

## Introduction

'Safeguarding our Communities' and 'Helping People to Fulfill their Potential' are two of Oxfordshire County Councils strategic objectives for 2005/06. Working with these objectives in mind, a food project was devised by the County's Trading Standards Service. The projects remit was to 'Safeguard food standards and improve access to healthy, affordable food', thereby helping residents of Oxfordshire to fulfill their potential.

A food action group was set up involving Oxfordshire County Council Trading Standards, Sure Start, East Oxford Healthy Living Initiative, Oxford City and Cherwell Vale Primary Care Trusts. These stakeholders wanted to establish whether there was any 'food poverty' in the County and what the impact of this would be on any residents involved. The members of the group decided that consultation with local community groups would provide the research required and would propose solutions to any 'food poverty' found in areas of Oxfordshire.

The food action group came to an agreed definition of 'food poverty'. They describe it as: -

"The inability to purchase food for a healthy diet. This may be because of low income; lack of access to reasonably priced shops (local shops may be non-existent or expensive; cheaper supermarkets selling a range of foods may be difficult to get to because of lack of public or private transport;) and inadequate knowledge about healthy eating."

To seek out these areas of 'food poverty' the group used the following methods. First of all some of the stakeholders were already working with groups in socially excluded areas. It was decided to use this primary source of information to guide our consultation exercises. It was also thought that if we combined this information with other Oxfordshire demographic and socio-economic information, the Trading Standards database and the Transport and Planning database, this all could be amalgamated to produce an accurate map detailing 'food poverty' areas in Oxfordshire. However at this time the National Consumer Council (NCC) had published the report, "Putting food access on the radar. The report highlighted a project they had been involved in with Staffordshire County Council Trading Standards. This project had produced a tool kit that drew together available data to identify areas at greatest risk of experiencing difficulties with accessing food.

The aims of this toolkit were as follows:

- To enable local authorities to map access to food using GIS and other software together with datasets available to them in a simple step-by-step approach.
- To enable local authorities and their public health partners to use and interpret the output from a Food Access Radar.
- To identify measures that can be taken to investigate further the variety, quality and price of food items and other food accessibility issues within

identified food 'access-poor' areas through engagement with a local community and its retailers. (Toolkit for Local Authorities to Produce, Interpret and Utilise a Food Access Radar. Staffordshire County Council)

After consulting with Mike O'Neill from the NCC and Staffordshire County Council at the release of their report in Harrogate, it was decided that Oxfordshire County Council would pilot this toolkit before its full release.

The following discusses the implementation of this toolkit by the food action group and Oxfordshire County Council, to help achieve its project objectives.

## **Using the Toolkit**

### ***1. Production of the Food Access Radar – The Oxfordshire (IT) Experience***

Dennis Young, Oxfordshire County Council's GIS Manager, produced this part of the report concerning the set up of the Radar system.

We received the documentation from Staffordshire County Council on the development of the Toolkit and using this as a template we adapted the procedures to suit the Oxfordshire County Councils computing environment.

Oxfordshire has the following software available:

MapInfo Professional – a desktop GIS program  
DfT "Accession" – Routing program  
PlanWeb – an Intranet GIS using MapXtreme  
MapInfo Proviewer – a free GIS viewer.

The following datasets were also used

1. An extract of all the food stores from the Trading Standards database
2. The road and footpath network used by the SCANA package in Learning and Culture which is based on the Integrated Transport Network from Ordnance Survey
3. 2001 census data
4. OS Address Point data
5. Parish Boundaries
6. Bustop data
7. OS Code Point data

### **The Oxfordshire Procedure.**

The data from the trading Standards database was geocoded using the post code field and matching against the Code Point dataset.

Data from the 2001 census was mapped at Ward, Super Output Area (SOA) and Output Area (OA) levels.

The Road and footpath network and food store locations were loaded into Accession and the foodstores were designated as origins.

A 250m grid was created and this was designated as destinations.

Accession then calculated the 400m and 800m isochrones and these were exported as shape files which could then be translated into MapInfo format.

