Bolton's HealthMatters

# JSNA: Diet and nutrition

## Introduction

Healthy nutrition is a preventative factor for many chronic diseases and cancers as well as specific diet-related conditions that are of great concern in Bolton, in particular the increasing prevalence of obesity and type 2 diabetes. It is necessary that guidelines to ensure that the population have a nutritionally adequate diet are implemented to help prevent diet-related deficiencies and malnutrition in vulnerable infants, children, and adults.

Much of the national population does not eat enough fruit and vegetables and consumes too much salt, sugar, and saturated fat. Furthermore, national research reports low levels of dietary fibre and Vitamin D across all groups. In Bolton, poor dietary habits follow the pattern of socioeconomic deprivation and as such contribute to health inequalities within the borough.

The number of people in food poverty or who are suffering due to lack of access to an affordable healthy diet is rising in part due to the economic climate. It is estimated that approximately 4,700 individuals a year are accessing one of two food banks in Bolton[1] and this is set to rise with the introduction of the welfare reforms in April 2013.

Poor diets cost the NHS in England around £6billion a year in ill-health and the World Health Organisation (WHO) estimates that dietary factors account for 30% of cancers in industrialised countries[2].

## Implications for commissioning

Target the saturated fat campaign at the older population and South Asian community. Deliver tailored messages such as replacing ghee with vegetable oil or half fat ghee and use links to communities and community groups developed by the health development workers.

Scope the feasibility of rolling out the Change4life convenience store project, targeting those areas and communities which reported eating less than three portions of fruit and vegetables a day. Ensure this is linked to the Food Access Bolton project.

Deliver cooking interventions targeted at those groups who are least confident at cooking from basic ingredients (people not working, students, deprived communities, men and younger people); ensure these interventions include information about healthier meat

[1] Urban Outreach Bolton (2013) http://www.urbanoutreach.co.uk/
[2] World Health Organisation (2013) http://www.who.int/topics/diet/en/

preparation, eating out, salt and labelling using key messages and campaign materials from Change4life.

Work with the Planning Department to restrict the number and siting of takeaways.

Deliver an action plan which ensures that tackling the takeaway issue is carried out in a holistic way including: improving the health offer in takeaways and other businesses selling take-out food (e.g. convenience stores, sandwich shops, etc.), through the rollout of a healthy catering award, increasing access and availability of fruit and vegetables, and involving the whole community.

Ensure there is a strategic approach to improving physical activity levels across the borough and physical activity interventions are delivered alongside healthy eating.

Explore the feasibility of universal Vitamin D supplementation with Healthy Start vitamins for pregnant and breastfeeding women and young children under 5 years as set out in the Greater Manchester Health Impact Assessment[3].

Target cooking, shopping, budgeting and food growing interventions at the most vulnerable in Bolton working in partnership with Urban Outreach (Food Bank). Link this into the wider poverty agenda tackling issues such as fuel poverty, transport, financial services etc. through the Food Poverty Steering Group which feeds into the Financial Inclusion Partnership.

Commission a report similar to *Who Feeds Bristol?*[4] as a first step to gain a better understanding of the food system in Bolton and how we can increase resilience and sustainability with a view to tackling the food poverty crisis and developing the local economy.

## Who's at risk and why?

Diet and nutrition can vary depending on age, gender, ethnicity, and socioeconomic deprivation. Specific at-risk groups include:

1. The most deprived quintile: In Bolton this group are more likely to eat less healthy foods (fruit and vegetables, wholemeal bread, high fibre cereals, oily fish) as well as to eat more unhealthy foods (white bread, full fat milk, sugar, processed meats);
2. Children: Nutrition is of particular importance for child health as poor diet is associated with childhood obesity, type 2 diabetes, tooth decay, and infant mortality. However, children under 18 years of age are more likely to be at risk of a poor diet, as are young adults (aged 19-24 years);

[3] Greater Manchester Public Health Network (2012) *Greater Manchester Health Impact Assessment on Vitamin D,* GMPHN.
[4] Carey, J. (2011) *Who Feeds Bristol? Towards a resilient food plan,* NHS Bristol.

3. Older people: With those over 65 years of age who reside in institutions being at particular risk;
4. Black and minority ethnic groups (BME): Little evidence is available for the eating habits of BME groups but we know from our local survey that South Asian groups tend to have a lower fruit and vegetable intake when compared to the Bolton population as a whole.

### Under-nutrition in pregnancy and childhood

Under-nutrition may be the result of a diet low in micro-nutrients as well as calories or the result of inadequate absorption of them. Of particular concern during pregnancy is that women obtain sufficient levels of Folic Acid and Vitamin D to reduce the health risks posed to them and their baby during pregnancy and after delivery. A maternal diet low in folate increases the risk of neural tube defects in the foetus, as well as lower birth weight and prematurity. Babies born to mothers who have low plasma Vitamin D levels will have very low Vitamin D stores themselves, and face an increased risk of hypocalcaemia, convulsions, rickets, and even death. Their mother's breast milk will also be very low in Vitamin D. Mothers with low plasma Vitamin D may also be at greater risk of osteomalacia, particularly if they have repeated pregnancies. Research also indicates that iron deficiency anaemia (IDA) in pregnancy is a risk factor for pre-term delivery and subsequent low birth weight and possibly for inferior neonatal health and disease in later life[5].

