of fruit children are offered. As with adults, not every child will like every type of fruit. Some schools have the ability and option to order a variety of fruits on a daily basis while other schools have a single fruit on a single day. Exposing children to different varieties of fruit will widen children's tastes and also sustain interest in the scheme for a longer period.

*"Some children eat an apple everyday but part of the scheme as we understood it was to broaden children's tastes, experience different things, so by cutting them up small [the fruits] so that children will have a bit of orange or a bit of apple and some grapes, they have a choice everyday. It's because we have a mixture of fruit I daresay, if we said you had to eat apples today we might get kids who didn't like apples; so they have a choice everyday they can have bananas, or apples or oranges."*

Offering only one type of fruit on a single day does have disadvantages, with some children not eating fruit on certain days due to preference. This may create a barrier for healthy eating in the school with children and even parents wanting to have other things such as high fat and/or high sugar snack foods if their child does not like the type of fruit on offer on a particular day.

*"The majority have certain fruits that they like. One day they'll take something and the next day say 'No I don't like that fruit'. They are selective in what they like. I think it's down to the fruit they have that particular day and what they want, so there are days that there is a tray left."*

## Children's acceptance of Fresh Fruit in Schools

In all schools participating in the scheme, pupils in P1 and P2 continue to have fruit. All the principals interviewed reported high fruit uptake in these year groups. One change that has occurred in some schools (11%) is that fruit is now available up to P7. This appears to be very successful as one school which had gradually introduced fruit into a tuck shop throughout the school reported 60–70% of P3–P7 children buy fruit on a daily basis and a large proportion of the remaining children bring in their own fruit.

While the quality and variety of fruit impacts significantly on uptake, and therefore children's acceptance of fruit, educating and talking to children about change also promotes acceptance. One school had gradually introduced fruit into the school and eliminated high fat and/or high sugar foods. This school was not alone in deciding that a gradual change (from high fat and/or high sugar to healthy foods) was the best way to proceed with introducing healthy eating schemes. Many of these schools suggest that making children aware of the reasons for the changes in foods and snacks they were being offered and emphasising the health message alongside making the changes resulted in children being much more accepting of the schemes.



*"I honestly don't think a single child made an issue of it because it was well talked through with them you see. It wasn't something that just happened, there was a gradual reduction in what was available in the tuck shop. They were told the reasons and teachers would have gone through that in the classroom. It would have been tied in with their lessons so it wasn't just one day that crisps were gone. The odd time I've found sweet papers - didn't see the sweets just the wrappers! But they are very compliant, and that's not because we're coming with a heavy hand, I think it's been though a process of education."*

Often in schools with a high level of FSM a more immediate change was made from high fat and/or high sugar foods being allowed in school one year to the restriction of these foods the next. Schools report children are just as accepting of these changes; however from the results of the previous evaluation, children may be more prone to increases in high fat and/or high sugar snacks at home if immediate changes are instigated in schools.

*"I think they [children] just accept it as part of the fabric of the school. This is what happens in school, this is what you get for your break."*

*"It amazes me sometimes the amount of money children have and they spend it on the fruit rather than, well some of them could have walked to school and bought sweets. Since we supplied our own there wasn't a single complaint. It has become the thing to do; it's very acceptable maybe it's cool to eat fruit. I'm quite certain some children spend money on the way to school. I would be naïve to think they don't. The fact that some don't and come over to the dining hall and get toast and a drink and that so many of them will have their money for fruit at break time they obviously have seen something worthwhile in it. There are some very dedicated fruit eaters who would eat it at break time and lunch time I think the mindset might be turning a little, but that doesn't mean I don't get crazy when I see a child walking down the road in the morning coming out of the supermarket eating a sticky bar. In so far as we can influence, we try very hard."*

Many of the schools in the Fresh Fruit in Schools scheme have adopted a healthy breaks policy. Within these schemes increased fruit consumption is observed alongside a sharp decline in snacking. Other schools which still allow high fat and/or high sugar snacks reveal that although children continue to eat snacks they will also consume the fruit that is available.

*"They may have something else with the fruit. There's also a big change in the demand for fruit. Most of them will have something else with it but we do have a few children who don't have any break so they'll have a piece of fruit."*



This example alongside the tuck shop highlights that children have the ability to voluntarily increase their consumption of healthier foods even alongside the availability of high fat and/or high sugar foods if the healthy food argument is made, explained and reinforced to them.

*“There has been a definite change [in snacking] since it started. I would have known children who’d come in wanting to buy two or three bags of crisps so they’re not doing that now.”*

Schools do report there is a decline in the number of children who pay for fruit as they get older. The schools report those children often bring in their own fruit. This may also demonstrate children wanting to have freedom of choice to bring in their own fruit rather than have what the school provides. For older children, however, who have not been exposed to the Fresh Fruit in Schools scheme, they may only bring in their own fruit if healthy eating policies restrict high fat and/or high sugar foods at break time.

## Parents’ views on Fresh Fruit in Schools

While children’s attitude to fruit in school is of high importance it is also vital that parents are aware of healthy eating practices in schools and reinforce the healthy eating message at home. A strong link appears to be developing between parents and schools, with 97% of parents reporting they were aware of the Fresh Fruit in Schools scheme or Snack Pack scheme. This was slightly higher than the figure reported in the 2004 parents’ survey (94%).

More parents now believe that because of fruit in school their child has a healthier diet (94% in 2006 compared to 88% in 2004) and also agree that because of fruit in school their children will now eat fruit (61% in 2006 compared to 58% in 2004).

An important issue that arose in the previous evaluation (2004) was a high percentage of parents believed they did not have to provide fruit for their P1/P2 child as they received it in school (59%). This has decreased by 8% to 51% in 2006. This finding is most likely related to parents’ greater awareness of health issues through a variety of sources, including the school. Indeed, 71% of parents indicated that they had received information on healthy eating from the school with 39% of parents recalling specifically *Fresh* magazine. *Fresh* magazine was designed to illustrate the importance of the scheme in schools providing a supplement not replacement for fruit and was distributed to all parents of pupils taking part in Fresh Fruit in Schools in spring 2005 (39% is likely to be an underestimate due to the time lapse between *Fresh* being distributed and the time of the survey (February 2006).

Of those parents who read *Fresh*, 38% could recall specific advice. The main advice remembered was on providing a variety of fruit and vegetables for children (33%) and encouraging consumption of five or more portions of fruit and vegetables a day (26%). The magazine may also have impacted on parents’ views with fewer parents in 2006 agreeing with the statement “I do not have to worry about giving my P1/P2 child fruit at home anymore” (12% in 2006 compared to 15% in 2004). A similar amount of parents in both years (61% vs. 62%) reported buying more fruit as their P1/P2 child asks for it.

