



# A local 5 A DAY initiative

Mapping Access to Fruit and Vegetables  
in Hull and the East Riding of Yorkshire



Just Eat More  
(fruit & veg)

## ACKNOWLEDGEMENTS

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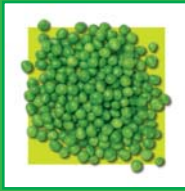
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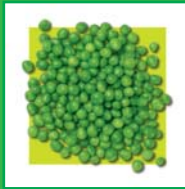
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## Mapping Access to Fruit and Vegetables in Hull and East Riding

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## SUMMARY

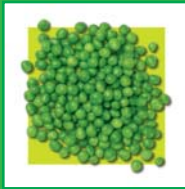
The 5 A DAY fruit and vegetables mapping exercise employed innovative quantitative and qualitative research tools including fruit and vegetables consumption diaries, participatory appraisal, focus groups, one to one interviews, a postal survey and Geographic Information System (GIS) software. The results will form a significant part of the local obesity strategy which is currently under development.

### Project Aims

- To produce robust local evidence using accepted research methods to enable us to understand and identify the difficulties and barriers to accessing and consuming fruit and vegetables in 14 communities with high deprivation indicators in Hull and the East Riding.
- To engage and involve people in accessing fruit and vegetables by raising awareness, increasing knowledge and developing skills.
- To work in partnership to ensure the mapping exercise contributes in a significant way towards the development of the local obesity strategy.

### Project Objectives

- Map physical access to shopping facilities and the range, quality and cost of fruit and vegetables available in those shops
- Identify the shopping and eating patterns of people living in the target communities
- Identify the economic and social barriers to fruit and vegetable consumption
- Identify needs and gaps in accessing fruit and vegetables



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## INTRODUCTION

### The National Context

The first cases of adult type diabetes in white children, a rare condition previously only found in children from minority ethnic groups who are known to be at risk, were discovered in February 2001<sup>1</sup>. Research links type 2 diabetes to diet and lack of physical activity. Ususally found in adults, increasingly significant numbers are now being seen in children and adolescents and is related to the increase in prevalence of childhood obesity.

The recent Government White Paper, *Choosing Health: Making healthy choices easier*, The NHS Plan, The NHS Cancer Plan and the National Service Frameworks for Coronary Heart Disease, Diabetes and Older People all highlight diet and nutrition as a key area for action to reduce cardiovascular disease, stroke and some cancers. This includes action to reduce fat, salt and sugar in the diet, and to increase fruit and vegetable consumption.

Current recommendations encourage the consumption of 5 or more portions of a variety of fruit and vegetables each day, to help reduce the risks of developing heart disease, stroke and some cancers by up to 20%. Yet, research shows that on average the population in England eat less than three portions a day, and consumption tends to be lower among children and people on low incomes<sup>2</sup>.

Evidence shows that the main barriers to eating more fruit and vegetables, are:

- **access and availability** – whether people have access to good quality, affordable fruit and vegetables locally and
- **attitudes and awareness** – awareness of the 5 A DAY message, and people's knowledge, attitudes, motivation and skills concerning preparing, buying and eating fruit and vegetables<sup>3</sup>.

In 1998 the Acheson report identified low income as one of the root causes of health inequalities and went on to say that food poverty "*going without food because of lack of money*"<sup>4</sup> is experienced by some people in lower socio-economic groups, particularly young mothers.<sup>5</sup> Food poverty was identified as the result of a complex interplay of several factors ranging from income and family structure through to transport availability and the nature of modern retailing. In other words, choice of food for people on a low income is not just determined by knowledge of what constitutes a healthy diet but by a range of other factors such as cultural practice, what food commodities are available in shops, how much food costs in local shops, budget allocated to food and distance to shops.

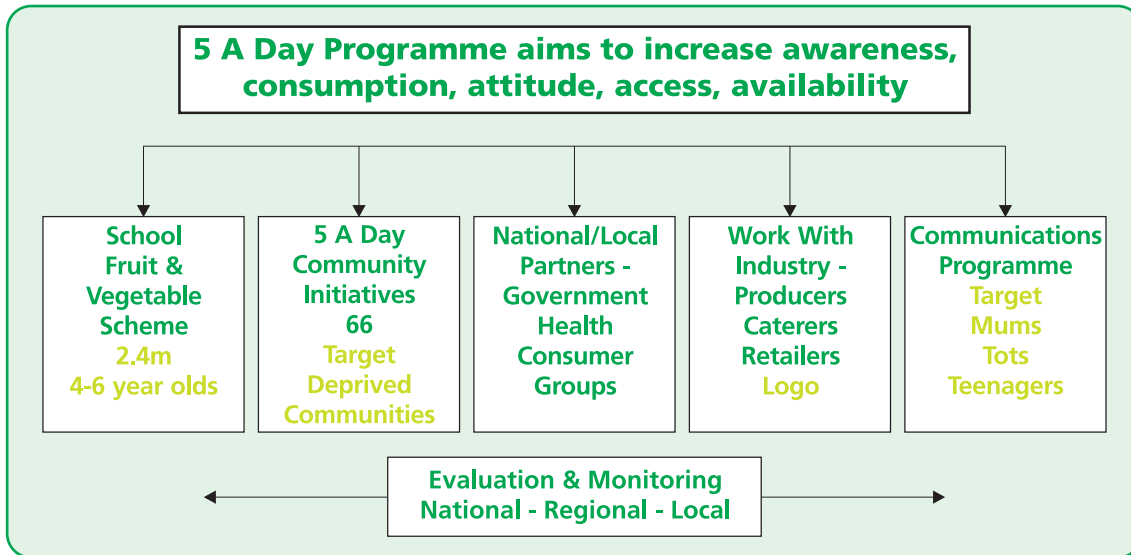
The government led 5 A DAY programme aims to increase fruit and vegetable consumption by:

- raising awareness of the health benefits of eating 5 or more portions daily
- improving access to fruit and vegetables through targeted action

# 5 A DAY



5 A DAY has five strands which are underpinned by an evaluation and monitoring programme.



## What counts towards 5 A DAY?

Fresh, frozen, canned, 100% juice and dried fruit and vegetable all count. To get the maximum benefits a variety of different types of fruit and vegetables need to be eaten. This is because fruit and vegetables all contain different combinations of fibre, vitamins, minerals and other nutrients.

## What is a portion?

Quick guide to portions

An adult portion is 80g

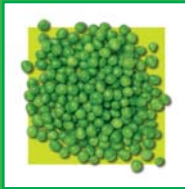
- A medium sized apple, banana, pear, orange or tomato
- 2 smaller fruits such as kiwi fruits, plums or sutsumas
- handful of grapes
- 3 heaped tablespoons of cooked vegetable such as peas, carrots or cabbage
- half of a larger fruit or vegetable such as peppers and grapefruits

These are adult sized - a child portion fits into the child's hand and grows with the child.

(For a fuller guide go to [www.5ADAY.nhs.uk](http://www.5ADAY.nhs.uk))

## The Local Context

In 2001 the national census figures placed the population of Hull as 243,500 and the East Riding of Yorkshire as 314,000<sup>6</sup>. Data from the 1994 health and lifestyle survey undertaken by the East Riding Health Authority illustrated that 10.5% of males and 9.5% of females aged 16-64 were obese and 36% of males and 24.7% of females were overweight<sup>7</sup>.



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In addition to this in 1996 the young people’s survey found that 4% of young men and 3% of young women reported never eating vegetables, and 7% of males and 5% of females never ate fruit<sup>8</sup>. By 2002 new research showed a substantial increase in these figures indicating, overall, that 10% of young people said they never ate fruit or vegetables<sup>9</sup>.

The City of Hull has significant health and socio-economic needs. 6.2% of Hull residents are unemployed compared with 3.4% nationally<sup>10</sup>, and Hull is ranked as the 9th most deprived Local Authority district in England out of a total of 354<sup>11</sup>. Women in Hull can expect to live 1.3 years less than women nationally, whilst men can expect a 2.7 year difference and early death from circulatory disease is higher in Hull than in England as a whole<sup>12</sup>. The East Riding of Yorkshire is more affluent than Hull, however, there are clear pockets of high deprivation, for example Bridlington and Goole have electoral wards with high scores on the Index of Multiple Deprivation (IMD) and levels of obesity which have doubled over the last ten years<sup>13</sup>.

The 5 A DAY initiative in Hull and the East Riding of Yorkshire initially targeted a minimum population of 100,000 in communities in each of the four Primary Care Trusts, ten electoral wards in Hull and four in the East Riding of Yorkshire, all of which have been identified as experiencing socio-economic deprivation (see table 1);

- Eastern Hull PCT
- East Yorkshire PCT
- West Hull PCT
- Yorkshire Wolds and Coast PCT

<b>Eastern Hull Primary Care Trust</b> <ul style="list-style-type: none"> <li>■ Longhill</li> <li>■ Marfleet</li> <li>■ Bransholme East &amp; Bransholme West (formerly Noddle Hill)</li> <li>■ Southcoates</li> </ul>	<b>West Hull Primary Care Trust</b> <ul style="list-style-type: none"> <li>■ Myton</li> <li>■ Newington</li> <li>■ Orchard Park</li> <li>■ Pickering</li> <li>■ St Andrews</li> <li>■ University</li> </ul>
<b>East Riding Primary Care Trust</b> <ul style="list-style-type: none"> <li>■ Goole Central and South</li> <li>■ Minster (Swinemoor estate in Beverley)</li> </ul>	<b>Yorkshire Wolds and Coast Primary Care Trust</b> <ul style="list-style-type: none"> <li>■ Bridlington Old Town</li> <li>■ Bridlington South</li> </ul>

**Table 1: Targeted Electoral Wards per Primary Care Trust**

The areas targeted were identified when the application for funding to the Big Lottery (formerly the New Opportunities Fund) was carried out. By the time the funding was received electoral ward boundaries had been changed, which brought the target population closer to 150,000. In all but the Beverley ward the new boundaries have been adhered to. In Beverley the Minster ward became Minster and Woodmansey. As Woodmansey is not an area of deprivation the old boundary was used. In addition to this the Noddle Hill ward was split into two wards, Bransholme East and Bransholme West. Both wards were included in the exercise but referenced as one – Bransholme.



## METHODOLOGY

The project collected both qualitative and quantitative information to identify local baseline indicators of current patterns, habits, issues and needs relating to access to fruit and vegetables. It used a range of research methods including fruit and vegetables consumption diaries, a postal survey, Geographic Information System (GIS) software, participatory appraisal, focus groups and one to one semi-structured interviews. This form of triangulation research integrates the inherent strengths of both quantitative and qualitative data to enable investigators to effectively study health beliefs and actions in different cultures.<sup>14</sup>

The project involved members of the community in the research process by utilizing, and providing training for, local community researchers. Emphasis upon community development work with communities was central to the process from the start to involve local people in the research process to contribute to tackling health inequalities because *“local people are the experts on their own lives”*.<sup>15</sup> This approach has developed skills in the communities which should be built upon.

Tools used in the research were piloted first to ensure they were clear, understandable and effective, and minor changes were made to the questionnaire as a result of the pilot (Appendix 1).

### Ethics

Ethical issues were considered when carrying out the research, for example ensuring the physical and emotional safety of the research participant, autonomy – a duty on the part of the researcher to value each participant as a person capable of making an informed decision – and equitable selection of participants.

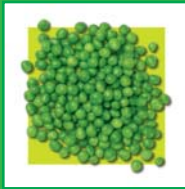
These issues were addressed through a formal application to the Hull and East Riding Local Research Ethics Committee (LREC) to carry out the research. Whilst the committee didn't feel the proposal required formal ethical approval they did offer guidance and recommendations as follows:

- Interviews with NHS patients or school children would require a formal ethical application;
- Information entered into databases should be anonymised.

These recommendations have been adhered to and it is important to note that when children were involved in any of the participatory appraisal research their parents were present and they completed fruit and vegetable consumption diaries in the presence of teaching personnel.

### The Research Team

For the purpose of this study the research team consisted of local residents and NHS professionals – all had an interest in healthy eating and community development. Training was offered to researchers where needed, resulting in two one-week courses in Participatory Appraisal, which is accredited by the Open College Network (13 researchers achieved this accreditation); and two workshops, each a day long – one covered Interview techniques and the other covered Analysing Data & Writing up Results – both workshops were delivered by the Nuffield Institute.