Furthermore, evidence suggests that children are particularly at risk or likely to be Vitamin D deficient or have rickets if:

1. They are of Asian, African, African Caribbean, or Middle Eastern decent;
2. They eat a poor or restricted diet;
3. They are breastfed for a prolonged period of time, particularly if the nutritional state of the mother is poor;
4. They are not exposed to sunlight (e.g. skin is covered).

## The level of need in the population

Poor diet contributes to poor health outcomes and premature mortality. A healthy diet is a protective factor for many significant diseases and conditions in Bolton, but is especially important for diet related illnesses such as diabetes, prevalence of which is increasing, and this is having a negative impact upon overall life expectancy in Bolton, as well as contributing to the difference in life expectancy between particular groups within the borough.

[5] Kilbride, J. et al (1999) 'Anaemia during pregnancy as a risk factor for iron deficiency anaemia in infancy: a case control study in Jordan' in *International Journal of Epidemiology 28:3 461-468.*

## Salt

The UK Government recommends that adults should eat no more than 6g of salt a day. A high proportion of the salt we eat is already in food when we buy it, and the Food Standards Agency is working with the food industry to reduce this. These measures depend to a certain extent on people's willingness and ability to read food labelling and make low-salt choices – whereas directly adding salt to food is completely under the control of every individual, so potentially easily and quickly modifiable. Interventions have been developed to encourage people to taste their food first and not add salt just out of habit. In Bolton, half of people (51%) rarely add salt to their food at the table. However, a further 25% taste food first and then occasionally add salt, 11% taste food and generally add salt, and 14% generally add salt without tasting their food.

Age is important if we are to correctly target these interventions in Bolton. In general, as age increased people were more likely to add salt without first tasting their food. The proportion who do this doubled from around 7% of those aged under 25 years to 14% for those aged 75 years and over. Also, compared to the majority White British population, Bolton's Black, Asian Pakistani, and Other ethnic groups are significantly more likely to add salt without first tasting their food. Finally, adding salt to food without tasting was found to be strongly associated with deprivation, with those residing in Bolton's most deprived quintile being twice as likely to do this as the least deprived quintile.

The question about use of salt at the table has been asked in our local health survey in 2001 and 2010. There has been a large increase in the number of people reporting that they rarely or never add salt at the table, accompanied by significant decreases in the proportions reporting generally or occasionally adding salt.

## Saturated fat

Full fat animal fats are very high in saturated fat, whereas vegetable oils are much lower. A recent saturated fat reduction campaign suggested substituting cooking fats such as lard and ghee for vegetable oils like sunflower or olive oil. In Bolton, the most frequently used fat in cooking was vegetable oil (82%), but the second most popular at 5% was the group of full fat saturated animal fats (butter, ghee, lard, suet, and other solid cooking fats).

People using full fat saturated animal fats in Bolton are significantly more likely to aged 75 years and over, but a higher than average proportion of younger people also use them. The Asian Pakistani and Asian Indian populations in Bolton are significantly more likely to use his type of fat (13% and 8% respectively), than the White British population (4%). In particular, White British under 35s were significantly less likely to use one of these saturated animal fats as their main choice than Asian Indian or Asian Pakistani under 35s. Half-fat ghee was also mentioned in the question, but was used by just 3% of Asian Indians and 6% of Asian

Pakistanis; therefore there may be scope to encourage people to use half-fat ghee if not vegetable oils. The use of full fat saturated animal fats was strongly associated with deprivation, but there is a high proportion of BME people living in the more deprived areas, which may partially explain the relationship.

## Meat

Meat is the major source of dietary fat, with meat and meat products providing 26% of both an adult's overall fat and saturated fat intake. The *Bolton Health & Wellbeing Survey* listed a number of ways in which meat can be prepared, and asked participants to tick the ones, if any, they did. Five options would decrease the fat content: grill it; cut the fat off; prefer to choose fish or poultry instead of red meat; choose lean cuts/meat with less fat on it; and take the skin off chicken/poultry (or buy without skin). Two options would increase fat content: fry for extra taste; and keep the juices to use again, e.g. for gravy. Two additional options were also provided: do not eat or cook meat; or none of these.