These data sets were then made available to PlanWeb.

PlanWeb was then used to thematically map the Census Data to highlight those areas where there may be a high concentration of people who have access difficulties. The Isochrones and food stores can be overlaid on top together with bus stops and it becomes apparent which areas may have a problem.

## **Issues**

Accession is a very resource intensive program and needs to be on a very powerful computer. It could not handle creating isochrones for the whole of Oxfordshire and so isochrones were created a district at a time. Typically a district would be run over a weekend. The 250m destination grid may be too coarse and a 50m grid might be better. This would take even longer using Accession. Although the County Council is entitled to a free copy of Accession, subsequent copies cost £2600. This means that any work done on creating the isochrones has to be done on the computer that has Accession on it. A better solution might be to buy a copy of a MapInfo based routing software costing about £600 which should also be quicker. The default walking speed of 4.8km per hour should be adjusted to reflect the true walking speed of the people concerned. The creation of the isochrones is not intuitive and there does not seem to be any indication of units in Accession but this may be due to lack of familiarity with the package.

The Census data is too comprehensive and a cut down version containing the attributes for this particular exercise should be included in the table.

The network used is at least a year old and a more up to date network should be used.

The food store data also proved to be out of date and this should be checked before and during use. It would be useful to colour code the different food store types on the map.

PlanWeb proved to have the functionality needed for this exercise and I estimate that a 2 hour training session would be necessary to train users on how to use the system. PlanWeb allows users to display different data sets on different map backgrounds and to create and edit thematic maps. The user

can also annotate and print the maps at varying scales. There is a comprehensive gazetteer to locate places.

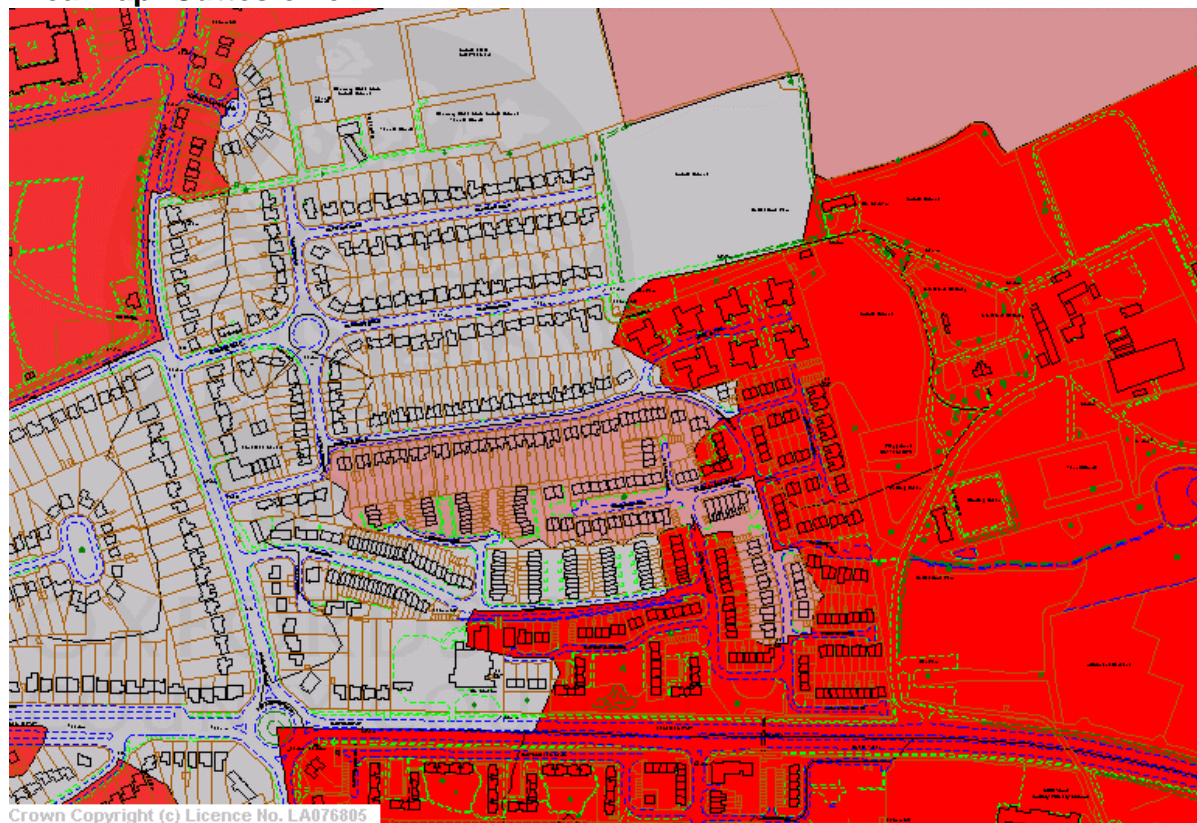
The question of ownership of this technique needs to be addressed. It may be that Trading Standards is not the best place for this to be taken forward although because PlanWeb is available across the Authority, any Directorate could use this data in association with their own data (Such as traffic surveys, traffic accidents, provision of home care, etc.).