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## Fruit and Vegetables Diaries

In order to adhere to recommendations set out by the Hull and East Riding Local Research Ethics Committee school children were not interviewed as part of the research process. Instead Fruit and Vegetables Diaries were used to identify children's eating habits. The diaries were sent to schools and school health fairs for completion by the children under the supervision of their teachers. 6,000 Fruit and Vegetables Consumption Diaries (Appendix 2) were distributed across the region and teachers were provided with guidance on completion of the diaries and pre-paid envelopes to return them. 4542 completed diaries were returned.

25.5% of the diaries were completed incorrectly – for example, many children ticked boxes rather than entering a number – therefore, these were disregarded for the purpose of this exercise and the analysis is consequently based on 3384 completed diaries. The majority of these, over 87% (2945), were completed by primary school children, with just 13% (439) completed by secondary school pupils.

## Postal Survey

A random sample of 3,500 adults (aged 16 years or above) was selected from residents in the target areas (250 per area) who were registered with a GP on the Exeter System. A confidential, self-completion questionnaire (Appendix 3) based on the Department of Health's Five-A-Day Consumption and Evaluation Tool (FACET), and explanatory letter were sent out to these people by post during April 2004. Of these 130 were returned by the post office as no longer at the address, therefore the findings were based on the total delivered, 3,370.

Just over 16.4% of the sample had returned their completed questionnaires after 4 weeks, using the Freepost envelopes provided. A postcard was then sent out to those who had not returned their questionnaire or contacted the administrators to be removed from the database, 2,820 reminders were sent out. A further 7.6% returned their questionnaire after this reminder, bringing the total responses to 806, twenty four percent. Responses were put into an anonymous database and any additional comments were coded for ease of use.

## Geographic Information Systems

A Geographic Information System (GIS) combines layers of information about a place to give a better understanding of that place. GIS can be used for different purposes – for example, finding the best location for a new store, analyzing environmental damage, viewing similar crimes in a city to detect a pattern, and so on.

For the purpose of this research GIS was used to plot the locations of fruit and vegetables outlets including fruit and vegetable shops, and supermarkets and freezer centres, as well as community cafes and community food projects (Appendix 4). Only community projects which held sessions on healthy eating were included, for example Pickering Community Orchard, Hull which grows fruit and The Courtyard, Goole which holds cook & eat sessions. Projects which displayed posters/leaflets on healthy eating, but held no specific session, were not included.

It is important to note that for the purpose of GIS venues are plotted via their postcode and this proved difficult in some instances as certain businesses and organisations are ex-directory and finding a postcode for them was sometimes not possible. With this in mind there may be some discrepancies in the data.



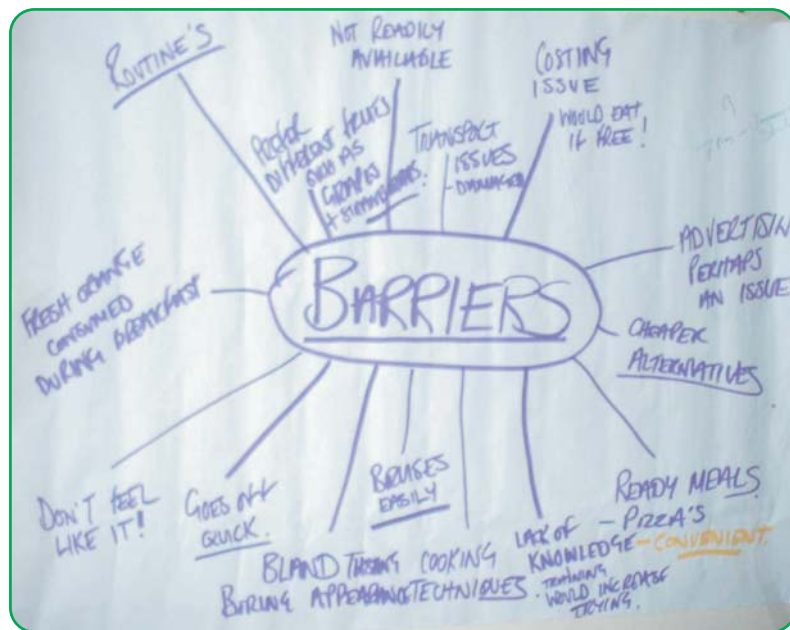
## Participatory Appraisal, Focus Groups and Interviews

### Participatory Appraisal

Participatory Appraisal (PA) is one of a growing family of participatory approaches, and is recognised as taking a ‘whole community approach’ to conducting action research. The PA paradigm uses various research methods, predominantly qualitative, with emphasis on open, direct collaborative working between researcher and subjects, offering opportunities to combine three distinct elements: research, education and collective action.

The use of PA tools allows different types of people to contribute in a way that they feel comfortable and to the level and extent that they choose. One advantage of this flexibility is that it allows the views of those people who are usually most difficult to reach, to be represented. Participatory education not only captures the diversity of local perceptions and needs, but it encourages a process where information is verified by constant feedback; all the time the facilitators asking, ‘have we got this right?’

The participatory nature of this approach enables local people to be more involved in the decision-making processes by actively contributing their knowledge of local needs and suggesting appropriate solutions on either an individual or group basis. It allows local people to identify available skills and resources, and apply them in a way, which can benefit the local community. In all 1037 people were consulted using PA across the 14 targeted communities.

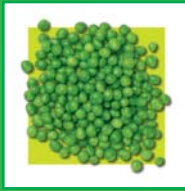


PA Tool: Spider Diagram

With PA the emphasis is placed on the use of tools and techniques, which are highly visual, which overcome any problems such as literacy. The facilitators must make sure that they use their skills to ensure that everyone who participates can do so to the level of their choice. For the purpose of this research various tools were used, including, for example, the “H” tool, the “Graffiti Wall” and “Spider Diagrams”.

### Interviews and Focus Groups

Interviews and focus groups were also used to collect qualitative data. It was felt both would be of use as some respondents may prefer to be private whilst other would be happier in groups. The same format and questions were used in both settings (Appendix 5).



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*Focus Group*

Individual interviews aim to obtain individual attitudes, beliefs and feelings relating to particular topics or issues. Semi-structured interviews were chosen to collect information and to ensure respondents were not restricted in their answers whilst also allowing the researcher to probe for more information where appropriate<sup>17</sup>.

Focus groups allow organised discussion with groups of individuals to obtain information on their views about a particular subject or issue. They are particularly suited to draw upon respondents' attitudes, experiences, beliefs, feelings and reactions in order to gain a number of perspectives. Focus groups enable researchers to gather a large amount of information in a short period of time<sup>18</sup>.

In addition to those focus groups carried out by the researchers a further group was held, to which the researchers were invited. The aim of this focus group was to clarify findings, provide supporting material to the research and to act as an exit interview for the researchers (Appendix 6).



## FINDINGS

### Fruit and Vegetable Consumption Diaries

Using fruit and vegetable consumption diaries school pupils were asked to note the number of portions of everyday fruit and vegetables they had consumed during the previous day. They were asked about their intake in various forms including fresh, juice, canned, dried and composite meals. They were also asked to indicate any other fresh produce they had eaten which was not noted on the diary. The aims of using the diaries were to raise awareness and increase knowledge about the health benefits of eating 5 A DAY and identify the eating patterns of children and young people living in the target communities in order to produce baseline information on their current eating patterns.

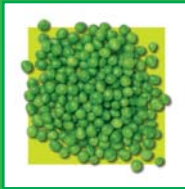
The diaries were completed by pupils during school health fairs and lessons which covered healthy eating and the need for five portions of fruit and vegetables a day as part of a balanced diet.



*Pupils at Super Kids Health Fair complete Fruit and Vegetable Consumption Diaries*

Figure 1 provides a baseline of the number of portions of fruit and vegetables consumed by all the children, indicating that 9.7% ate the recommended 5 or more portions. Of the respondents who completed the diaries 59.5% ate 2 or less and 13.8% ate none. The National Diet and Nutrition Survey of young people aged 4-18 years showed that many children eat just 2 portions of fruit and vegetable daily<sup>19</sup>.

Figure 2 shows the portions of fruit and vegetables consumed broken down into primary and secondary school pupils. In comparison to primary school pupils the amount of secondary pupils who consumed 5 or more portions was lower by 1% and the number who consumed no fruit and vegetables was nearly 4% higher.



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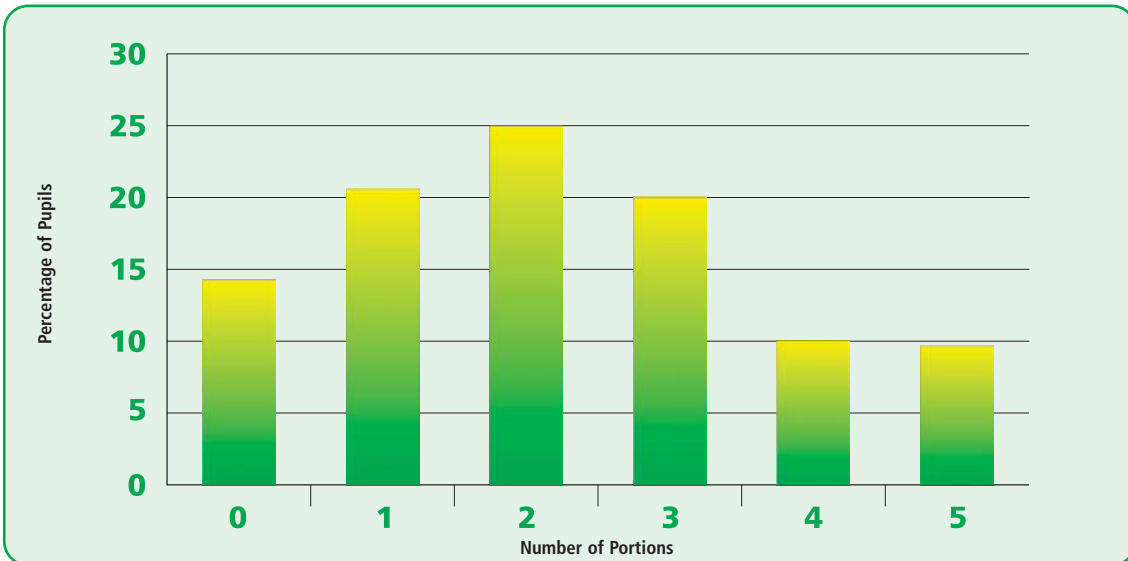


Figure 1: Portions of fruit and vegetables consumed

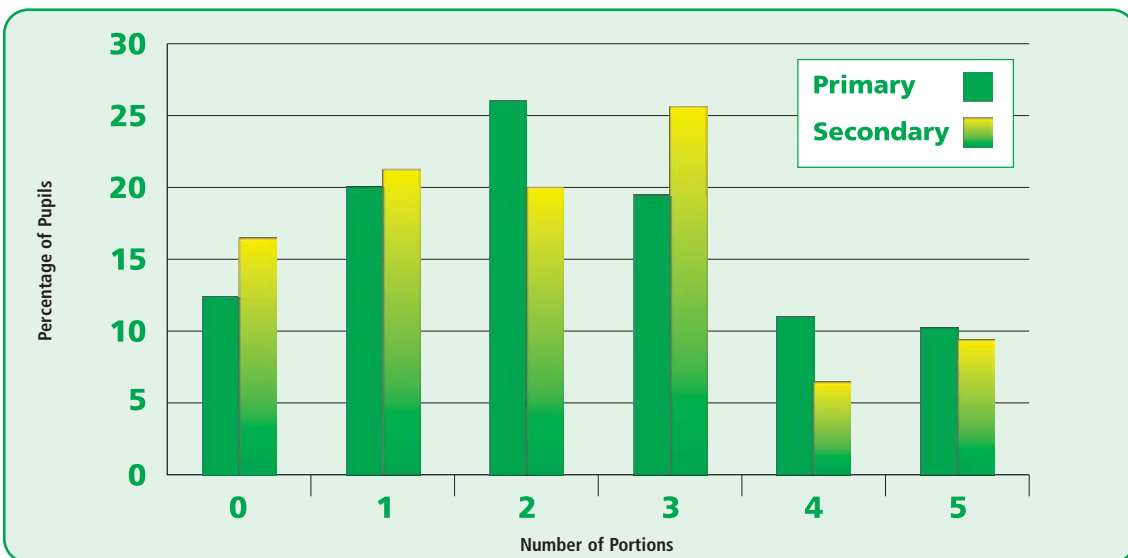
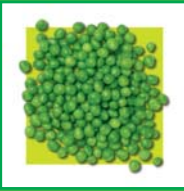


Figure 2: Portions of fruit and vegetables consumed: Primary and Secondary Pupils

Of the 9.7% of pupils who consumed 5 or more portions a day, nearly 60% of these consumed more than 1 serving of fruit juice and just over 1% of all respondents (37 pupils) had made up their full 5 portions from juice alone. A glass of 100% juice (fruit or vegetable juice with no added sugar) counts as 1 portion, however it is advised to consume just 1 portion of juice a day because it has very little fibre. Also, the juicing process 'squashes' the natural sugars out of the cells that normally contain them, which means that drinking juice in between meals isn't good for teeth<sup>20</sup>.