Similar results were reported in 2004 and 2006 for parents' views on their children's eating behaviour. Positive changes have been reported within the last two years. For example 49% of parents reported they thought their children eat better since Fresh Fruit in Schools compared to only 42% in 2004. Sixty percent also reported their children eat snacks (chocolate bars and crisps) less often in 2006 compared to 54% in 2004.

## Parents funding fruit

These changes in parents' attitudes towards providing and helping their children to have five or more portions of fruit and vegetables a day are further illustrated in parents' willingness to pay for fruit to provide their children with healthy foods during the school day. Overall 76% of parents who currently receive free fruit wouldn't mind paying for fruit in school. Interestingly, significantly more parents from schools with a high level of FSM (83%) reported they would be willing to pay for fruit compared to only 70% of parents from schools with a low level of FSM (Table 2).

**Table 2: Percentage of parents willing to pay for fruit by FSM level:**

|          | Yes (%) | No (%) | Don't know (%) | Sig (P) |
|----------|---------|--------|----------------|---------|
| Low FSM  | 70      | 14     | 16             | 0.014*  |
| Med FSM  | 78      | 9      | 13             |         |
| High FSM | 83      | 8      | 10             |         |
| Total    | 76      | 11     | 14             |         |

A lesson highlighted by many schools is that if a school is going to introduce parental contributions it has to be made as practical as possible for both parents and schools. Different working examples of this include parents supplying children with a fixed amount per week or month rather than on a daily basis. Collecting money less often means considerably less difficulty for teachers within the school and also reduces record keeping. Another method which avoids teachers handling or collecting money is the fruit tuck shop. This makes children responsible for their own money.

In 2006, 11 schools sought funding from parents for P1/P2 (either full or part cost). The issue of asking parents to pay a contribution towards fruit is a difficult one and may result in not all children receiving fruit as not all parents would be able to, or indeed want to pay for fruit in school. However, the principals and teachers report high fruit uptake is still achieved with children who have to pay for fruit. In many schools those children who once received free fruit but now have to pay are continuing to take fruit. This indicates that parents are willing to contribute to the cost for something they see as beneficial to their child's health.

*"The children who have been on the free scheme [now in P4] are putting money forward to buy fruit so it hasn't put them off. It was free to them prior to this year and they are now prepared to pay for it, although it is at a subsidised rate. We asked for parents to pay the £2 a month. The money was brought in; only 20 out of 160 don't take fruit."*

In one school with low FSM levels, parents actually made the request for the older children to get fruit. The school said they would provide it if the parents paid, and this has been successfully implemented. However parents are less likely to request change in high FSM areas where the school has to initiate this change.

*“The fruit, which on occasion may not have been eaten by the younger school for a variety of reasons, was sent up to the rest of the school. The parents came back and said ‘why don’t the other classes get fruit? My younger daughter gets fruit and why doesn’t my older child get fruit?’ I asked if they would be content making a contribution towards that and they said they would. We got that up and running. It’s been very successful since.”*

These positive anecdotal reports from parents were confirmed in the parents’ research, with 90% of those who currently pay saying they didn’t mind paying and 78% of all parents who have been asked to pay currently paying all the time. Less than 1% of parents who currently pay reported that they would buy an alternative snack for their children to take to school and only 9% of those who pay thought fruit was too expensive.

## Schools’ views on funding

While the scheme currently has integrated well into all schools, the issue of funding the fruit remains central to the sustainability of the scheme. The majority of parents are positive about paying for fruit (76%). Likewise many of the schools are either positive or have come up with a number of alternatives and options for dealing with obstacles they may encounter. These alternatives include asking parents to supply their own fruit, fundraising, tuck shops funding the younger classes, seeking the most cost-effective fruit supplier, seeking parents’ views and incorporating parents into the decision making process.

Some schools have been actively looking towards the future in relation to fresh fruit and what they can do to sustain the scheme themselves. A common feature among the case study schools is that many have made an attempt to determine what parents’ views are on paying for fruit in school. Those schools that have asked parents their opinions on paying for fruit are increasingly positive about the future for fruit in schools regardless of whether they have a low, medium or high FSM level.

Anecdotal reports from P1/P2 parents who do not currently have to pay for fruit give the principal in one school the view that it might be acceptable to parents to pay a weekly contribution. These reports from the principal indicate parents view the scheme in a positive manner as they no longer have to provide their children with something to eat for break.

*“They said ‘it was great, you’d never have to think of break’ so you’d probably have a reasonably positive response. We would survey and find out how many are opting in. I think there are ways around it and I don’t see it as a major difficulty.”*

One school which currently asks parents of children up to P5 to pay and parents of P6/P7 pupils to supply fruit is now considering expanding the scheme and providing the whole school with fruit, given the experiences they now have of promoting healthy eating. Although parents of older children have not yet been canvassed, this school considers that parents will accept the change as the current younger classes all pay and more and more children attend reception or nursery classes, which often now ask for payment for fruit or similar healthy breaks.

*"We'd try to do it for everyone. The present P5 will be P6 next year, so really it would just be one other class. The present reception class is used to bringing in £1 a week so hopefully it will continue."*

Paying for healthier type breaks is becoming part of school life from a very young age. One school in particular reported they will try their best to continue the scheme although they envisage they might have to ask parents for more money. To try and minimise this they are hoping to source a cheap supplier of fruit to make the most of the money they receive.

*"We were just saying that because the P1s and P2s are in such good habits now of eating fruit and the parents are happy with them having such good habits that they will continue it on. We were saying that to continue it on we might up the money and we're just going to source around and get the cheapest possible supplier."*

The school that runs a tuck shop is also looking positively towards the future of fruit in schools and plans to continue with the scheme as is, with one exception. The school currently uses LfH funding to pay for fruit for P1/ P2, (as they have difficulty handling money to purchase fruit themselves) and feel strongly that they would like this age group to continue to receive free fruit. The principal has a strong belief that P1 should definitely receive free fruit in order to introduce them to healthy eating, but whether or not the school can do that through self-funding the scheme via the tuck shop is not yet clear. The principal, however, hopes to generate the funds to provide fruit free to P1s from the income generated from older children paying for fruit.

*"I would like to think P1 could be enticed by fruit as it would mean we could say that the children did not have to bring anything for break. Can we generate enough funding to do that without any assistance? I don't know. I would hate for it to flop at the first stage, at P1, but I would make every effort to generate from within. I think the initial stage is very important. Just for the first year if fruit was available the habit established. I'll have to be looking at my sums – I would hope we would [be able to provide fruit to P1]."*

One obstacle suggested by some principals in schools in high FSM areas is that it can be difficult to get money from parents for even one child and for one scheme, eg milk. Another fear the schools have about asking parents to pay is the possibility of not all children receiving fruit, especially those children who receive FSM. The schools fear this would heighten inequalities.