## ***2. Interpreting the Output from the Food Access Radar***

### **Area Chosen by the Food Action Group and the Food Access Radar.**

**Cotteslowe (Cherwell Vale PCT: Oxford City Wolvercote Ward)**

#### **Area Map: Cotteslowe**



Area in red shows a high proportion of older adults in this area.

## Isochrone Map



## Key Issues in Cutteslowe

The following socio-economic statistics are found within this area.

- 16-74 year olds who are permanently sick or Disabled (2.1%)
- Persons who have access to car or van (21%)
- Older Adults (22%)
- Persons classed as income deprived (4.6%)
- Unpaid carers (10.3%)

From the above map Cutteslowe is seen to have two small food businesses, highlighted as blue boxes. Using the Isochrone system the residents in the red area of the map would be required to travel over a kilometre to access these food businesses. However, further investigation found that one of these premises is a food business run from a home, providing no access to food for the general public and the other was a small store that had recently closed. Therefore, access to the nearest food shop for residents living in any part of this area now, is either to travel to Summertown to the south or Kidlington to the north, both over 1.8km away. The public transport system on the major roads around Cutteslowe is very good. However, the service inside the area is poor.

As seen by the previous map and the socio-economic statistics there is a high percentage of older adults, a small percentage of permanently sick or disabled persons and a reasonable percentage of unpaid carers. The group identified as being most likely to suffer from 'food poverty' according to the Radar is the older adults. More investigation was therefore required in this area to find out the extent of any problems with the access of affordable, healthy food.

## **Assessing Theoretical Food Access Problems in Practice**

Once the 'food access-poor' areas had been theoretically identified by the Food Action Group and through the use of the Food Access Radar, the next step was to assess the extent of the problems affecting the community.

### ***Investigation***

The Food Action group decided to use the following methods to determine the extent of the problem and to start collating solutions to any problems highlighted by the community:

1. An informal group discussion - this involved a discussion about the access, attitude and costs of a particular basket of food. (See Appendix A)
2. A questionnaire, that asked questions relating to the basket of food. (See Appendix B.) The answers to this questionnaire became documented primary evidence for the discussion above.
3. A three-day diet sheet. (See Appendix C.) This would give an insight into what individuals/families ate and how much over a three day period.

### **Engaging with the Community**

Through the contacts the food action group had it was able to set up a focus group with the Cutteslowe Seniors who meet at the local community hall in Wren Road. As indicated earlier, the Radar identified this group of older persons as most likely to suffer from food poverty.