Of the pupils surveyed a third indicated that their fruit or vegetable consumption consisted of some canned fruit and vegetables – including peaches, pineapple, sweet corn, tomatoes and baked beans. Primary school children ate more canned food than secondary school pupils. Canned fruit and vegetables do count towards the 5 A DAY target but it is important to check the food labels on the cans as many items are high in salt, fat and/or sugar. Food labelling is identified in the recent White Paper as an important factor in reducing health inequalities by making labels easier to understand. The Government aims to develop “a clear, straightforward coding system” by 2006 .

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When broken down into food types roughly equal numbers of secondary school pupils ate baked beans (4.8%) compared with all other canned fruit and vegetables (4.6%). However, 14% of primary school pupils ate baked beans – nearly 50% more than the number of pupils who ate all other canned fruit and vegetables (9.6%). Baked beans, along with other beans and pulse vegetables such as kidney beans, chick peas and lentils count toward the 5 A DAY target but only once daily because whilst they contain fibre they don't give the same mixture of vitamins, minerals and other nutrients as fruit and vegetables. In order to get a healthy balance, it is important to ensure a variety of fruit and vegetables are consumed. Beans and pulses are an important part of a balanced diet<sup>21</sup>.

Just over 7% (239) ate dried fruit as part of their 5 recommended daily portions. The percentage was higher amongst the senior pupils with 8.4% (37 pupils) indicating at least one of their portions as dried fruit compared to less than 6.8% (202) of primary school pupils.

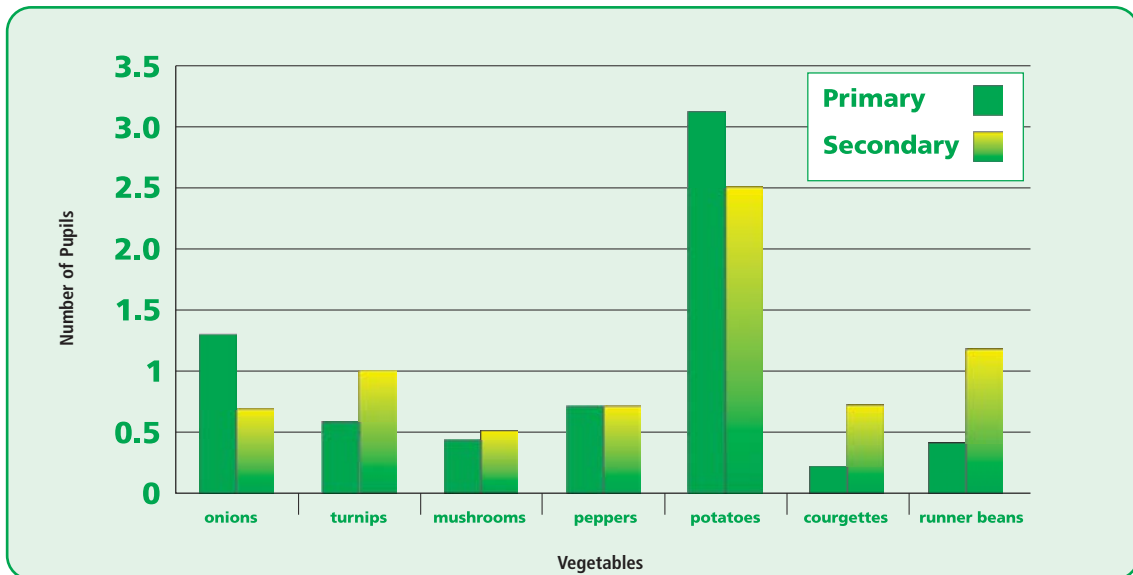


Figure 3: Other vegetables consumed by Primary and Secondary Pupils

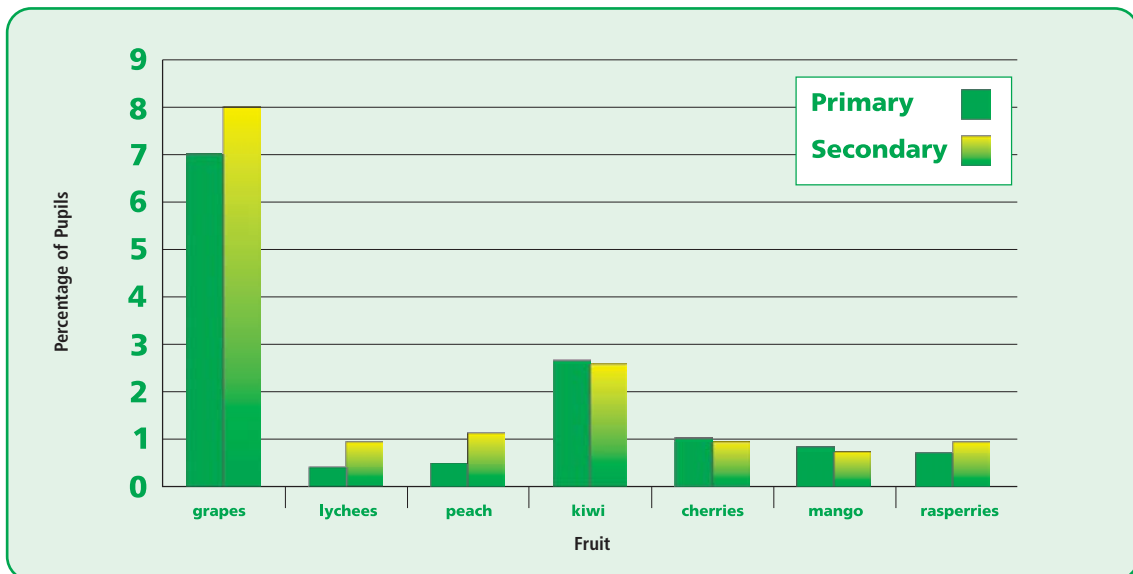


Figure 4: Other fruit consumed by Primary and Secondary Pupils



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31% of the respondents indicated that their fruit and vegetable consumption was partly or wholly from composite meals such as vegetable soup, vegetable pizza or fruit pies. Whilst the fruit and vegetables in pre-cooked meals should not be discounted it is important to note that many pre-cooked meals may be high in salt, fat and/or sugar – 167 pupils only consumed fruit and vegetables in this way. It was felt by the researchers that the collection of information such as, salt, fat and sugar content of meals, was not possible with the use of the diaries and within the recommendations made by the East Riding Local Research Ethics Committee.

Finally respondents were asked to note any other fresh fruit and vegetables they had eaten the previous day. Twice as many primary school pupils (27.8% compared with 14.1% secondary pupils) recorded other fresh produce they had eaten. The most common other fresh vegetable was potatoes with 3.5% primary and 2.5% secondary pupils indicating this. However, whilst they are an important part of a balanced diet, potatoes do not contribute to the target of 5 portions of fruit and vegetables a day as they are a 'starchy' food.

The most popular other fresh fruit noted by respondents was grapes with 7% of primary pupils and 8% of secondary pupils listing them. Other fresh produce is recorded in figures 3 and 4.

## Postal Survey

The aims of the postal survey were to establish present awareness about the health benefits of eating 5 A DAY; to identify eating patterns in the target communities and produce baseline information on these patterns; to identify the difficulties and barriers to accessing and consuming fruit and vegetables; and to identify ways to increase fruit and vegetable consumption.

This information was collected with a short questionnaire in two parts. The first part requested information relating to fruit and vegetable consumption and the second part called for anonymous personal details such as date of birth, gender, household type and ethnicity. Whilst the majority of the questionnaire did not ask open questions, there was also space for respondents to note any further comments. Respondents were also asked to note their postcode to give an indication of the response rates from each of the target areas – 250 questionnaires were disseminated randomly to each area. Responses are indicated in table 2.

Eastern Hull Primary Care Trust		West Hull Primary Care Trust	
Longhill	64	Myton	94
Marfleet	48	Newington	67
Southcoates	70	Orchard Park	75
Bransholme East & Bransholme West (formerly Noddle Hill)	46	Pickering	70
		St Andrews	35
		University	66
East Riding Primary Care Trust		Yorkshire Wolds and Coast Primary Care Trust	
Goole Central and South	11	Bridlington Old Town	98
Minster (Swinemoor estate in Beverley)	23	Bridlington South	46

Table 2: Responses per targeted areas

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The questionnaires began by asking for the date the respondent completed the questionnaire. Along with dates of birth, provided in part two of the questionnaire, this data revealed that the respondents were aged between 16 and 96 years.

Almost twice as many women (523) compared to men (283) completed the questionnaires. However, this did reflect an increase of more than 50% by males compared to the pilot study which had a response rate of 1 to 3 male/female ratio (Appendix 1). Of the completed questionnaires 38 were received from single males, 11 of which indicated that they had children living with them and 133 were received from single females, 4 of which indicated that they had children living with them, however, of the single adult households 135 left the number of children in the household blank. 435 questionnaires were received from a household with 2 adults, 30 of which did not have any children living in the household, 108 did and 297 didn't say; and 196 were received from households with more than two adults, of these 14 had no children living in the household, 66 did and 116 didn't say.

In order to establish a baseline, respondents were asked for their present awareness of the 5 A DAY message. Four people did not complete this question. Of the 802 that did complete it more than three quarters (637) knew that the recommended number of portions of fruit and vegetables is 5 A DAY. 9 stated that they didn't know and 146 participants thought that less than 5 portions were recommended. Of the 637 respondents who were aware of the 5 A DAY message, 453 (71%) indicated that they presently did not follow this advice and of these 45 felt they always ate enough fruit and vegetables, 302 felt they sometimes did, 78 knew they never ate enough and 10 weren't sure.

**79% of respondents knew the 5 A DAY message but only 29% of these followed this advice**

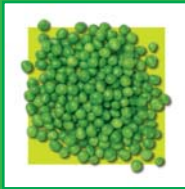


Just Eat More  
(fruit & veg)

Respondents were also asked if they expected to increase their fruit and vegetable intake over the coming year. Three people left this question blank, 30 didn't know if they would eat more, 20 said they definitely would not increase their intake, 142 said they probably wouldn't, and the rest (611) said they may increase their fruit and vegetable consumption over the coming year.

The questionnaire then went on to ask about the factors which impacted on the respondents' purchase of fruit and vegetables with the aim of identifying any difficulties and barriers to accessing and consuming them. These factors included cost, preparation time, physical access to shopping facilities, weight of produce, likes and dislikes of household members, quality of produce, ability to prepare fruit and vegetables and money available to spend on them within the household budget.

These results were analysed per locality. Every area identified quality of fruit and vegetables as the most important factor which influenced purchases. This was considered to be either important or very important by many respondents, ranging from 91.5% in Southcoates to 63.7% in Goole. After quality the next most important factor in eight areas



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was the likes and dislikes of family members; cost was the next most important in three communities – Bridlington Old Town, Marfleet and Myton. And in Orchard Park & Greenwood the household budget had the second greatest impact on purchases of fruit and vegetables. This was reflected in additional comments made by some respondents;

- *“you know why we don’t get enough fruit & veg, it’s too dear”* (female, 67 – Longhill)
- *“I am on income support and the amount of money I get – fruit & veg are at the bottom of my list, if at all”* (female, 58 – Newington)
- *“You can only spend what you have”* (male, 51 – Orchard Park & Greenwood)

However, in Bridlington South, Goole, Marfleet and Myton equal importance was attributed to knowledge about ways in preparing fruit and vegetables. In St. Andrews the time it took to prepare fruit and vegetables was considered to have an impact on what was consumed, after quality and family tastes, though no other areas felt this had an effect on what fruit and vegetables were eaten, and in fact was considered the least important issue in Minster and Orchard Park & Greenwood.