*"Parents won't be happy campers. I know what would happen, there would be parents who would turn round to you and say 'I'm a free meals person I can't afford it!'"*

One school fears if money was not available to subsidise the fruit then the scheme would fold as the price of fruit would probably have to double. The principal perceives that parents funding fruit would have a major impact as many of them have more than one child in the school and it simply won't be feasible for them to ask for money for such a range of different things and for several children. However this school has yet to seek parents' views and therefore holds a more cautious attitude towards the future of fruit in their school.

*"It couldn't be sold at that price if there were no more grants available. If the money from HAZ wasn't available the fresh fruit would fold. There's a number of things going on in the school, it's not a bottomless pit, the parents are paying for milk, break, you can't possibly keep asking them week upon week when its getting to maybe £5 a week; something has to give. It's £2 a month but if your gradually going to work it up it would go to £4 a month and if you've three kids in the school that would be £12, on top of that milk for £6-8 you're up to £20 a month plus break time before you know it you're up to £40."*

Although the additional costs outlined above illustrate a difficulty facing schools, this can be tackled through a number of means, including the introduction of nutritional standards in schools.<sup>15</sup> The introduction of nutritional standards means that although children previously have paid for milk at break, milk will now be available within the school lunch and therefore integrated into the cost of school lunches for those who pay and available daily to all those children receiving FSM.

One school that currently uses fundraising initiatives to sustain the scheme at present has learnt a lot from their experience of charging for milk in the school and sees a similar scenario occurring with fruit.

*"At the start of the year three quarters of the class would take milk; by the end of the year it's down to either a quarter or a third. Part of that is the children declining to take it but part of it is children not bringing money in. There's the fall off in milk and I'd imagine there would be a fall off in fruit if we started charging."*

This school (high FSM level) chose to tackle this problem by not asking parents for money for fruit on a weekly basis but by trying to fundraise to cover the costs in the form of a sponsored walk. This approach also takes pressure off staff in asking children for money on a weekly basis. It was also perceived as the most equitable approach, as it negates any problems when not all children pay and means that all children can have fruit.

*"I think it [fundraising] is a good idea and the teachers think it's a good idea. We find it hard enough to get the money for the milk. Rather than lose out, as there's a question of equity and fairness, if some children didn't bring money do you deprive them of it [fruit] or is it fair to give children fruit that they don't pay for? So this way nobody is being asked to pay for it."*

All schools are now considering passing on the cost to parents, including the school that uses fundraising. They envisage that there may not be enough money raised to sustain the scheme in all year groups. One principal reports the funding climate has made them consider their dedication to the scheme. An unsubsidised scheme may mean the school will have to reduce the fruit available to only the P1 pupils unless parents regularly pay for fruit. However the school will try to gauge the attitude of parents to this in the future.

*“The changes this year; it has made us evaluate how much we’re committed. If you get the full money, it is easy to be whole hearted about it. At 50% funding you have to say is this a worthwhile way of spending our sponsored walk money and to date the staff feel that it is. If all the funding was withdrawn we just wouldn’t be able to afford what we’re doing at the minute. We would have to restrict it to P1 and try and implement some way of charging. Then we would see the commitment of parents or the attitude of parents to the idea.”*

However, despite these concerns, the survey of parents indicated that the majority who reported being happy to pay had children in schools with a high level of FSM. This emphasises the strong communicative link that schools need to have with parents for such schemes to be sustained. Schools that are concerned about the future of the scheme are pre-empting parents’ response. If schools inform parents about the advantages of the scheme and make them part of the consultation process this may influence parents’ willingness to pay. Schools need to inform parents of the benefits and make paying for fruit as convenient as possible, eg one termly payment or possibly offer reduced rates for families as an incentive.

Another of the alternative options used in one school is instead of asking parents to pay for fruit is asking parents of older children to provide their own fruit while maintaining a strict no high fat and/or high sugar snack policy. This has the added advantage that parents have to bring fruit into the household and therefore the healthy eating message may further spread into the family environment.

One principal reported that the success of the scheme has arisen because of the added benefits of the support of the HAZ and the initial financial contribution from IfH that the school has received prior to changing arrangements. This has acted as an incentive and has helped the school progress and expand healthy eating in a school based setting.

## Expansion of health initiatives beyond Fresh Fruit in Schools

Many of the schools who are positive about the future of the schemes strongly believe that the health agenda has now changed. Changes in health can now happen in schools and are acceptable to both the schools and parents.

*“If I’d have tried this five years ago it wouldn’t worked. It was equally important five years ago but it hadn’t been talked about. It wasn’t cool, it wasn’t ‘mod’, it wasn’t up to date and I couldn’t have done it five years ago.”*

Many of these schools had resisted previous efforts by health agencies to engage them in health promotion, eg oral health or healthy eating initiatives. Schools and Fresh Fruit in Schools steering group personnel (at local and regional levels) became aware of channels of communication and partnership opening between schools, health professionals and agencies in the first two years of

the scheme. This has been achieved by an increased awareness among school teachers and principals about the importance of the health of children. Indeed, one school principal reported the Fresh Fruit in Schools scheme made her and her fellow teachers much more aware of the whole health and wellbeing agenda and this has encouraged the school to take on other schemes, including Health Promoting Schools.<sup>16</sup>

*“My awareness being raised has put me down the Health Promoting Schools route. It’s bound to have knock on benefits because that involves further communication with parents and that has to be good and that will involve pastoral care and various other issues.”*

Over recent years, nutritional standards have been implemented into many schools. Over a fifth of schools (23%) taking part in the Fresh Fruit in Schools scheme were also part of the nutritional standards pilot.

To try and examine the relationship between Fresh Fruit in Schools and other health promotion activities further, schools were asked about other health promoting activities they may be involved in and whether or not these activities began prior to or after starting Fresh Fruit in Schools. Table 3 illustrates activities that schools are participating in and whether these activities were established before or after the Fresh Fruit in Schools scheme began.

**Table 3: Schools involvement in other activities which promote healthy eating and whether these activities began before or after the fruit scheme:**

|   | Scheme currently operating in school (%) | Established before Fresh Fruit in Schools (%) | Established after Fresh Fruit in Schools (%) |
|---|--|---|--|
| Milk supplied in school                           | 85                                       | 91  | 9  |
| Encouraged to bring fruit to school               | 84                                       | 45  | 55   |
| Restriction on certain drinks in school           | 74                                       | 59  | 41   |
| Restriction on certain foods in school            | 69                                       | 61  | 40   |
| Healthy snack scheme                              | 69                                       | 54  | 47   |
| Local healthy school awards                       | 37                                       | 35  | 65   |
| Other dental scheme                               | 36                                       | 52  | 48   |
| Water cooler scheme                               | 34                                       | 27  | 73   |
| Breakfast supplied in school (formal or informal) | 25                                       | 47  | 53   |
| School’s own fruit scheme                         | 24                                       | 25  | 75   |
| Healthy tuck shop                                 | 8  | 29  | 71   |

The most popular activities for schools to be involved in are milk provision (85%), encouraging pupils to bring fruit to school (84%), restricting certain food (69%) and drinks in school (74%), and a healthy snack scheme (69%). Although some of the schools report these schemes were in place before the Fresh Fruit in Schools scheme, nearly half (47%) established a healthy snack scheme after Fresh Fruit in Schools was introduced. The Fresh Fruit in Schools scheme appears to have boosted the confidence of staff to promote, formalise and extend these schemes throughout their schools.