The results of the consultation with this group were as follows:

#### **Cutteslowe Seniors Consultation**

The highlights of the informal discussion and of the responses to the questionnaire are found in the following table:

Q2	All shopped at a supermarket
Q6	15 Items of Fruit & Vegetables were chosen as regular purchases from basket of food
Q7	All stated they cooked at home.
Q9	Half of the respondents purchased ready meals regularly.
Q11	Concerns at foods shops included; Quality of ingredients i.e. chemicals & fair trade issues?
Q12	Concerns raised about the food they ate included; 1. The amount of salt and additives found in foods. 2. Cost and non-availability. 3. Where the food comes from and how long has it been in the

shop.

The most highlighted problem was the fact the local shop had recently closed down so the group were reliant on public transport to get to the nearest supermarket.

The ages of the respondents were 66–80.

### **Diet Sheet**

Suzanne Bradshaw the Community Dietitian, Kate Dunsdon from the Healthy Living Initiative & Philip Owen met on 16-12-05 to discuss the food diaries and prepared advice to give back to the group.

(See Appendix D; A Guide to General Healthy Eating.)

The results of the diet sheets were as follows:

#### **Negatives**

- Too many ready meals were being consumed.
- There was a high Salt intake as it was added to vegetables and then sauces and gravy were added to the meals that also contain lots of salt.
- There was a high intake of sugar as it was used on fresh fruit.
- A lack of calcium was detected, as there was a low amount of dairy produce being consumed.
- A variety in fruit was also detected as being required.
- Too much white bread and cereal was being consumed and not enough wholegrain and whole-wheat.
- Breakfast was being missed.
- Healthier snacks were required.
- There was not enough regular fluids being taken; and
- Fried foods were being eaten regularly and so the diets would contain a high fat content.

#### **Positives**

- There was a lot of home cooking taking place particularly the baking of fish!
- The respondents were not adding sugar to drinks.
- The cooks were using steamer/pressure cookers to help retain the vitamin and mineral content in vegetables.
- There was a good range of vegetables being used but not fruit.
- Some showed they had regular meal times; and
- A few grew their own fruit & vegetables.