The factor which least effected fruit and vegetable intake was the weight of shopping with eight areas listing this as least important and two others citing it as the next least important. However, on an individual basis this was not always so;

- *“A delivery service is a very good idea as my mother and I have great difficulty in carrying the shopping as it does get heavy”* (female, 16 – Southcoates)
- *“I can’t get out to the shops to do any shopping so my husband does it ... door to door service would be very good”* (female, 44 – University).

Respondents were also asked to note if promotions and advertising had any effect on their purchases of fruit and vegetables. 42.1% of respondents said they were influenced by health promotion messages on television and in magazines and newspapers – the highest number (63.6%) being in Goole and the lowest (25.7%) in St. Andrews.

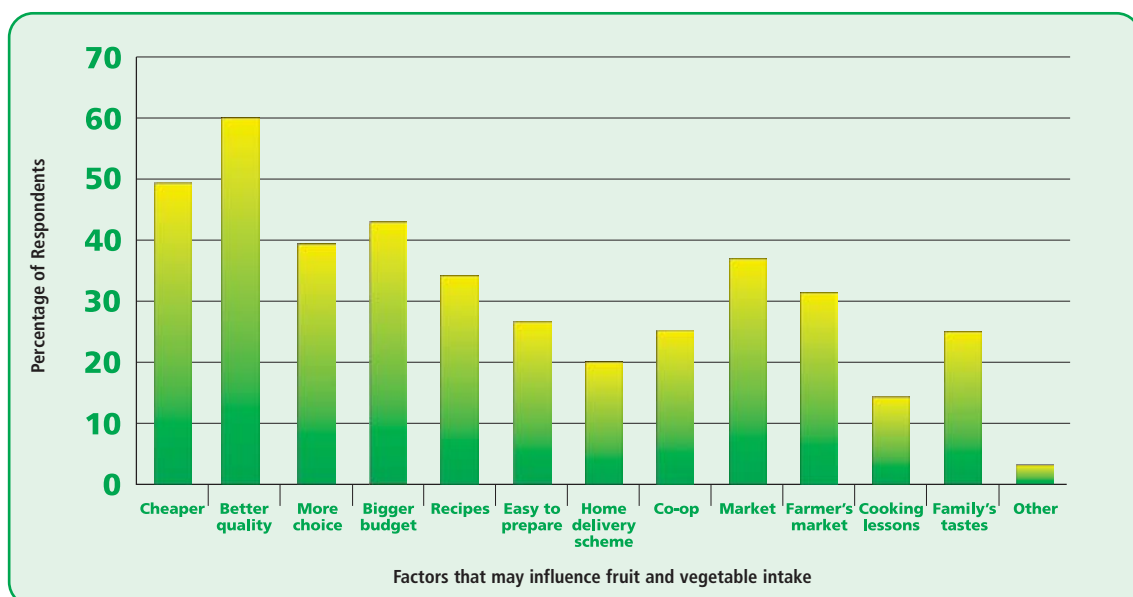


Figure 5: What would persuade you to increase your fruit and vegetable intake?



Advertising and product promotions were also considered to be factors which influenced respondent's purchases. 24% of respondents noted that advertising on television encouraged them to buy certain products and 42.4% said promotions in supermarkets influenced what they bought. When asked about product placement in supermarkets more than a third (34.5%) of respondents stated that this influenced what they bought.

After noting these influencing factors, respondents were next asked to indicate anything which would persuade them to increase their fruit and vegetable consumption. They were asked to tick all that applied. Figure 5 shows the responses noted by all respondents.

Again responses were different in the different areas, however, 13 communities identified the need for better quality produce as the most important factor;

- *"This comes down to one thing availability of good quality fruit & veg. That is all that needs to be looked at"* (male, 51 – Orchard Park & Greenwood)
- *"We would eat more but it goes off and doesn't last"* (female, 32 – Bransholme)
- *"What puts me off buying is that when you see a punnet of strawberries, peaches etc. the shopkeepers put nice ones on the top but underneath when you take them home they're all bad and uneatable and then you just think you've wasted your money"* (female, 38 – University)

In the fourteenth community, Goole, the need for cheaper fruit and vegetables was identified as the most important factor in encouraging people to buy more fruit and vegetables, with quality as the second most important factor.

- *"We do like fruit & veg but we just can't afford it it's too dear"* (female, 44 – Goole)

However, cost was an issue identified by many respondents across the target areas;

- *"Fruit is too expensive, it's a luxury really"* (female, 36 – St. Andrews)

And in Bridlington cost was considered to be an issue along with the tourist season which was seen to push prices up even higher;

- *"Bridlington shop and market prices are very high, it is expensive to shop here, especially in summer. It's cheaper to shop in Leeds and Hull"* (female, 71 – Bridlington Old Town)

In Bridlington South a farmer's market was identified by respondents as a way to increase fruit and vegetable intake. This would provide good quality, affordable local produce sold by local farmers. Respondents added comments about locally grown produce, in particular from farms and allotments;

- *"I would like proper grown farm vegetables and fresh fruit straight from the orchards"* (male, 62 – Myton)
- *"My dad had an allotment – veg was always plentiful as a child. People should grow their own more"* (female, 60 – Bridlington Old Town)

Another factor identified included improved choice. Respondents in Minster and Newington felt improved choice would encourage greater intake of fruit and vegetables as this would provide people with alternative items to replace those they don't like or get bored with.



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People living in Longhill cited the need for free recipes and this was backed up by one respondent who said;

*"Menus in restaurants and cafes encourage me to try new things"* (male, 30 – Longhill)

Almost 18% (143) of respondents offered further comments on their questionnaires. Suggestions to improve fruit and vegetable intake included;

#### ■ **Reducing opportunities to consume 'junk food'**

*"there's too many cheap crisps, snacks and sweets to buy"* (female, 29 – Longhill)

*"too much junk food on offer and adverts for TV dinners"* (male, 69 – Bridlington Old Town)

#### ■ **Eat fruit and vegetables which are in season**

*"we always eat more fruit and vegetables and salads in the summer as they are a lot cheaper"* (female, 24 – Pickering)

#### ■ **Lifestyle changes**

*"School, work and social commitments can have an adverse effect on eating patterns and what we eat"* (male, 32 – University)

*"We try to eat healthy food, but pace of life makes it difficult"* (male, 43 – Newington)

#### ■ **Parental influence**

*"I feel this is something that is heavily influenced in children by their parents when they are young and it carries through into adult life"* (female, 23 – Marfleet)

#### ■ **For health reasons**

*"I would eat more fruit & veg if I didn't have stomach problems"* (female, 73 – Bransholme)

*"I have dentures and can't cope with fruit such as apples and pears"* (female, 58 – Bridlington South)

#### ■ **Improving cooking skills**

*"I only eat 3 portions of fruit a day and don't cook vegetables for myself or my 4 children because I don't actually know how to"* (female, 31 – Marfleet)

#### ■ **Cheaper organic produce**

*"I wish organic food prices were not so high"* (female, 62 – Orchard Park & Greenwood)

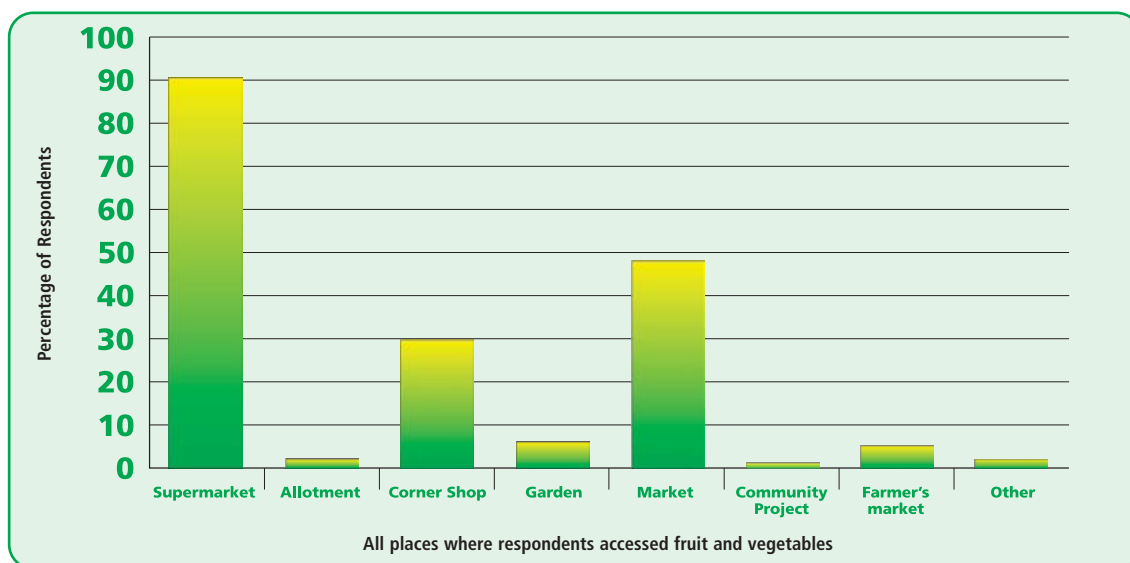
#### ■ **Going on a diet to lose weight**

*"I tend to eat more fruit and vegetables if I am slimming"* (female, 52 – Newington)

*"We eat fruit & veg because the wife goes to weight watchers"* (male, 56 – Goole)



Respondents were also asked to note all the places they accessed fruit and vegetables with the aim of identifying any barriers or difficulties encountered. Figure 6 clearly shows that many respondents (90.6%) purchased their produce at supermarkets. When asked to note their preferred choice 14.1% also noted supermarket, however 62.8% did not note a preference. Of those who did complete this part the highest responses were as follows: 27.3% of respondents in Goole preferred to use their local market; 26.1% in Minster preferred supermarkets; 10.9% in Bransholme opted for local or corner shops; 8.3% of Marfleet respondents preferred to grow their produce in their gardens; 5.1% in Bridlington Old Town preferred their allotments; and Farmer's Markets were favoured by 4.5% of respondents in Newington.



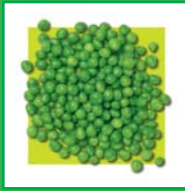
**Figure 6: Where do you get your fruit and vegetables?**

## Geographic Information System

The Geographic Information System (GIS) was used to plot the locations of fruit and vegetables outlets – supermarkets (including freezer centres) and green grocers – in the 14 targeted communities, with the aim of identifying some of the difficulties and barriers to physically accessing fruit and vegetables. In addition to this community cafes and community nutrition projects were also mapped (Appendix 4). NB. It should be noted that the GIS maps do not show outlets and projects on electoral wards not targeted by the 5 A DAY initiative.

Results identified the shopping outlets as mainly situated along main roads with very few on housing estates. As the main shopping routes are usually main bus routes this means people are, on the whole, able to access transport to get to and from the shops. However, the lack of local shops close to houses suggests that people are unable to access fruit and vegetables easily or quickly, for example if they run out of something, and that they have to travel to buy fruit and vegetables.

The community cafes and projects were more widespread with some in the same areas as supermarkets and green grocers, and some situated on housing estates. However, the cafes offer prepared meals rather than the possibility of buying fruit and vegetables to cook at home and the projects promote healthy eating but again do not sell produce. Only one community food co-op was identified, in the St. Andrews area.



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## Participatory Appraisal, Focus Groups and Interviews

Participatory Appraisal (PA), focus groups and semi-structured one to one interviews were used to collect qualitative data for the study. Community researchers were recruited to carry out this work and, wherever needed, provided with training in PA, interviewing techniques and report writing.

Recruiting the community researchers proved difficult, with some target areas easier to recruit in than others, and as a result of this some researchers carried out the research in more than one community. Where ever possible researchers who knew the communities well collected the data in that locality. The researchers included local residents, students, Sure Start workers, a senior nutrition assistant and members of the Public Health Development Team.

The aims of the qualitative research were to engage and involve people in accessing fruit and vegetables by raising awareness, increasing knowledge and developing research skills. The researchers used their skills to map the range, quality and cost of fruit and vegetables available locally; identify the economic and social barriers to accessing fruit and vegetables; and identify needs and gaps in accessing fruit and vegetables in their communities and identify possible initiatives to address food inequalities. Contact was made with people on the streets, in shopping centres, via community groups and at schools. People contacted included local residents, parents and their children, shopkeepers, community representatives and local health workers.