*"We formalised the scheme more this year and gave it a higher profile. We had at the start of year been aware about the P3/P4s who didn't get fruit anymore. We'll push healthy breaks to them but I thought we might need to push it through to P7. We encourage healthy breaks; not in an official scheme as we maybe shy away a bit from the extreme boost better breaks, but we have plugged it this year and we notice there's a significant amount of fruit throughout the school."*

Although some schools initially reported they weren't sure they had the rights to enforce such policies or worried about criticism from parents, the parents' survey revealed many parents are also of the opinion that healthy foods should be provided in schools (94%). A growing number of parents believe that schools should ban chocolate bars, biscuits, sweets and crisps (69% in 2006 compared to 65% in 2004). More parents now believe that schools should ban fizzy drinks, 88% in 2006 and 83% in 2004.

Almost a quarter of schools have introduced their own fruit scheme. Three out of four of them had done so after Fresh Fruit in Schools was introduced. A quarter have introduced breakfast (either formal club or informal) and again over half were established after implementation of Fresh Fruit in Schools. This would suggest that successful implementation of Fresh Fruit in Schools and the partnership links it has created have encouraged some schools to go further into a healthy schools culture and encouraged them to become more open to health initiatives in general.

Another development which emphasises the new healthy school culture has been the introduction of drinking water throughout the day at school. The school survey indicated over a third of schools now have water cooler schemes in place. Principals report that a changing ethos or culture is now evident in schools. Children will now accept things that previously the schools would not have been able to implement.



*“The other thing is at that time you couldn’t get children to drink water but it’s cool to drink water now because they see all the sports stars and all the bands, they’re all drinking water. It’s even cooler to drink water than milk so we’ve had no difficulty with that. The problem with water in this school here is that there’s no drinking water in school so children have to bring their own water with them.”*

Some of the schools reported developing new networks with other schools. One school who had successfully turned a high sugar, high fat tuck shop into a fruit tuck shop had just begun to help another local school not involved in the fruit scheme develop a similar scheme. Outside agencies are also becoming involved with schools because of their participation in the fruit scheme, such as local councils who provided chopping boards and knives.

*“The chopping boards were sponsored by [name] district council, and they also gave knives. The council heard of the initiative and wanted to jump on the bandwagon.”*

Although the schools were only directly asked about healthy eating initiatives in the survey, qualitative research showed schools expanding into wider schemes such as physical activity. Many of the schools also report expanding into exercise programmes or entering more sports competitions.

*“In the morning time the children walk around an all weather pitch; from the children come in the morning until the class starts a teacher supervises them, that’s from P3–P7, it’s not really suitable for smaller children. This started at the end of the last school year. We started this because there was quite a bit of football taking place. This meant a very limited number of children were taking up a lot of room. A few were being very active and the rest where more or less restricted in their movement. From the point of view of supervision, it’s great to have them all in the eye of one person, plus the fact there’s so many children involved that would not be involved in the football.”*

Only one of the case study schools identified a link between healthy lifestyle and mental health. This school was dedicated to pushing healthy living beyond nutrition and physical activity by improving self-esteem among the children.

*“That’s all part of our school development plan. It’s time we looked at ourselves, forget about the literacy and maths to a degree. We’ve beaten literacy and maths to death. It’s about what we put in us, and how we interact around the school with each other. It’s about building up self-esteem, it’s about getting physically fitter, and it’s about eating better food. All down the school we do circle time a lot. We say something positive about one another. I say one of the big problems we have as adults is that we never say anything good about our friends until they’re dead, and that’s a problem, but that’s the way we’re reared. We just nit-pick holes in people’s character. We need to get kids to buy into the positive bit and I’m telling you, that takes time, you have temperament now... that tends to be aggressive more than nice and friendly. It’s linked to bullying, antisocial behaviour, low self-esteem; it’s linked to a bad attitude.”*



## Wider impact on parents' awareness and family eating behaviour

The opening of the channels between parents and schools has meant many schools are now realising the importance of the school setting in healthy eating and the importance of incorporating a diverse group of individuals into the school's processes. As it is very difficult to change attitudes without bringing parents on board, schools are now involving parents a lot more in schemes and providing information to parents on healthy eating. One school reported looking at the possibility of having health professionals give healthy eating talks to parents at school inductions as a method of disseminating messages into the home. Other schools reported inviting parents to the schools for healthy eating week and getting them and their children to taste and enjoy healthy foods together.

*"Every third term we have a healthy eating week and we encourage parents to take part. Last year we made smoothies and the parents came in and we had smoothie tasting sessions."*

Beyond this the evaluation wanted to look at wider impacts of the scheme. Parents were also asked to describe (unprompted) what three changes they could make to their eating habits to make them healthier. The top three things reported were eat less junk food such as snacks and fizzy drinks (52%), eat more fruit (48%) and eat more vegetables (30%). These figures were higher than those reported in the previous year when the top change reported was to eat more fruit (42%) followed by eat less junk (31%) and eat more vegetables (27%). This shows an important transition where parents are now putting more emphasis on reducing junk food as well as increasing consumption of fruit and vegetables.

Parents were also asked about changes they had made in the past twelve months to their own and their families eating habits. When results were compared to the previous year it initially appeared that fewer parents were making changes for themselves. For example 34% reported eating less fatty or fried foods in 2004 while 21% reported doing this in 2006. However, parents were also asked to report on what changes they had made to their families eating habits over the last twelve months. It appears now more parents have tried to make family based changes in 2006. For example, in 2004 67% of parents reported trying to get their family to eat less fatty or fried foods; this had increased to 80% in 2006. Similarly only 47% of respondents reported their family was eating less processed foods like sausage rolls, pies, etc in 2004 compared to 70% in 2006. A large increase was also observed in those who were trying to use more low fat foods and increase fibre in their diet.

This apparent new focus on healthier eating corresponds with an increased knowledge of nutrition messages. Ninety one percent of parents stated they were aware of recommendations for fruit and vegetables intake. Of these parents, 98% correctly identified they should consume five or more portions of fruit and vegetables a day.