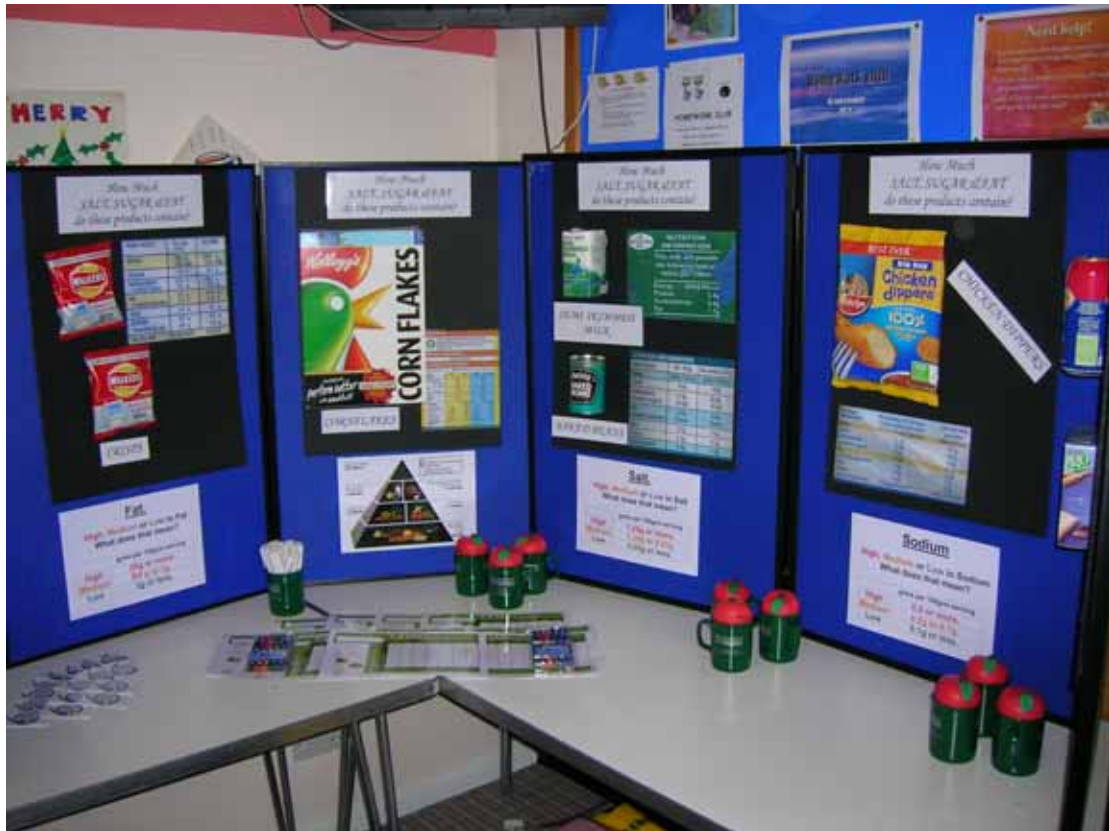
## Feedback

The feedback for the group consisted of:

- A small talk around the guidance given in the 'Guide to General Healthy Eating' leaflet and 5-A-Day advice;



- Specific problems raised in the questionnaire answered;
- The quiz; 'How much do you know about healthy foods, labelling and hygiene?'
- The quiz; 'Understanding Food Labels'. This involved searching for answers on display boards that were set up. Please see a photograph of the boards below.
- Various gifts were given out. Stress ball apple, Food Standards Agency's salt counter, an Oxfordshire County Council Mug and 5 a day diet board.



Display boards.



Photograph of the Cutteslowe seniors group.

## **Future Work**

From the informal discussion, the questionnaires and the feedback meeting, it was evident the main problem with the community's access to affordable, healthy food was the closure of the small local shop.

The work that now needs to be achieved and feed back to the group, is to determine the following:

1. What is involved in setting up a cooperative store? (The village of Leafield in Oxfordshire has already achieved this and so can be used to find out what is required.)
2. Are there any fruit and vegetable box schemes in the area? (Contact to be made with the Oxfordshire Food Group.)
3. What can the Council do in regard to transport, healthcare schemes etc. (Contact to be made with the Transport and Planning and Social and Healthcare departments within the Council.)
4. What can the local supermarkets do to help? (Some of the local supermarkets will deliver food on a sale or return basis to cooperatives. Internet deliveries must also be investigated.)

Using the Food Access Radar and the working knowledge of the food action group, twelve other areas of Oxfordshire have also been highlighted as having problems with the access of affordable, healthy food. These have been consulted as above and feedback will shortly take place. The Food Action group have recommend that in some of these areas the Staffordshire model of conducting shop visits should be followed to assess the variety, proportionality of shelf space, price and product quality of the foods on sale.

## **Conclusion**

The Food Access Radar Toolkit has assisted Oxfordshire County Council and its partners to identify areas that may be suffering from 'food poverty'. It has also helped in implementing community consultation that explores and finds potential solutions to particular issues raised by the community.

The toolkit provides a 'desk top' mechanism to identify and quantify areas of potential 'food poverty' to help determine the extent of the problem. This enables local authorities to use an efficient and cost effective method of identifying potential areas of 'food poverty'. This helps prioritise the use of resources in to areas most likely to have need. Using the radar with appropriate community consultation gives the local authority a sound basis on which to proceed with any strategy to address issues of 'food poverty'.

The Food Access Radar provides an evidenced based approach to commence further investigations in to areas that are most likely to be suffering the effects of food poverty. This initial assessment enables more detailed work to be focussed in particular communities. It's only when further investigation into these areas is done that the full extent of the problems are realised. The Radar should be used to direct the deployment of resources into community consultation.

## Recommendations

1. Local authorities and their partners should use the toolkit as a first step in prioritising activity to those areas most likely to be suffering the effects of 'food poverty'.
2. The pilots have identified that the radar can play a significant role in making a 'step change' in the field of addressing 'food poverty' and facilitating community consultation to reach solutions that are workable. This good practice should be shared with other agencies that have a role to play in dealing with the issue so they can learn from the pilots.
3. This toolkit should be formally recognised by the Food Standards Agency and guidance should be offered to local authorities on how it can be included in their Food Enforcement Plans. It should be recognised as a key performance indicator both within the plan and in the wider context of its contribution to achieving health and well being for communities.