The researchers began by asking people about their levels of fruit and vegetable intake and in many cases quickly became aware that this was a sensitive subject to discuss. Contributors to the research became defensive when asked about their eating habits, issues around income, class and self-image came up. In the words of one researcher:

*"I've collected data on drug use and asked people about prostitution and they were both easier subjects to discuss than talking about food. It was as though they [the respondents] felt they were under scrutiny and being judged on the food they give their kids" (female researcher – Bransholme)*

Initially researchers were concerned that they may not be shown the true picture – several people were not confident about speaking openly and honestly about the food they ate, or fed their family, for fear of being labelled. However, a strength of PA is that after such initial issues, a good researcher will put the participants at their ease and allow topics to come up naturally so the researchers did identify various issues outlining why some of the respondents did not eat 5 A DAY.

Lifestyle factors were one of the main issues identified by the researchers. Many young male adults seemed embarrassed to talk about their diet. They felt their lifestyles dictated their diet because living on their own usually meant they went out to the "chippy" or grabbed a bag of crisps. One said, *"Breakfast for me is coffee and 8 fags. I live on a diet of lager, Jack Daniels and coke"* another said he wanted to get fit and loose weight and wanted to eat more fruit and vegetables to help with this. However, another young male stated, *"I know its good for me but I don't buy it, my money goes on other things when I know it could be going on healthy eating."* One occurring theme from different areas was that young men aged 16 to 25 years often only ate fruit or vegetables when they visited parents.

Lifestyle factors were issues for other people too. Parents at Sure Start groups and students at Goole College agreed that getting into the habit of eating certain things *"MacDonalds and chocolate"* rather than fruit and vegetables was a factor in developing less healthy eating patterns, and many respondents confirmed that often the only vegetables they ate were if they had a Sunday dinner, and one young man (aged 17) said he only ate them on Christmas day!



It was often stated that the availability of good quality fresh produce was not good and one of the main reasons why many of the respondents didn't eat more fruit and vegetables. For example, respondents often noted that fruit and vegetables aren't always available in the workplace, at school or at collage. One researcher reported that on the Preston Road housing estate which crosses over part of Marfleet and Southcoates there is only one fruit and vegetable supplier. The shopkeeper at this outlet told the researcher that their turnover of fruit and vegetables in the shop was less than 50% *"we sell side lines such as soft drinks, crisps, biscuits and cakes in order to stay in business"*. This store is on the edge of the estate, whilst further into the estate there are thirteen fast food outlets.

This is echoed in Bransholme, where residents felt that the development of a large retail park (Kingswood) on the edge of the estate, which hosts an Asda, two MacDonalld's, Pizza Hut, Kentucky Fried Chicken and Frankie & Benny's, contributed to local shops (Roebank Arcade) closing down; and in St. Andrews the opening of a large Asda store was noted by local retailers as the reason for many smaller stores closing.

Poor availability often meant that respondents perceived the only place to buy good quality fruit and vegetables was at the larger supermarkets which were rarely within walking distance of many homes. Residents without transport were unable to buy heavy shopping such as fruit and vegetables because they couldn't carry it, even from local shops, as one resident in the University area said *"our nearest fruit and veg shop is on Inglemire Lane about 5 minutes walk"*. This was particularly common amongst older people, but a young mum in Longhill also cited this; *"lack of energy to cart around two tons on the pram stops me buying it [fruit and vegetables], I get tempted to eat more sweets or MacDonaldds instead, whatever the kids eat"*. Many respondents shopped for food on a weekly basis, again producing a heavy shopping basket. They felt that this, combined with shelf life of some produce, meant they could only buy enough fruit and vegetables for 2 or 3 days often resulting in them only eating fruit and vegetables for part of the week.

When asked where they preferred to buy their produce many participants said they favoured the larger supermarkets. A woman in the University area said *"I do my fruit and veg shopping mostly at Asda or Tesco its better quality"*. And others said they preferred supermarkets because they were able to choose produce themselves. They didn't like to buy pre-packed because it was felt that *"when you buy punnets poor quality fruit gets hidden under a top layer of good quality stuff"* (woman in Newington). And another woman in the University area said *"We eat a lot of raw vegetables and often the quality is just not good enough, its ok for cooking with but if you want to eat it raw you want something fresher so I go to the supermarket for that"*.

Researchers reviewed availability, variety, country of origin and cost of fruit and vegetables in ten local outlets. They found that a large percentage of all the produce available between the 20<sup>th</sup> and 21<sup>st</sup> August came from countries outside of the European Union. Fruit in particular often came from countries considerable distances from the United Kingdom such as New Zealand, although more of the vegetables came from the United Kingdom and some produce available at Trinity Market in Hull was marked local. However, the research shows that 40% of all the large onions available at the time of the study originated from New Zealand. Researchers found that there was no significant difference in prices between the retail outlets for the majority of produce and most had a good variety of produce, ranging from fifteen different varieties of fruit and vegetables in local convenience stores to 75 items on market stalls.

Having looked at the availability, varieties, countries of origin and the price of fruit and vegetables researchers also addressed the issue of quality. Carrots and bananas were purchased from ten outlets in order to determine how long the produce would last after



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the purchase date. Researchers kept the bananas and carrots in the same manner as many households would. Bananas were stored in a fruit bowl and carrots in a vegetable rack both at normal household temperatures.

The quality of the produce differed greatly lasting from 3 to 13 days before being considered no longer edible. The bananas lasting the longest were bought from local market stalls and lasted 13 days whilst the longest the carrots lasted was 7 days (also from a market stall).

As well as quality and availability, a further theme identified by different participants was the cost of fruit and vegetables, with respondents from every community noting this. Many of the people researchers spoke to were on a low income and they were reluctant to spend part of it on expensive items which their children may dislike or that would go off. A few people said they didn't mind having to pay a lot if the produce was good, but more often than not it wasn't, as stated by one woman saying *"Cost's not really a barrier – you get what you pay for"* and a young mum confirmed this when saying that she saw the barriers to buying fruit and vegetables as – *"the good stuff lasts but costs more – fruit's more of a treat really"*.

However, the issue of knowledge was not simply about how to cook, many people said they weren't sure what a portion was in relation to 5 A DAY, and one respondent in Longhill argued that it was not possible to eat 5 A DAY but rather that *"most people would eat two veg and one fruit a day"*. Some respondents felt that a lack of awareness of the health benefits of eating fruit and vegetables was key also.

Many people identified lack of knowledge as a key factor affecting diet. Some of the older women felt that younger people were not taught to cook and used convenience foods instead, one woman said *"my daughter in-law doesn't cook because she doesn't know how to"* and *"people should be taught to cook at school like the old days"*.

Lack of knowledge was also identified regarding the preparation of fruit and vegetables, and the lack of time to prepare often went hand in hand with this. Again there seemed to be a generational difference – adults aged under 50 tended to have busy hectic lives based around the family and work, and often they would opt for quick convenience meals on an evening for ease and practicality. And many people said they would use more vegetables in family meals if they could afford the ready prepared packs.

Likes and dislikes of fruit and vegetables was a big issue with a young mum in Myton saying *"apples and pears are watery and have no taste"*. Furthermore many men commented on taste, comparing it to the fact that they would rather have alcohol. For example, a man from St. Andrews said *"I'd eat cauliflower if it tasted like gin!"* and another man, this time from Orchard Park & Greenwood, commented that *"if the choice is a banana or a pint, the banana might be cheaper and better for you but the pint is nicer!"* Many people stated that they eat what they fancy which often didn't include any fruit and vegetables at all. A group of women from Pickering noted that they preferred the taste of chocolate to fruit and vegetables, because it *"released happy vibes"*.

Media and advertising were issues which many parents felt strongly about. Many felt their children were influenced by TV adverts, glossy posters in shops and the toys which were given away free with sugary or fatty foods. One young woman said *"get Gary Lineker to advertise fruit and veg instead of crisps"* and a group of older women discussed in detail that *"It all depends how much street cred is attributed to it...if it's boring or uncool it doesn't hit that teenage market"*. During one of the interviews a woman aged 60 said *"there should be cartoon fruit and vegetable characters on children's TV"*



Other factors discussed by respondents were:

- the changes in conventional family life *“mothers used to stay at home, now they work and don’t have time to cook”*;
- social, cultural and religious beliefs *“My boyfriend is Kurdish and they eat loads of fruit and veg it’s him that has altered my eating habits”* and *“On Sundays Sikh people have a communal cooking event where they all come to eat together”*.
- too many fast food outlets *“Fast foods and unhealthy foods are in your face all the time – you can’t get away from it, it’s everywhere MacDonal’d’s and Burger King, more of them about than fruit and veg shops”*;
- personal beliefs *“If I really believed it was affecting my health I might eat more healthy but I rarely get ill so who needs fruit”*;
- better positioning of fruit and vegetables in supermarkets *“They always put the sweets just at the children’s eye level”*;
- more local produce available *“Encourage a local supply of good quality, cheap fruit and veg”*.

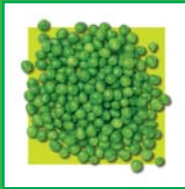
When asked what respondents thought would change eating habits and encourage greater consumption of fruit and vegetables many felt prices needed to be lowered and quality improved. Some of the younger, single people and older people living alone called for small portions to be available in supermarkets as many products were pre-packed in large quantities so they didn’t buy them. Also they felt they were penalised as offers were often ‘buy one, get one free’ and this was no good for them as they would not use as much of a product as larger families.

Many respondents felt cooking skills were in decline and suggested offering parents cooking courses outlining how to cook quick, healthy, cheap meals in order to pass this onto their children at an early age, and to bring cooking lessons back into the school curriculum with competitions to encourage children. In addition to this, many parents felt easy to follow instructions and recipes were important as there were often instructions on how to prepare packet food but not fresh fruit and vegetables and *“demonstrations in supermarkets showing you what to do with some of the different fruit and veg”* were also called for.

Many people complained that people don’t grow their own vegetables anymore and this should be encouraged, again from an early age, by advertising allotment sites or establishing gardening clubs and teaching growing skills in and out of schools. It was felt that not only would this encourage healthier eating, but it would also provide physical activity and social opportunities.

## CONCLUSIONS

The aims of this research were to work in partnership with local people to identify baseline data on fruit and vegetable intake and shopping patterns. The work took place in 14 communities with the involvement of community researchers. Barriers to accessing and consuming fruit and vegetables were identified along with suggestions to overcome these barriers. This was an innovative approach which policy making could draw from.



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Results show that locally people eat less than the recommended 5 or more portions of fruit and vegetables a day. The majority of people surveyed by the research shopped at large supermarkets for their fruit and vegetables – this was due in part to a lack of local fruit and vegetable shops as identified by the Geographic Information System.

The main barriers to consuming fruit and vegetables were identified as poor quality and expensive produce. And the main suggestions to increase fruit and vegetable intake were to improve quality, reduce price, develop skills in growing, preparing and cooking produce, make access to locally grown fruit and vegetables easier and promote 5 A DAY as part of health education.

## RECOMMENDATIONS

Data collected by the different research methods produced various results from the individual communities, some of which were similar whilst others varied. The recommendations below reflect this.

### **1 Continue to promote the 5 A DAY message across Hull and the East Riding**

The evidence collected shows that locally many people are not eating the recommended 5 daily portions of fruit and vegetables and many are eating none. The introduction of the National School Fruit & Vegetable Scheme (NSFVS) locally will address this to some extent by targeting 4 to 6 year olds (key stage one pupils). The issue can be further addressed by ensuring the 5 A DAY campaign continues to be promoted in schools, for example through Fruit Tuck Shops and the Sensible Snacks Award, via partnerships between health and education such as the National Healthy School Standards Co-ordinators, Local Education Authorities and the Youth Services. In addition to this the message should be promoted in local communities, hospitals, workplaces and retail outlets in partnership with local media and via the development of the local Obesity Strategy. This recommendation is in line with the Government White Paper – Choosing Health: Making healthy choices easier

### **2 Promote the benefits of locally grown, good quality, affordable fruit and vegetables**

Data collected identified the need to promote the benefits of and increase access to good quality, affordable fruit and vegetables. Particular emphasis on local produce was noted. This could be addressed alongside the development of the local Obesity Strategy

### **3 Develop opportunities to increase knowledge and skills in growing, preparing and cooking fruit and vegetables**

Evidence collected indicated that skills in growing fruit and vegetables and practical cooking skills were not widespread or were in decline. Opportunities to develop these skills would be an advantage to many residents, particularly young people and young parents. Work in partnership with local Sure Start programmes, Healthy Living Centres, community groups and local authorities could promote the 5 A DAY message and the health benefits of a balanced diet through the delivery of “sow and grow”, “plot to pot” and “cook and eat” projects. These projects should be supported with materials such as healthy recipes and guidance on growing fruit and vegetables, as well as information and advice about the 5 A DAY programme.