Other positive changes in the family's eating habits were also reported. For example fewer parents agreed with the statement "my child does not like to eat healthier food" in 2006 (16%) than in 2004 (26%). Similarly, a rise was also seen in the number of parents reporting their children were eating healthy enough food (59% in 2004 and 70% in 2006). A third of parents (33%) in 2004 reported their children find healthy eating "boring or tasteless" compared to only 21% in 2006. Fewer parents also reported their child asking for foods they see advertised on TV or in the supermarket.

## Getting the basics of Fresh Fruit in Schools right

From the surveys and case studies many fundamental elements have been identified which contributed to the success of the scheme, despite differences in FSM levels within schools. These factors for success are centred on the initial set up of the scheme, the preparation of fruit, the promotion of fruit and the staff attitude within the school, particularly the principal's commitment.

All schools mentioned the need for classroom assistants/volunteers etc to prepare fruit. Without this vital link the time for teachers to prepare fruit would have to come out of teaching time within the classroom and could not, therefore, be justified. This would also impinge on the children and the amount of time they have to consume fruit and to play after the fruit is eaten.

*"The teachers were concerned that they would have to cut the fruit but we have got round it. We have voluntary parent helpers but if we didn't have them, there might be concerns. They cut the fruit up into small portions so children are encouraged to have different portions rather than getting an apple everyday."*

*"I think the concerns [around the amount of time it takes to eat fruit and how it impinges on play time] are still there with P1, but we moved into the enriched curriculum at the same time as Fresh Fruit in Schools was introduced. There's far less formal time and there's more time for play for the children being happy, there's more time for talking and so it's fitted in better than it would have done otherwise."*

While availability of classroom assistants and variety of fruit are among the key indicators for success it should be remembered that the teacher's attitude has a large part to play in such schemes. All schools still use the posters, stickers and incentives for all P1 and P2 children to help introduce them to the fruit. However, while some principals believe eating fruit at a young age forms a habit of fruit eating, others believe that it needs to be consistently reinforced throughout primary school for many years before it can become a true habit.

*"I think it's absolutely part and parcel of any curriculum. Fruit features strongly in class maybe because there is a focus on it in school. They would refer to it in science when they are talking about healthy eating or care of the body, the reference point of fruit is always there and the importance of eating five portions of fruit and vegetables a day. P7 have had fruit for five or six of these years. I think it would still have to be reinforced. We're all more aware but young people need to keep seeing it. For example young people who smoke, they have the information, they know it's dangerous, but they still do it."*



Part of this reinforcement of the scheme is achieved by having a healthy breaks policy in schools. It can be seen throughout the case studies that where healthy breaks are not in place children will continue to eat high fat and/or high sugar foods alongside the fruit.

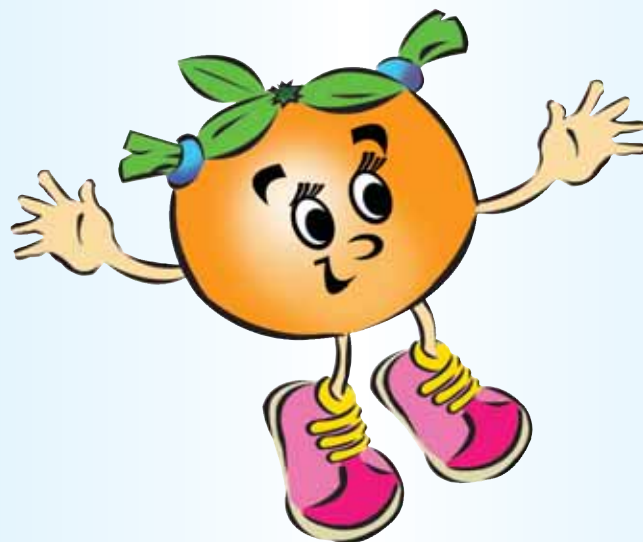
*“Some kids still smuggle crisps in but I confiscate them especially [from] the older ones. If we didn’t have an embargo I would say the children would be bringing them in. I don’t think that we’ve changed anybody’s habits and I wouldn’t like anybody to think that we’re trying to claim that. Without a doubt you have to reinforce, your teachers have told you about it, your mum knows about it, it’s on the school rules along with you have to walk rather than run, we listen when other people are talking.”*

The attitude of the principal and staff towards maintaining the scheme can result in the success or failure of schemes. The attitude of these individuals has a key role in how well the scheme works and if it continues within schools. The principal is the major driving force behind the scheme and how it is sold to the rest of the school. Some principals show high dedication to healthy eating and pass the healthy eating message along.

*“I’m absolutely passionate about the importance of healthy diet. I think as educators there’s not much point having highly educated people who won’t live for very long and are not going to have a healthy lifestyle.”*

The staff are also an important driving force of the scheme, as they are vital in helping many children take the first step into the whole experience of tasting fruit and then becoming regular consumers.

*“It was introduced in P1–P3. They would have been the teachers who would have been most concerned about the scheme. The dental people have been in and said about how bad the teeth were not just in our school but in the whole area, the worst in the UK. Teachers were concerned about how they could improve this and teachers are aware they have an obligation to teach good eating habits as well as everything else, so once the talk started in the staff room and everything else we were going down this road.”*



## Discussion

### What difference does continuing to provide fruit beyond P2 have on sustaining children's fruit consumption?

Findings indicated that where fruit is provided children will continue to consume it. However a withdrawal of fruit quickly leads to a decrease in fruit consumption to a level observed prior to the scheme. The continued measurement of fruit consumption in phase four of P3 children in June 2005 showed a statistically significant decrease in fruit consumption for both sets of P3s, ie those who continued to receive free fruit and those that did not. However, those children who did not have fruit provided in P3 showed a drop in fruit consumption to the level observed prior to the introduction of the scheme. This might suggest that habits are not yet formed after two years.

Possible reasons for this decline in P3 could be decreased promotion of fruit in school to children in P3 and older, and decreased promotion of the value of fruit to their parents.

Schools have illustrated throughout the case studies that fruit is actively promoted through the use of incentives, stickers and posters aimed at the P1 and P2 children. However the school principals offered little evidence of promoting fruit to older children. There may, therefore, be a case for the continued promotion and reinforcement of the importance of eating fruit within schools beyond the first two years for a sustainable habit to form.

As the findings illustrate, when schools no longer supply fruit to children parents no longer send fruit in. There are many reasons for this, eg fruit is often not promoted as a break time snack by the school at this stage, so parents are forgetting the importance of fruit. No policy or poor enforcement of break time healthy eating policies in some schools may also be partially responsible for this.

More importantly, it may be indicative of children exerting an increased freedom of choice which comes with age. No change was observed in snacking scores, which might suggest that children appear to choose not to have fruit rather than to return to high sugar and/or high fat snacking. However, this may also be related to whether schools have a healthy breaks policy in place.