## **Appendix A. Shopping Basket**

The food basket was designed by the Food Action group using the Food Standards Agency's literature on balanced diets and eating well. Items were chosen for the basket from five main categories. An example of a basket is listed below.

### ***Fruit and Vegetables***

Canned peaches, Apples (fresh fruit), Baked Beans, Tomatoes (Tin), Carrots, Onion, Peas or Broccoli, Mushrooms.

### ***Bread, other cereals and potatoes***

Potatoes, Wholemeal Bread, Spaghetti/Pasta, Porridge, Flour.

### ***Milk and Dairy foods***

Cheddar, Semi Skinned milk, Butter

### ***Meat, fish and alternatives***

Canned Tuna, Minced Beef/Chicken, Canned Kidney Beans, Eggs.

### ***Foods containing fat/Foods containing sugar***

Biscuits, Butter, Sunflower oil.

A food basket was also designed to be used for an Asian group.

### ***Fruit and Vegetables***

Apples, pears, oranges, mango's, water melon, oranges  
Onion, lettuce, cucumber, coriander, mint

### ***Bread, other cereals and potatoes***

Bread (white), Chapatti Flour.

### ***Milk and Dairy foods***

Milk (pasteurised), Margarine

### ***Meat, fish and alternatives***

Chicken, Meat

### ***Foods containing fat/Foods containing sugar***

Ice cream, Crisps, Chocolate

## APPENDIX B - Food Safety Questionnaire.

Sure Start, East Oxford Healthy Living Initiative, Oxford City Primary Care Trust and Oxfordshire County Council Trading Standards have put the following questionnaire together.

The above group was set up to run a project to find out what Oxfordshire families eat, where they shop, how they access shops and what knowledge they have about healthy eating. The project will also deal with the concerns Oxfordshire residents have about the food they consume. ***This is where we need your help!*** Please fill in the questionnaire below to help us to find out what you buy, where you buy it and your concerns about the food you eat.

Please see the basket of staple food products.

Q1. How many of these food products can you buy locally?

0      1-5      6-10      11-15      All Items

Q2. Where would you buy these food products?

Local shop      Supermarket      Market

Other (Please name.)

Q3. How long would it take you in minutes to get to the shop?

1-5      6-10      11-15      16-20

More (please state in minutes)

Q4. How would you get there?

Walk      Bus      Car      Cycle

Other (please state)

Q5. What price would you pay for the following items of food from the basket? (If you do not know please enter DNO)

Canned peaches      Baked Beans      Wholemeal Bread      Cheddar

Canned Tuna      Minced Beef/Chicken      Butter

Q6. Please state 5 items you would buy from the basket?

Reasons?

If so how often?

Once a day                      Once every 2 days                      Once every 5 days

Once a week                      Longer (please state how long an interval)

Q7. Can you prepare and cook a meal at home using the items of food in the basket?

YES                      NO

If so can you name the meal/meals?

Who do you cook for?

Q8. Where do you buy the majority of your food?

Local shop                      Supermarket                      Market                      Other

Please name.

Q9. Do you purchase ready prepared meals?                      Yes                      No

If so how often and please give examples of the type you purchase?

Once a day                      Once every 2 days                      Once every 5 days

Once a week                      Longer (please state how long an interval)

Q10. Do you purchase food from any of the following?

Café/restaurant    Yes                      No

Take-a-way or fast food chain    Yes                      No

If your answer is yes, how often?

Once a day                      Once every 2 days                      Once every 5 days

Once a week                      Longer (please state how long an interval)

Is there a regular outlet you use? (please state)

Q11. Do you have any concerns about the food or drink you consume at these premises?

YES            NO

Please list...

Q12. Have you any other concerns about the food or drink you buy?