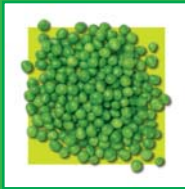


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## Glossary

DH	Department of Health
FACET	Five-A-Day Consumption and Evaluation Tool
GIS	Geographic Information System
IMD	Index of Multiple Deprivation
LREC	Local Research Ethics Committee
NHS	National Health Service
NSFVS	National School Fruit & Vegetable Scheme
PA	Participatory Appraisal
PCT	Primary Care Trust



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## APPENDIX 1

### 5 A DAY Fruit and Vegetable Consumption Questionnaire Pilot

As part of the local 5 A DAY initiative a Fruit and Vegetable Consumption Questionnaire was piloted across the Hull & East Riding region to determine its level of clarity and understanding.

170 questionnaires and pre-paid return envelopes were disseminated at random to residents in the 14 targeted communities. Residents were asked to complete the questionnaire, make any comments and return it to the 5 A DAY Co-ordinator.

After this first contact was made with the residents, 48 completed questionnaires were returned. Following this a first reminder was sent out. This resulted in a further 8 questionnaires being returned, and after a final, second reminder, 6 more questionnaires were returned, resulting in 62 in total, 36% of the original mail out.

The background of respondents was varied. The response by gender was fairly typical with less than a quarter of the males (15) and 43 females returning completed questionnaires (4 respondents did not note their gender). When disseminating the final questionnaire every attempt will be made to contact more males. Of the 62 households that responded to the questionnaire, 20 (32%) indicated that they had children, whilst 4 didn't say and 38 (61%) did not have children living with them. Again this will be addressed with families being targeted perhaps through Sure Starts and Family Links groups using participatory appraisal methods of data collection.

Respondents were asked about their daily consumption of fruit and vegetables. Many respondents knew how many portions of fruit and vegetables are recommended by health experts with 39 (63%) stating that 5 or more was the daily recommendation. However, although they knew this very few were actually consuming 5 portions a day, with just 11 respondents (17%) stating that they presently consume 5 or more portions of fruit and vegetables daily. Two respondents were not sure and one didn't say, the rest – 48 (77%) – ate 4 or less. Of these, one person didn't know if they ate enough fruit and vegetables on a daily basis, 8 knew they never did, but 38 felt they consumed enough even though they ate less than the recommended five portions a day.

Of the 62 completed questionnaires 13 provided comments on the questionnaire. The comments were varied and covered the clarity of the form and the content of the questions, for example, one questionnaire stated that the form was very easy to complete, another said it wasn't, whilst one pointed out that self-sufficiency in vegetable production was not included. Suggestions made by all respondents have been taken into account when producing the final questionnaire.



## APPENDIX 2

### FRUIT AND VEGETABLE CONSUMPTION DIARY

Name of your school \_\_\_\_\_

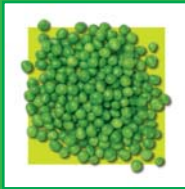
What school year are you in? \_\_\_\_\_

What is today's date? \_\_\_\_\_

We are trying to find out how much fruit and veg children and young people eat. If you ate any of the following yesterday, please state how many but putting a number in the box next to it.

FRUIT	How many	VEGETABLE	How many
A medium apple, pear, orange or banana		A tablespoon of veg such as peas, carrots, cabbage or sprouts	
A plum or satsuma		A cereal bowl sized serving of salad	
A portion of dried fruit e.g. a tablespoon of raisins or 3 dried apricots		A cereal bowl sized serving of stir fried veg	
A bowl of strawberries		A portion of broccoli e.g. 2 florets	
A slice of melon		A tablespoon of sweet corn	
A bowl of tinned fruit such as peaches or pineapple		A tinned tomato	
Half a grapefruit		A tablespoon of baked beans	
A fruit pudding e.g. apple pie or blackberry crumble		A slice of pizza with tomato and other veg on it	
A glass of pure fruit juice with no sugar added		A bowl of vegetable or tomato soup	
Other fresh fruit (please say here what it was)		Other fresh veg (please say here what it was)	

*This research is part of the 5 A DAY initiative – thank you for your help.*



## APPENDIX 3

### 5 A DAY Fruit and Vegetable Questionnaire – FREE PRIZE DRAW

#### PART 1

For each question, please indicate the answer (or answers) by ticking the relevant box(es). Try to make sure the ticks are clearly shown in the box they refer to.

If you make a mistake, just blank out the mistake and carry on.

**Q. 1 Please write in today's date.**

Day	Month	Year
<input type="text"/>	<input type="text"/>	<input type="text"/>

**Q. 2 Please write in your postcode.**

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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**Q. 3 How many portions of a combination of fruit and vegetables do you think health experts would recommend eating every day?**

PLEASE "✓" ONE BOX ONLY

None <input type="checkbox"/>	Three <input type="checkbox"/>	Six <input type="checkbox"/>
One <input type="checkbox"/>	Four <input type="checkbox"/>	Seven or more <input type="checkbox"/>
Two <input type="checkbox"/>	Five <input type="checkbox"/>	Don't know <input type="checkbox"/>

**Q. 4 On average, how many portions of fruit and vegetables do you think you eat each day?**

PLEASE "✓" ONE BOX ONLY

None <input type="checkbox"/>	Three <input type="checkbox"/>	Six <input type="checkbox"/>
One <input type="checkbox"/>	Four <input type="checkbox"/>	Seven or more <input type="checkbox"/>
Two <input type="checkbox"/>	Five <input type="checkbox"/>	Don't know <input type="checkbox"/>

**Q. 5 Do you think you eat enough fruit and vegetables each day?**

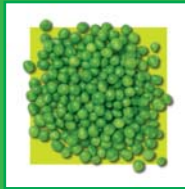
PLEASE "✓" ONE BOX ONLY

Yes, always <input type="checkbox"/>	Yes, sometimes <input type="checkbox"/>	Never <input type="checkbox"/>	Don't know <input type="checkbox"/>
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**Q. 6 Do you think you will increase the amount of fruit and vegetables you eat in the next year?**

PLEASE "✓" ONE BOX ONLY

No, definitely not <input type="checkbox"/>	Possibly <input type="checkbox"/>	Yes, definitely <input type="checkbox"/>
No, probably not <input type="checkbox"/>	Yes, probably <input type="checkbox"/>	Don't know <input type="checkbox"/>



**Q. 7 How important are the following to you in deciding how much fruit and vegetables you eat?**

PLEASE "✓" ONE BOX ONLY IN EACH ROW

	Not very important	Not important	Neither unimportant nor important	Important	Very important	Don't know
The money I have available to spend on fruit and vegetables						
Price of fruit and vegetables						
My knowledge about ways to prepare fruit and vegetables						
The time I have available to prepare fruit and vegetables						
How easy it is for me to get to the shops*						
How heavy my shopping is to carry						
Likes and dislikes for my household for fruit and vegetables						
The quality of fruit and vegetables available						

\*any shops within walking distance

**Q. 8 Please tick any of the following that an influence on the food you buy/eat**

PLEASE "✓" ALL THAT APPLY

Healthy Eating Messages on TV or in newspapers and magazines	
TV adverts	
Other adverts such as posters and special offers or money off coupons in supermarkets	
Position of some items in the supermarket	
Other (please state below)	

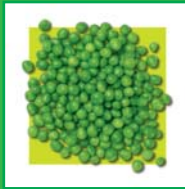
**Q. 9 Would any of the following persuade you to eat more fruit and vegetables each day?**

PLEASE "✓" ALL THAT APPLY

Cheaper fruit and vegetables	
Better quality of fruit and vegetables	
More choice of fruit and vegetables	
More money available to spend on fruit and vegetables	
Receiving free recipes for fruit and vegetable meals	
The availability of fruit and vegetables which take less time to prepare	
A fruit and vegetables home delivery service selling good quality, cheap fruit and vegetables	
A local food co-op selling good quality, cheap fruit and vegetables	
A local market selling good quality, cheap fruit and vegetables	
A local farmer's market selling good quality, cheap fruit and vegetables	
Being offered free lessons and advice on preparing and cooking fruit and vegetables	
If my family liked more varieties of fruit and vegetables	
Other (please state below)	



# 5 A DAY



If you have any further comments about any part of this questionnaire, including the content, style of questions and layout of the questionnaire please add them here.

Thank you for your help with this survey. If you would like to take part in a free prize draw to win a hamper of fruit and vegetables and a £25.00 shopping voucher please include your name and a telephone number here. This is completely optional, if you would prefer to remain anonymous please leave blank.

Name (first name will do) \_\_\_\_\_

Contact number (mobile or land line) \_\_\_\_\_

PLEASE RETURN THIS QUESTIONNAIRE IN THE ENVELOPE PROVIDED TO:

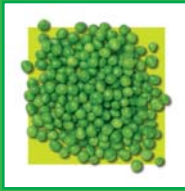
Dawn Branton  
Public Health Development Team  
Health House  
Grange Park Lane  
Willerby  
HU10 6DT  
OR FAX IT TO: 01482 672197

Supported by



Just Eat More  
(fruit & veg)