Changing habits is a long term process and this evaluation demonstrates healthy eating habits may not yet be formed within the first two years of school. They must be continually reinforced throughout primary school. This may be especially true for many children who may have had their first taste of fruit through Fresh Fruit in Schools. This may be a changing scenario, however, as many nursery schools now offer fruit for break so children are exposed to fruit at a much earlier age and accept it as the norm.

It should be remembered that it is not the sole responsibility of the school to ensure that children continue to consume healthy food and develop healthy eating habits. As the 2002–2004 summary evaluation had previously highlighted, children may be obtaining mixed messages from school and parents with some parents suggesting the fruit received in school cancelled out the junk they get at home.

## New arrangements for Fresh Fruit in Schools

In 2005/2006 many schools had more freedom to implement their own fruit arrangements. Many schools realised the success and benefits of the scheme for P1/P2 and had expanded the scheme to include other year groups within the school.

Schools were now more likely to include parents in the process by informing them or involving them in decision making about school procedures, eg asking for their views on school policies on paying for fruit, sending home dinner menus etc. As well as schools incorporating healthy eating into children's homework, some produced leaflets and newsletters to go home to parents on healthy eating. Engagement between school and parent is probably one of the most important outcomes and learning points of the scheme as children need to be hearing the same information from parents and the school for true changes in eating behaviour to be implemented and sustained.

## Delivering fruit to schools

Within the first two years of Fresh Fruit in Schools two different models of fruit supply were used, one in which schools sought a local supplier and another in which fruit was provided through the school meals service. Although at the time all schools reported both of these models to be working satisfactorily, those who got their own supply of fruit were slightly more satisfied with the variety and quality. In the last year of Fresh Fruit in Schools more schools switched from having fruit provided by the school meals service to having a local supplier and are much happier with the quality and cost of fruit. One school reported they get more for their money from the local supplier rather than the school's meals service, while all case study schools who changed indicate the quality and variety of fruit from a local supplier is superior to that received by the school meals service. No schools reported any problems with having to organise their own fruit supply and only one school mentioned the bureaucracy of keeping accounts.

## What aspect of the new arrangements has affected children's diet?

### Quality and variety of fruit

Although consumption studies were not carried out in the final year of the new arrangements because of the short timescale, schools report the improved quality of fruit received from local suppliers positively impacts on children's fruit consumption. Schools reported that previously children who did not wish to consume fruit that was bruised or not fully ripened are now willing to eat the fruit.

Many schools in the scheme now also receive a variety of fruit from local suppliers which is then distributed to children, giving them more choice. This is an important issue. As children grow it cannot be expected that they will just eat a single type of fruit; they need to have choice and variety, just as adults do. Many schools are now aware that a variety of fruit helps to broaden children's tastes. However, some still receive and distribute only one type of fruit each day.

Teachers would report that this limits uptake but acknowledge that providing a variety of fruit is often restricted by a number of factors, including how often fruit can be delivered to the school by local suppliers and the storage facilities within the school.

## Healthy breaks policy

Having a healthy breaks policy in school appears to strongly reinforce the healthy eating message, but there are many different approaches to this. Some schools make a gradual change from high fat and/or high sugar foods and drinks to fruit consumption. This is often the case in low FSM schools. Other schools (mainly high FSM schools) set a date and impose an immediate elimination of high fat and/or high sugar products. Although this may be more difficult for children to adjust to, many schools report that children are very accepting of these policies. While each of these approaches gets schools to the same point, there does not appear to be any better approach to introducing healthy breaks. The route taken appears dependent on the principal's views and how easy or difficult he or she perceives it to be to enforce a ban.

Whatever the decision, it must be ensured that children are well informed about not only when the changes occur but the reasons for such changes happening within their school. Children are more unlikely to be accepting of things that they do not fully understand. However, where high fat and/or high sugar drinks remain in a school, especially if they are for sale, they will continue to be consumed alongside fruit. Although schools which allow high fat and/or high sugar snacks report a decrease in the consumption of these foods with the introduction of fruit, it is difficult for children to resist these foods when they are allowed within the school. Schools also need to be sure if they introduce healthy breaks policies that they provide some healthy eating information to parents so the message is reinforced and children do not receive a mixed message at home.

## Can parental funding sustain fruit in schools?

Those schools which have planned for the future of the scheme are more than happy to continue with the initiative. Many of these schools have previously implemented parents paying for fruit, have introduced school fruit tuck shops or have raised the issue of payment for fruit with parents. Other schools that have not taken this step remain reserved and are unsure of how parents will feel about paying for fruit. However, the present research carried out with parents illustrates many are now very supportive of fruit in schools, with 76% of parents who currently receive free fruit being willing to pay. This does, however, need to be coordinated alongside healthy breaks policies as there may be a tendency for parents to provide snacks from home rather than fruit if these policies do not exist.



The parents survey also showed 94% of parents believed their children had a healthier diet because of fruit in school and 61% now buy more fruit as their child asks for it. Some principals reported being nervous or perhaps considered they were overstepping the mark when it came to introducing healthy eating policies. However the majority of parents revealed they would be happy for the school to ban high fat and/or high sugar foods (83%) and sugary drinks (88%).

Parental influence is important throughout all schools and this can be a fundamental factor when considering how the scheme can progress in different types of schools. For example, in those schools with low FSM entitlement, paying for fruit may be acceptable, while in some schools with higher FSM entitlement levels it may not be feasible to ask for parental contributions. This can often be gauged by schools by how easy or difficult it is for them to get contributions for other items, eg milk in school.

However the integration of other school policies impacts on this. For example the new nutritional standards make provisions so that every child who takes school dinners can have a glass of milk with lunch. Introducing healthy breaks schemes limits what children can have at break time and may encourage parents to buy fruit at home to send to school. The previous parents' survey (2004) illustrated that 59% of parents incorrectly thought they did not need to send fruit to school as the school provided it, however this had fallen to 51% this year. The promotion of healthy eating needs to continue and should include ongoing work with parents so they become more aware of what their children eat and drink both in and outside of school. As healthy eating has received more media attention over recent years, parents have become more aware of healthy eating practices and have given more consideration to what their children are consuming inside school.

The issue of parents paying for fruit does create a difficulty for some schools as it has to be accepted that not all children will get fruit. It may also be the poorest and most deprived children who will miss out on fruit and therefore the scheme itself may exacerbate inequalities. However, contrary to some principals' perceptions, the results indicate that parents of children in the high FSM schools are more likely to be happy to fund fruit in school, probably as this group have seen the greatest improvements in their children's eating habits. It should be remembered that education, openness and communication between the school and parents may ultimately influence parents' willingness to pay for fruit. There are other methods available to provide fruit to all children, such as fundraising, which allows all children to receive fruit whether or not their parents have paid. In addition other options such as fruit tuck shops offer additional benefits for children such as learning about money and choosing foods for themselves.