Yes            No

If your answer is yes, have you had any experiences or examples you wish to highlight?

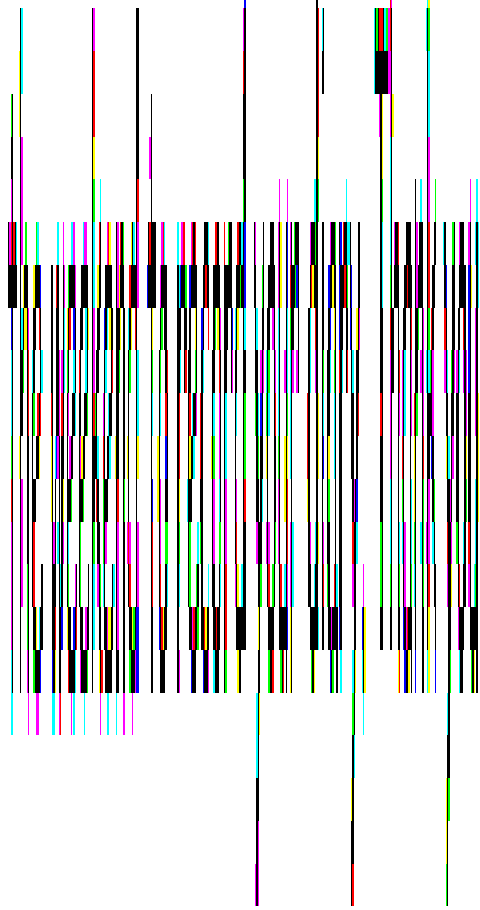
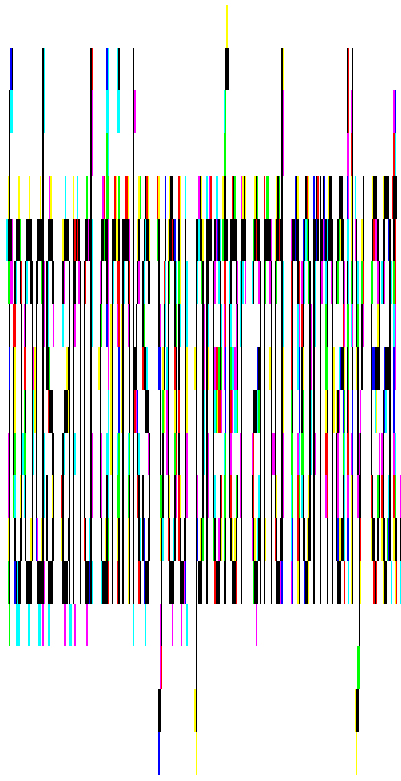
Please fill in the following personal details. These details will be kept strictly confidential.

Age:	16 – 20	21 – 25	26 – 30	31 – 35	36 – 40
	41 – 45	46 – 50	51 – 55	56 – 60	61 – 65
	66 – 70	71 – 75	76 – 80		

Sex:    Female                      Male

Ethnicity:

Postcode:



Day and date: .....

Time	Food and drink. Please include: brand name, flavour  <i>Enter each food item on a new line</i>	Cooking method e.g. fried, grilled, toasted
8:15am	Hovis granary bread	Toasted
	Tesco sunflower margarine	On toast
	Chicken	Boiled
10:30am	Banana	
	Water	
12:15pm	Heinz mushroom soup, 300 g tin	Micro waved
	Whole meal roll from local bakery	
	Sainsbury's low fat fruit yoghurt	
	Granny smith apple	
	Glass of water	

Amount eaten	Office use	Office use			
	Weight	Food code			
2 slices					
Thin spread					
1 large					
Small					
Medium glass					
All					
All					
1, 125 g pot					
1 medium					
Large glass					

## ***APPENDIX D - A Guide to General Healthy Eating***

This leaflet has been produced in consultation with a state registered dietitian as feedback on the food diaries completed during the Food Access Project. This involved consultation with 13 Oxfordshire based community groups.