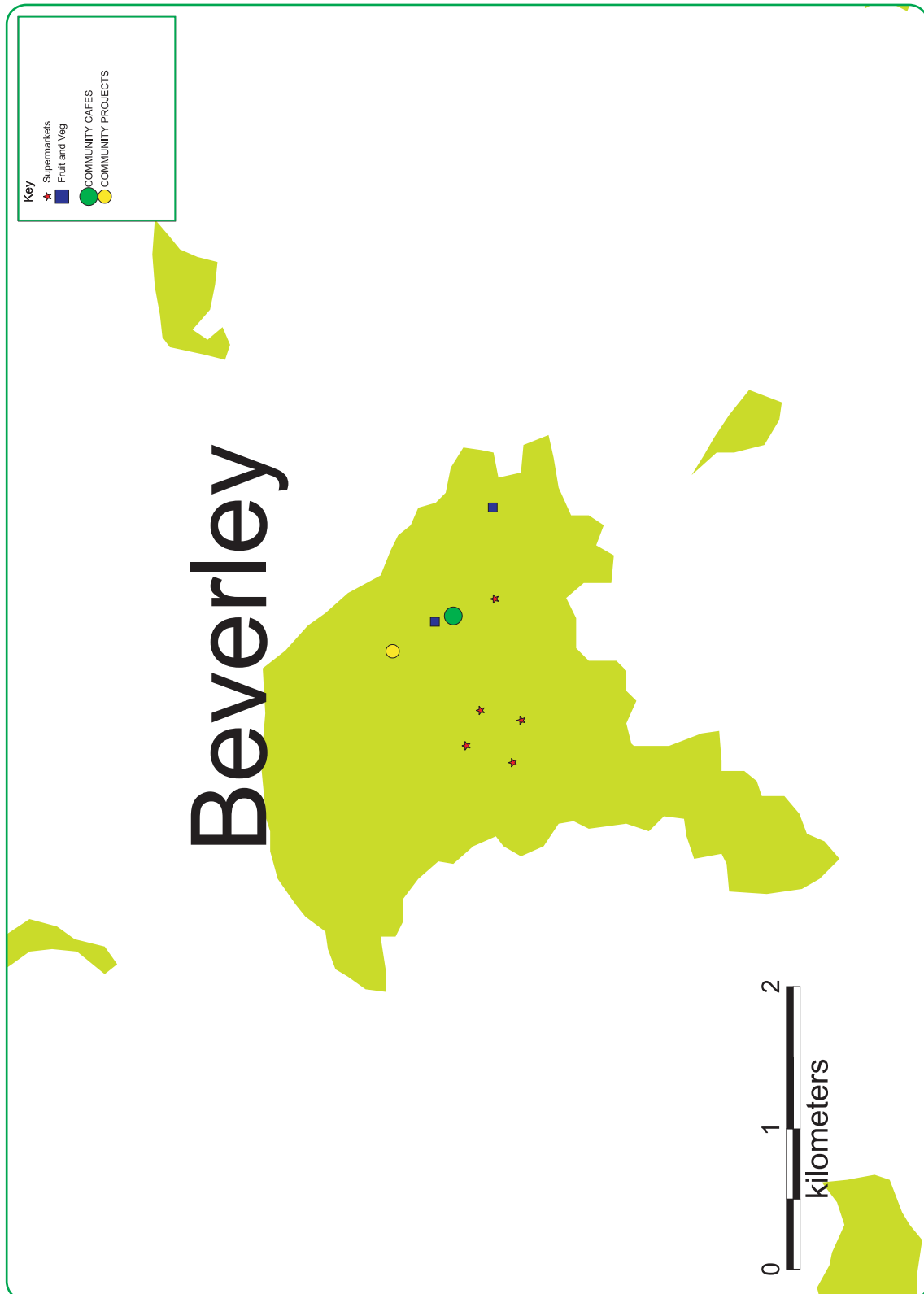




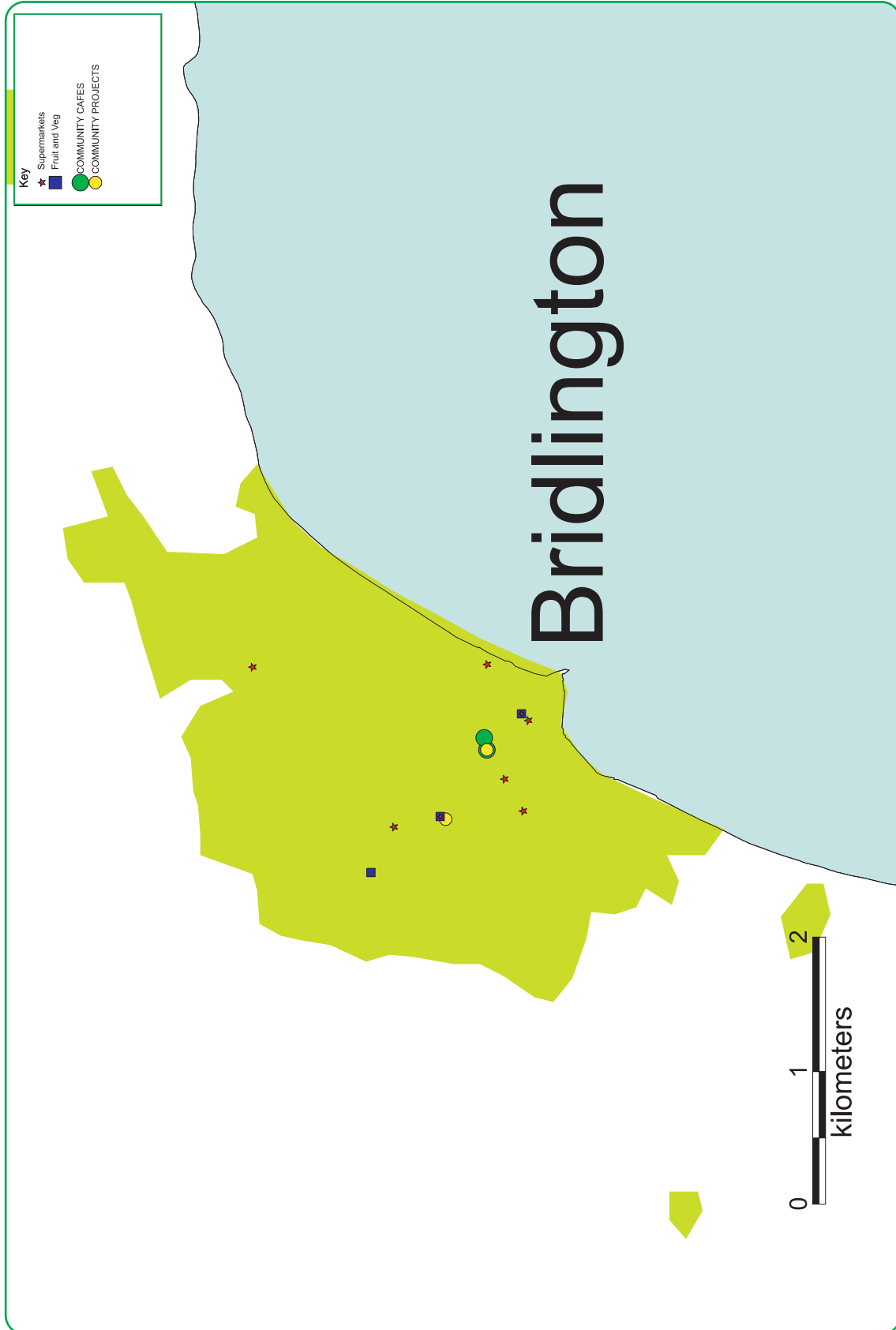
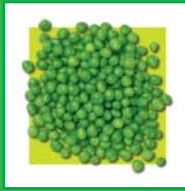
5 A DAY

## APPENDIX 4

### Geographic Information Systems Maps

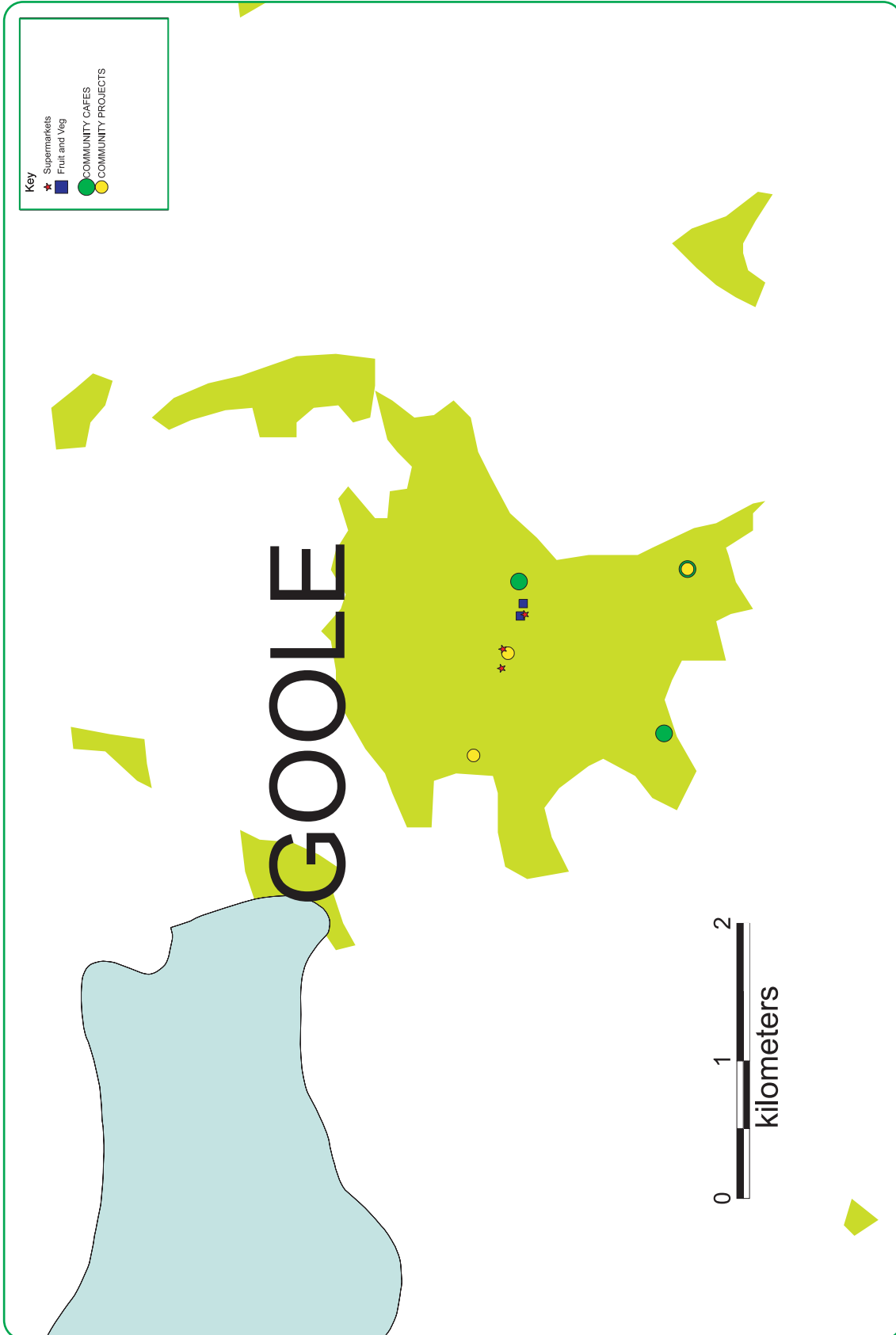


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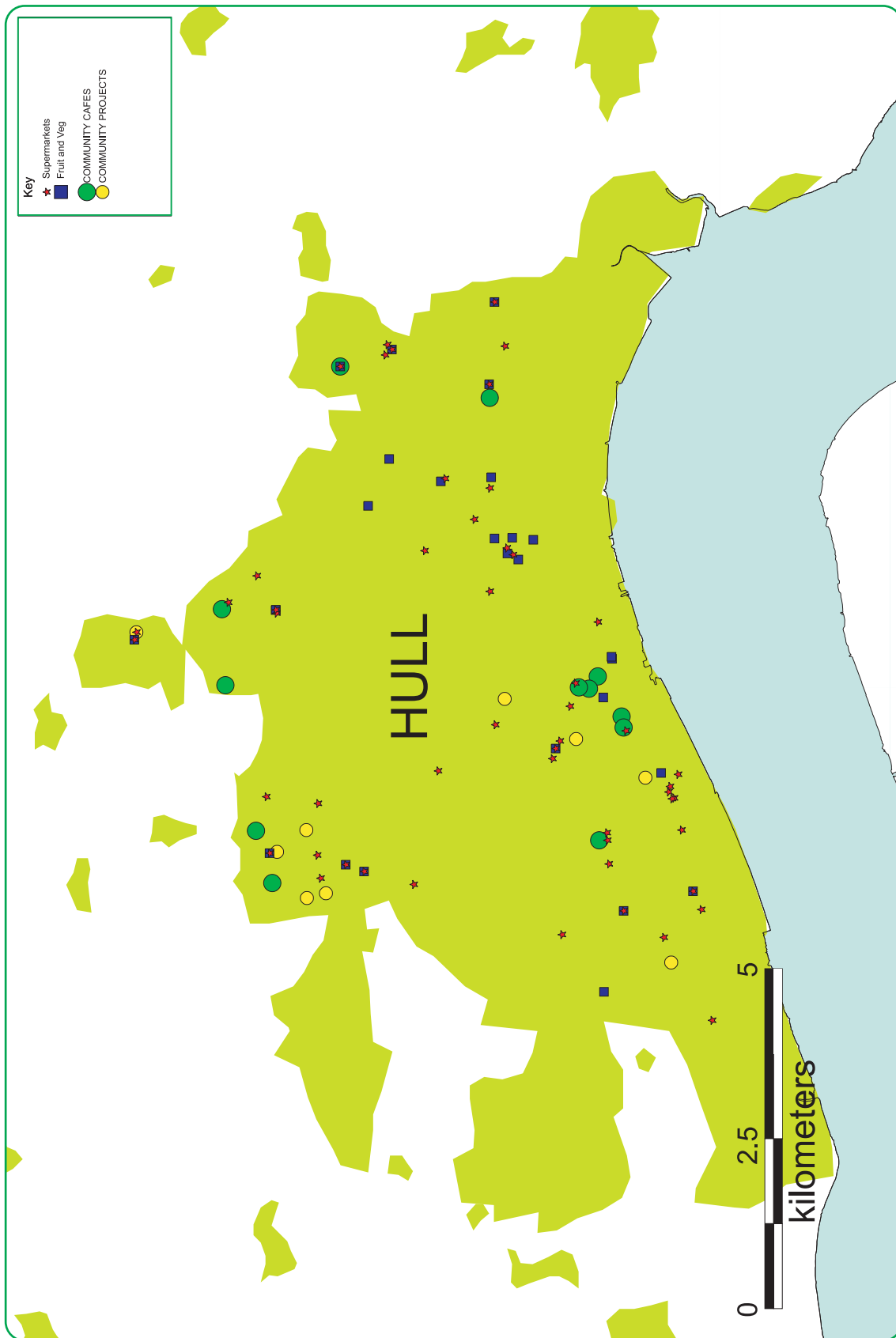


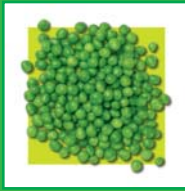


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## APPENDIX 5

### Interview and Focus Group Format and Questions

For the purpose of the focus groups and interviews a quiet, private room was used and occasionally sessions were recorded with the use of a dictaphone, with the permission of the interviewee.