## What will drive the continued success of Fresh Fruit in Schools into the future?

### Principal attitude and motivation

The attitude of the principal and other staff members in the school is a key factor in how well the scheme works and whether or not it continues within schools. The principal is the major driving force behind the scheme and its expansion into the rest of the school. While some principals have maintained the scheme as it was initially devised for only P1/P2 pupils, others have developed the scheme to make it available to older pupils within the school or even in some cases the whole school. Principals have to monitor the healthy eating policies and fully support their implementation into the schools. In part this is driven through the support of the local HAZs. In essence the Fresh Fruit in Schools scheme will fail in schools whose principal is not totally dedicated to the ethos of healthy eating.

Dedicated principals cannot however drive these schemes forward alone, but need to incorporate everyone involved into the ethos of the schemes. For instance, many schools are now involving parents a lot more within school activities, arranging open nights and information sessions to ensure parents have a greater understanding of what a healthy lifestyle is as possible so that everyone is driving the same health message to children. Others implement and advertise their fruit schemes within the school policy, therefore parents are fully aware of the commitment of schools to healthy eating.

The staff members are also an important driving force of the scheme. They are vital to helping many children take the first step into the whole experience of tasting fruit and then becoming regular consumers. They are the ones who children listen to on a daily basis and can encourage children through learning, posters, and incentives to try the different types of fruit. This encouragement is necessary throughout the initiative, whether children are in P1 or P7, to continually reinforce the healthy eating message so it is well understood by children and also driven home to their parents.

### Parents

Increased support for restrictions on unhealthier types of foods was observed in the current evaluation, with 69% of parents supporting schools restricting high fat and/or high sugar foods and 81% of parents supporting schools banning sugary drinks. This shows the growing support schools have for implementing healthy food consumption in the school setting. This will become increasingly important with the evolution of the extended school. Increased evidence of parents also making changes in the family diet rather than just their own diet suggests that a healthy diet is now becoming more and more accepted by parents. Parents are more aware of healthy eating practices through both the media and schemes such as Fresh Fruit in Schools.

The expansion of the scheme into healthy breaks programmes and the addition of nutritional standards in several schools has made the health agenda even more prominent and created a vital link to parents. The support of parents for the Fresh Fruit in Schools scheme is evident and the advantages parents' can see from the scheme, such as improvements in their child's eating, is often directly seen in the home by parents. This acts to reinforce parents' positive attitude about the Fresh Fruit in Schools scheme and will therefore result in the greatest chance of a sustained scheme. The greatest example of parental support is noted from the high percentage of parents who currently receive free fruit but would be willing to pay for fruit in school (76%).

## Conclusion






The Fresh Fruit in Schools pilot scheme has been a highly successful initiative even in schools which have previously tried unsuccessfully to introduce a fruit scheme. The scheme has allowed schools to have support from local HAZs, IfH and other health professionals to provide a fruit scheme/healthy breaks policy in schools. The financial and practical support provided by the scheme has given many schools the skill and confidence needed to set up fruit schemes and take on other health promotion initiatives. The support the HAZs have offered to schools over the previous four years has gone beyond initial set up of the scheme. It has extended to become a continuing support system with principals' seminars, good practice guides, healthy eating and lifestyle short courses and talks offered to promote, encourage and support individuals involved in the scheme. The scheme has also increased partnership working with HAZs and also with health professionals, eg oral health promoters and dietitians, and has encouraged schools to involve parents. The flexibility of the Fresh Fruit in Schools scheme has allowed schools to develop different models for the scheme to investigate sustainable independent mechanisms.

The fruit scheme has identified some positive legacies, but it is also important to acknowledge learning about the limitations of the scheme. It has highlighted the complexities of school-based intervention and the difficulties of sustaining involvement. It is noted that fruit consumption was not sustained when provision was withdrawn.

The key lesson that can be learnt is that for programmes which promote fruit to stand the best chance of being successful they need to be part of a whole school approach to food in school.

A good quality fruit supply is the initial starting ground of the scheme and will encourage the greatest consumption of fruit. Furthermore on going promotion for the scheme to pupils and parents is an important factor in its success. Beyond this the dedication and commitment of the principal and staff is fundamental to its success. A principal who shows drive and enthusiasm and a passion to deliver the healthy lifestyle message to children will make the scheme successful. A principal dedicated to the health and wellbeing of children can drive the scheme forward in a school, regardless of the level of FSM, by selling the programme to teachers, parents and children alike. However as some principals mentioned it would be difficult to initiate without the financial and practical support provided by Fresh Fruit in Schools over the first two years and it may be that new schools taking on a similar scheme will need initial local support.

### Lessons for the future:

-  source a good local fruit supplier who can provide good quality produce on a regular basis;
-  try to insure a variety of fruit is offered each day;
-  inform children and parents of the reasons why fruit should be consumed;
-  invite parents' views on paying for fruit;
-  make paying for fruit as easy for parents as possible, eg paying on a monthly/termly basis or offer discounted rates for more than one child;

🍌 get classroom assistants/parent volunteers involved in preparing fruit for children;

🍌 promote healthy eating and the scheme within the curriculum throughout all year groups of the school.

Since the Fresh Fruit in Schools pilot was introduced, and particularly during the last year, there have been a number of significant developments in Government policy relating to food and nutrition in schools, both at a UK level and within Northern Ireland. The most significant developments relate to healthy schools policy, school meals and other food provision in schools.

In respect of healthy schools, for example, school development regulations now require all schools to consider the arrangements for promoting the health and wellbeing of their staff and pupils as part of the school development planning process. The guidance on the regulations requires that the issue of food in schools is considered when reviewing arrangements to support health and wellbeing.

In line with the *Fit Futures* recommendations, the Department of Health, Social Services and Public Safety (DHSSPS), the Department of Education (DE) and others recommend the development of a new policy framework for healthy schools, together with guidance for all schools.<sup>15</sup>

In 2005 the DE consulted on new nutritional standards for school meals. For the first time they also consulted on nutritional standards that would be applied to other food provision in schools, such as vending machines, tuck shops, breakfast clubs, etc.

Following that consultation process, the DE has embarked on a three year programme to implement the new nutritional standards, supported by an annual investment that will reach £3 million in 2007/2008. Implementation of the revised nutritional standards began during 2006/2007; it is anticipated that all schools will be participating in this initiative by the end of 2006. To support the implementation process, the DE has appointed one nutritional standards coordinator in each of the five Education and Library Boards, who will be responsible for advising and supporting staff in schools.



The new nutritional standards give high priority to fruit and vegetables in school meals and require the provision of at least two portions of fruit or vegetables as part of each school meal. The DE also consulted on whether nutritional standards should be applied to all food in schools, and on 26 January 2007 announced that nutritional standards will be expanded to all sources of food in schools.