### ***Who is the leaflet aimed at?***

The following information gives some general guidance on healthy eating, in particular on salt, sugar and fat, for all members of society.

### ***General Healthy Eating Guidelines***

Aim to eat at least 5 portions of fruit and vegetables daily. Try to eat fruit and raw vegetables as snacks instead of sweets, chocolate, crisps, biscuits or cakes. Each of the following counts as one portion of fruit or vegetables: -

- 1 medium sized banana, orange, pear, apple or peach
- Handful of grapes, strawberries or raspberries
- 2 plums or kiwi fruit
- 1 slice of melon, pineapple or half a mango
- Small glass of unsweetened fruit juice (100ml)
- Small handful of dried fruit (dessert spoon)
- 2 tablespoons vegetables
- Small salad

**Remember** to have a variety in your five portions of fruit and vegetables a day. Tinned, frozen and dried fruit and vegetables can also count towards your Five a Day. You can also include one glass of fruit juice per day as one portion towards your Five a Day.

Aim to eat more chicken and fish and less red meat. Try to trim the fat from meat and remove the skin from poultry where you can, to reduce the amount of fat in your meal.

Aim to eat more wholegrain or wholemeal bread and cereals and less white bread for added fibre.

How often are you eating meals prepared away from home? Is it occasionally e.g. once a month or are you having take-a-ways more often? Try to avoid having too many ready meals as they can contain a lot of fat and salt.

### ***Fat***

Look at the amount and type of fat used within the home. Ideally cooking oils and spreads should be based on olive oil or rapeseed oil. These are monounsaturated fats and are more heart healthy. Always measure out cooking oil. Even though olive oil is considered to be 'healthy' it should still be used sparingly. Try to cut down on or avoid butter and ghee.

**Remember** frying food increases the fat content of your meal and adds unnecessary calories. Try healthier cooking methods such as baking, poaching or grilling instead, where you can.

## ***Sugar***

For people with diabetes it is important to avoid too many sweet foods and drinks. Food labels can be useful for comparing one food with another – aim for products with less than 10g sugar per 100g of product or less than 10g per serving. Other things can influence how quickly sugar is absorbed.

- For example sugar in liquids is absorbed more quickly than from a solid food. For this reason, fruit juice should be limited to one small glass with a meal per day, whereas a whole orange can be eaten as a snack between meals.
- Secondly, the higher the fibre content of a food the more slowly the sugar present will be absorbed. Oat based cereals such as porridge are a particularly good choice.
- Yoghurt contains lactose (milk sugar). Lactose is absorbed very slowly, unlike sucrose, and will not upset blood sugar levels. When choosing yogurt, go for low fat and low sugar varieties for the healthiest option.

**Remember** do not add sugar to fruit and aim not to add sugar to drinks (you could use sweeteners as an alternative).

## ***Salt***

The recommended maximum daily amount of salt to be consumed by adults is 6 grams. The majority of us exceed this amount daily. One way of cutting down our salt intake is by not adding salt in cooking and/or at the table. Try to use herbs and spices to flavour your foods instead of salt.

**Remember**, many shop bought soups, sauces and gravy contain high amounts of salt and by adding these to your meals, you will be increasing your salt intake.

## ***Dairy produce and Calcium***

The food diaries examined showed a low calcium intake. Look at the amount of dairy produce you consume and increase it where necessary. Older people need to maintain a good calcium intake to help maintain sturdy bones. Three portions a day is adequate (1 portion = 1/3 pint milk, 1 yogurt, 1 oz (25g) cheese).

## ***And Finally***

Make sure you have regular meals, which includes making time for breakfast. Home cooking is preferable and **Remember** by using a steamer or pressure cooker you will retain much more of the vitamin and mineral content of vegetables than by standard boiling. Try to use a wide range of vegetables and if you can, grow your own fruit & vegetables.

**Remember** it is also important to take fluids regularly (6-8 glasses per day)

**Remember** be careful when reheating food, make sure it is piping hot throughout. It is advisable not to reheat rice.