At the start of the interviews and focus groups background information on the 5 A DAY Initiative was given to participants. All participants were assured that interviews and focus groups were anonymous and everything they said would be treated with strict confidence, all dictaphone tapes being wiped over at the end of the process. Participants were asked to fill in anonymous personal details sheets – stating age, sex, household type and ethnicity.

For the purpose of the interviews, different researchers contacted individuals in different ways. In Bridlington, for ease and due to time restrictions, new (yet to be seen) patients from dietitians caseloads were contacted by phone and asked if they would like to participate in the research. Those who agreed were asked to come half an hour early to their appointment with the dietitian. Other researchers met individual users of organisations such as Sure Starts and Community Groups and made the arrangements to suit the participant. For the focus groups researchers made arrangements via community workers within the organisations.

### Questions

Questions asked during both the focus groups and the interviews reflected the aims of the 5 A DAY research specifically, barriers to consumption, attitudes to fruit and vegetables, influencing factors to fruit and vegetable intake, and shopping patterns.

- What are the barriers which prevent you, or others eating fruit and vegetables?
- What are your perceptions and views about eating fruit and vegetables?
- Does advertising influence what you eat?
- What might encourage you or others to eat more fruit and vegetables?
- Where do you get your fruit and vegetables?



## APPENDIX 6

### Community Researcher's Focus Group Report

Focus Group with Community Researchers held at Age Concern, 21 July 2004

#### Background

'Food poverty' can be defined as the difficulty in securing access to an adequate diet on a low income.<sup>1</sup> It is recognised that the choice of food for people on a low income is not just determined by knowledge of what constitutes a healthy diet.<sup>2</sup> Several factors such as income, family structure, cultural factors, transport availability and the nature of modern retailing may interact in a complex manner to contribute to a poor diet and consequent poor health.

Locally there have been surveys<sup>3</sup> about access to fruit and vegetables and patterns of food consumption and availability have been raised as an issue. Nevertheless there is limited information about how best to enable materially deprived people in Hull and East Yorkshire to increase their currently low consumption of fruit and vegetables.

To provide some insight into the above question, the local 5 A DAY initiative developed a Food Access Mapping Project, which used a Participatory Appraisal<sup>4</sup> approach undertaken by Community Researchers to engage with deprived communities and gather their perceptions around local barriers to accessing and consuming fruit and vegetables, as well as raising awareness amongst local communities, increasing knowledge facilitating the development of (e.g.) cooking or growing skills. It is intended that the outcome of the mapping exercise will contribute towards the development of a food strategy.

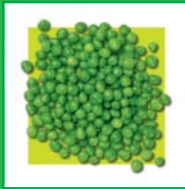
Following completion of the Participatory Appraisal exercise and researchers' reports, a Focus Group was held with 5 of the Community Researchers who had conducted the work. This focus group had the following purposes:

- To gain further insights and clarification of issues surrounding local fruit and vegetable consumption
- To provide material to support evaluation of the local 5 A DAY initiative – especially around the involvement of local Community Researchers and the processes of the mapping exercise
- To act as an 'exit interview' for the researchers, in keeping with good personnel management practice.

#### Method

All Community Researchers who had participated in the Food Mapping exercise were invited by letter, to attend the Focus Group held at the Age Concern premises on Porter Street in Hull. This is an easily accessible location in central Hull. The meeting was scheduled between 12 noon and 2:30 pm to allow for Researchers' childcare arrangements. A light buffet lunch was provided at the start of the meeting, which then proceeded along the lines of a "conversation with a purpose".<sup>5</sup>

The meeting was facilitated by a researcher from the University of Hull, who has skills in qualitative research and evaluation but had not participated in the mapping exercise.



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The Focus Group considered three main questions:

- What was it like being a researcher on this project
- If we ever undertook a similar exercise, what should we do differently?
- What are the main influences on fruit and vegetable consumption?

The ensuing conversation was documented in detail by the facilitator and two members of the 5 A DAY project steering group. Finally participants were asked individually to identify, write down and prioritise what they perceived to be the major influences on local fruit and vegetable consumption, based on the insights gained during the Participatory Appraisal exercise.

The documented material was subsequently transcribed and analysed for major themes using NVivo software.

## Findings

The Community Researchers who participated in the Focus Group talked freely about their experiences of working on the project and the insights that they had gained. There was lively conversation and a little debate. The complex nature of the factors that interact to result in poor diet generally, and low fruit and vegetable consumption in particular, was very apparent. Nevertheless there was good agreement around the major themes that emerged. Findings are discussed here under two headings: issues relevant to the evaluation; and issues relevant to informing policy/strategy.

## Issues relevant to evaluation

- 1 Suitability of Participatory Appraisal approach. There was general support for the approach. One researcher described it as a *“good way to get you started – through the door – it’s non-threatening”*. Researchers agreed that *“[you can] get more depth of information than from a questionnaire”*, although acknowledging that the approach takes time and *“you can’t hurry people”*. Researchers also highlighted a lack of clarity amongst respondents around whether they were researching fruit and vegetable consumption or promoting the 5 A DAY initiative. More than 1 of the researchers described comments from participants about their appearance, especially size/weight e.g. *“you’re the advert ... and you’re that size?”* However they made positive comments about being able to deal with this misconception in the course of their research.
- 2 Specific issues with 5 A DAY. The Community Researchers were especially vocal about difficulties in getting people to talk about their eating habits. One researcher stated that *“[this was] the hardest piece of research I’ve ever done and I’ve researched prostitution and drug use”*. There was a shared view that people are prepared to discuss some very personal aspects of lifestyle, but eating habits are particularly sensitive. We heard about people being reticent towards *“admitting to inadequacies and being judged”* and a view that *“[talking about food/eating habits is] like getting into someone’s psyche”*. However there was an alternative view that people who live in a New Deal area where much research using PA methods has taken place can engage more easily with researchers *“because the population are trained to answer questions”* and as a result can be *“very open”*.



- 3 Benefits to Community Researchers. Despite some of the difficulties outlined above, the Community Researchers described their involvement in the 5 A DAY initiative as largely very positive, as the following comments illustrate;

*"This piece of work has made me think about me, more than anything I have ever done – it's been life-changing"*

*"I liked doing the research – we made it fun"*

*"It got me thinking about selling fruit around the estate – do deliveries"*

*"My child has benefited from [my] doing this bit of research"*

- 4 Recommendations for future research/promotion. Based upon their experiences of conducting the food mapping exercise, there were several suggestions for policy or future initiatives e.g.

*"the kids said make [fruit and veg] more sexy"*

*"start with babies because people won't blend [fresh food]"*

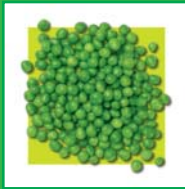
*"did we cover enough ethnic minorities – especially travellers?" and what about "special needs/disabilities/special diets/ pregnant mums?"*

There were also further comments about the interfaces between researching fruit and vegetable consumption and promoting the 5 A DAY initiative, and speculation about whether the two could/should be done at the same time. For example researchers pointed to the value of being able to engage with the community by being able to *"give them something"* e.g. samples, recipe leaflets, *"cook and taste sessions"* to facilitate asking research questions, whilst going some way towards raising awareness, increasing knowledge and developing cooking skills. Involving Community Researchers in a more formal Action Research approach is an alternative model that might be considered.

- 5 The mapping exercise used innovative approaches which policy making, in line with recommendations made in the Government White Paper – Choosing Health: Making healthy choices, could draw from. The evidence collected will form a significant part of the local obesity strategy which is currently under development.

## Issues relevant to policy/strategy

- 1 Barriers to fruit and vegetable consumption. Participants in the Focus Group described how they had observed or discussed with members of the communities they had worked with, a number of barriers to fruit and vegetable consumption i.e.
- Cost was a recurring theme, but understanding how it interacts with other barriers is complex. For example one researcher observed that *"they think they don't have enough money to buy healthy food and they don't know how to cook it"* whilst others cited the *"takeaway culture"* alongside cost and the lack of cooking skills i.e. one researcher noted that *"some people say they can't afford veg etc, but still use the takeaway"* whilst another observed that [people are] *"trained to go to the takeaway [...] people know the pizza hut number by heart"*.



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- Accessibility of local retail outlets was also seen as an issue, and one that also seems to interact with the “takeaway culture”. Researchers raised issues around the viability of local fresh food businesses e.g. one researcher noted that a local fruit and vegetable shop had recently closed and been replaced by a takeaway. Concerns were expressed about the ability of fresh food retail outlets to afford council rates, especially if they did not also sell other items such as fizzy drinks.
- The quality of produce in local shops was also raised. One researcher remarked that whereas the fruit could tend to be fresh, the vegetables tended to look old and unappealing.
- Lack of cooking skills and equipment emerged as a theme on several occasions and was described as being particularly acute amongst young men or divorced/single people. One researcher described the situation of several single/divorced men that they had encountered as “some didn’t know how to cook or have utensils or even a cooker”.
- More than one researcher cited the layout of supermarkets, which tend to put produce near the entrance to the store, as being unhelpful. They noted that people described a tendency to choose the meat first and then be reluctant to return to the fresh produce – acquiring tinned or frozen vegetables was often more convenient. We also heard of fears of crushing or damaging (e.g.) soft fruit or tomatoes under the heavier goods (e.g. flour, washing powder) that are found later in the journey around the store. There are other aspects of retail practice that may also have an influence, for example one researcher noted that the ‘buy one get one free’ offers that are common in supermarkets are more commonly associated with convenience food than with fruit and vegetables. Researchers also observed that modern kitchens aren’t well designed to store fruit and vegetables.

## 2 Other influences.

- “Mixed Messages” contributing to a lack of understanding about the 5 A DAY initiative and what constitutes healthy food was also raised as an issue. There was a view that people tend to “switch of from [thinking about] what’s healthy and what isn’t” because of confusion around the messages of health promotion initiatives and “health scares”. For example, we heard from the researchers that what constitutes a portion of fruit or vegetables is not clearly understood and it is not always clear whether processed or fresh food is better. For example processed food may have added sugar, salt or fat but fresh food has been associated with ‘scares’ around the use of irradiation, insecticides or genetic modification.
- Concept of Health. When asked about their impressions of what ‘Health’ means to the communities they worked with, researchers described a concept of health that was often more closely associated with fitness than disease. One researcher offered a view that young people in particular think that health is about “fitness – [being] sexy, fit, slim [having] shiny hair, good skin”. There seemed to be a lack of association between diet/shopping habits and disease i.e. “people don’t shop to avoid disease” or “don’t feel at risk”. One researcher observed that “people don’t make connections with health and [health] issues when they are in the supermarkets”. There was also a recognition that people are aware that factors other than diet contribute to health e.g. “many things influence health [including] poverty, depression, stress etc”



- Education. There was a clear view that many children have developed poor eating habits, and that this should be tackled both in schools and in the home. We heard that “kids run in, grab a bag of crisps and run out” and “a lot of children go to the fridge and eat what they want” but also that there is “no point educating kids [in school] if they go home and eat burgers”. One researcher also described being surprised to find that older people, contrary to prior expectations, can also tend to lack cooking skills. We heard that “looking to older people – OAPs – as role models was a mistake as they were not cooking fruit and veg. There was a preconception that they had fruit and veg when in fact they hadn’t”. Whilst it was generally thought that children might be the age group most amenable to education, it was recognised that any initiative in schools might be of limited value if it were not reinforced by initiatives within the wider community.

## Relative importance of influences on fruit and vegetable consumption

At the end of the focus group, researchers were asked, based upon their experiences during the Participatory Appraisal Exercise to list in order of priority, what they now considered to be the major factors influencing fruit and vegetable consumption. There was a high degree of agreement between researchers, who listed the following as having the greatest influence.

- Homelife/upbringing/education
- Income
- Availability
- Advertising/peer pressure

Clearly the 5 A DAY project steering group will need to develop and support evidence-based initiatives to address these influences in a way that is locally sensitive and acceptable.

## References

- <sup>1</sup> Trent Public Health Observatory (2002) “Determinants of Health Inequalities in the East Midlands, Yorkshire and the Humber”
- <sup>2</sup> Interdepartmental Nutrition Taskforce, Low Income Project Team, 1996
- <sup>3</sup> PHDT Lifestyle surveys
- <sup>4</sup> Annett H and Rifkin S “Guidelines for rapid appraisal to assess community health needs” Geneva, WHO, 1988
- <sup>5</sup> Burgess RG “Into the field; an introduction to field research”, London, Allen and Unwin 1984



[www.5ADAY.nhs.uk](http://www.5ADAY.nhs.uk)



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