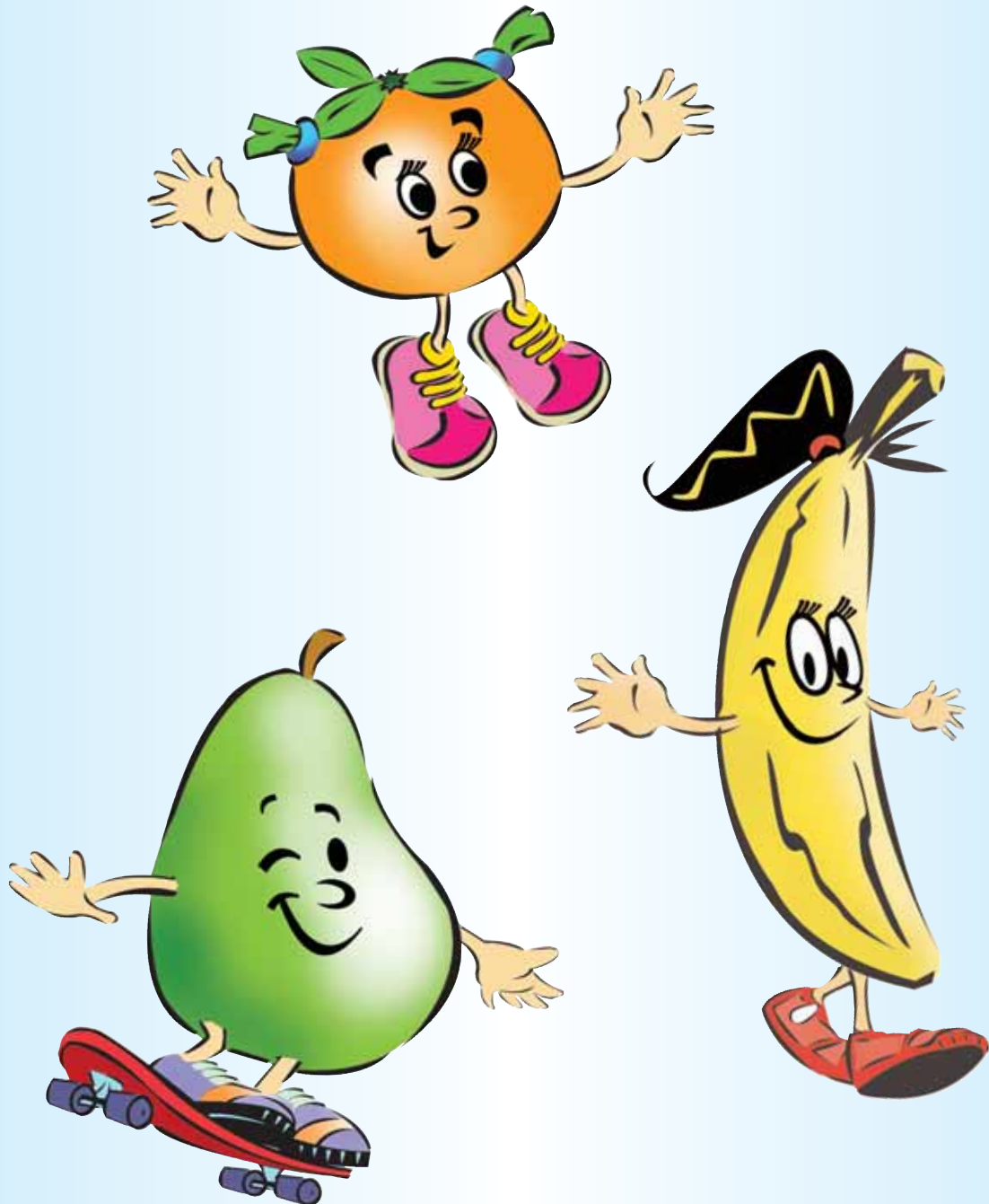
In a further move to ensure that school food policies are effectively implemented, the Education and Training Inspectorate appointed two associate inspectors, who will be responsible for inspecting food in schools as part of the general inspection programme.

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# Appendices

## Appendix 1: Evaluation timeline.

| 2005   |        |          |                   |     |     |     | 2006 |   |
|--|--------|----------|-------------------|-----|-----|-----|------|---|
| June   | July   | Aug      | Sept              | Oct | Nov | Dec | Jan  | Feb   |
| Survey of children's fruit and snack consumption | Summer | holidays | Survey of schools | →   |     |     |      | Interviews with schools and survey of parents |



## Appendix 2: Demographic profile and distinguishing variable for each of the eight case study schools during 2005–2006.

| HAZ | FSM       | Size | P1/ P2  | Rest of school   | Policies/rules  | Variable   |
|-----|-----------|------|---|--|---|--|
| N&W | 70 (high) | Lge  | Parents pay.  | Fruit available, parents pay                           | Healthy snack scheme.   | Everyone pays - strict enforcement - scheme in school policy.  |
| N&W | 61 (high) | Lge  | Free through fundraising (P1-P3).                     | Fruit not available.                                   | Healthy snack scheme, milk supplied, restricted food and drinks, encouraged to bring fruit, dental scheme.  | Free to younger children through fundraising.  |
| NN  | 52 (med)  | Med  | P1-P3 free From HAZ                                   | Fruit not available.                                   | Milk supplied. No healthy eating scheme.  | No healthy eating scheme.  |
| NN  | 25 (Low)  | Med  | P1-P3 free. School manage their own budget this year. | Fruit available, parents pay.                          | Healthy eating scheme, milk supplied, restriction on food and drinks, encouraged to bring fruit to school, water cooler scheme.   | Fruit now available to whole school - parents of older children have to pay after previously receiving fruit for free. |
| A&D | (14) Low  | Med  | P1-P3 parents pay partially.                          | No fruit available.                                    | Healthy eating scheme.  | New school to scheme.  |
| A&D | 14 (low)  | Lge  | P1-P2 free.   | Fruit not available P3-P4, P5-P7 can buy at cafeteria. | Healthy snack scheme, Healthy eating 2/3 days per week in cafeteria, milk.  | Older children no longer get fruit except if they buy it at lunch café.  |
| W   | 32 (med)  | Med  | P1-P2 free from HAZ.                                  | Can buy from tuck shop.                                | Healthy eating scheme, milk, healthy tuck shop, own fruit scheme, formal breakfast club, restriction on certain foods and drinks, local healthy schools award, water cooler scheme. | Healthy tuck shop.   |
| W   | (45) Med  | Med  | P1-P5 pay.  | Fruit not available.                                   | Healthy snack scheme, milk supplied, schools own fruit scheme, restriction on certain foods and drinks, local healthy school ward, other dental scheme.                             | New school to scheme. Parents pay, did not previously. Some children who got fruit will no longer have it available.   |

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