The majority of people in Bolton do eat or cook meat, and pleasingly the majority said that they grilled meat, consumed chicken/poultry without skin, chose leaner cuts of meat, and cut the fat off meat.

| When eating meat which of the following, if any, do you do? | |
|---|---|
| Do not eat or cook meat | 3% |
| Do eat/ cook meat | 97% |
| *Healthier options (% of those who do eat/cook meat)* | |
| Grill it | 64% |
| Take skin off chicken/poultry or buy with no skin | 63% |
| Choose lean cuts/ meat with less fat on it | 55% |
| Cut the fat off | 53% |
| Prefer to choose fish/ poultry instead of red meat | 37% |
| *Less healthy options (% of those who do eat/cook meat)* | |
| Keep juices to use again (e.g. for gravy) | 26% |
| Fry for extra taste | 16% |
| None of these *(% of those who do eat/cook meat)* | 3% |

To see overall how healthy people's meat preparation was, the answers of those who indicated they did eat or cook meat were combined into an overall meat score. A healthier option scored +1 and a less healthy option scored -1. Someone with the highest score of 5 therefore did all the healthier options and none of the less healthy; and someone with the lowest score of -2 therefore did both of the less healthy options and none of the healthier. The average score overall was 2, and only 25% of those who ate or cooked meat achieved the highest scores of 4-5, indicating some potential room for improvement in healthy meat preparation. Younger and older people, men, deprived people, and people from Asian Pakistani backgrounds gained the lowest overall meat scores, indicating less healthy meat

preparation. Nearly twice as many men (15%) achieved a particularly low score of -2 to 0 when compared to women (9%). People who did no physical activity sessions a week were less likely to eat and prepare meat healthily. People who were underweight were also less likely to eat and prepare meat healthily – there were no differences between healthy weight people and overweight or obese people.

## Fruit and vegetables

The Department of Health recommends that people eat at least 5 portions of fruit or vegetables a day as part of a healthy balanced diet. Only 17% of survey respondents reported eating 5-a-day, with 39% eating two or fewer portions a day. It is therefore still important to encourage people to eat more fruit and vegetables.

People aged 65-74 years in Bolton are most likely to eat fruit and vegetables, with an average of just over 3 portions a day. Women ate significantly more portions than men of the same age in all age groups except the youngest. People from the Asian Indian, Asian Pakistani and Black populations ate significantly fewer portions of fruit and vegetables a day than people from the White British population.

More deprived people ate fewer portions of fruit and vegetables a day, with people living in the most deprived areas eating an average of 2.5 portions, compared to those in the least deprived areas who ate an average of 3.3. People who did more physical activity were also likely to eat more portions a day. Women with children ate more portions of fruit and veg a day than men with children, but were similar to men with no children. Women with no children ate the most at an average of 3.2 portions a day. There are no significant differences between the disabled population and Bolton as a whole; the same is true for Bolton's lesbian, gay, and bisexual (LGB) community.

The more deprived areas around the Town Centre (particularly those with significant South Asian populations) have the lowest rates of 5-a-day in Bolton.

The fruit and vegetables question has featured in all three local health surveys. In 2001 people were significantly less likely to eat 3-5 portions and significantly more likely to eat only 1 or 2 portions than in the later surveys. Fruit and vegetable consumption has therefore clearly increased since 2001. Between 2007 and 2010 there have been fewer changes. In 2010, fewer people reported eating five or more portions of fruit and vegetables a day than did in 2007, but as there were no other significant changes in the proportions eating 0-4 portions, it seems unlikely that this represents a general shift back towards 2001 levels.

## Food preparation

Reading food labels: Food labels contain information about the nutritional content of foods, and enable people to compare similar products and choose healthier options. The survey asked: 'If you buy prepared foods e.g. ready meals, pies, prepared sandwiches, sauces etc., do you look at the nutritional information on the food label?' Key findings in Bolton:

1. The 65-74 age range was most likely to say they didn't buy these products (19%);
2. The White British population were most likely to buy prepared foods; only 14% reported that they did not. People from the White not British, Asian Indian and Asian Pakistani populations were significantly less likely to report buying prepared foods;
3. People who were more confident in cooking from basic ingredients were more likely to report not buying prepared foods: of those who were very or quite confident in their cooking, 16% said they did not buy them, compared with 10% of those who were less confident;
4. People aged under 25, men, and people living in more deprived areas were likely to read food labels less frequently;
5. People who did no physical activity were less likely to read food labels;
6. People looking after home and family reported reading food labels most often, while those who were not working were less likely to read them;
7. Underweight people read food labels less often than other BMI groups.

Confidence in cooking skills: The Bolton Health & Wellbeing Survey asked how confident respondents felt about being able to cook from basic ingredients. Key findings:

1. More deprived people were less confident in their cooking ability, as were people who did no sessions of physical activity a week;
2. Although men, together with younger and older people, were overall less confident in their cooking skills, there were some interesting differences by sex and age. Male confidence in cooking varied little by age, whereas in women confidence increased with age except in the very oldest group. There was no significant difference in cooking confidence between men and women in the youngest age group, but men were less confident in all other age groups;
3. People from the Asian Pakistani population were overall less confident in cooking from basic ingredients, but confidence in cooking varied between the genders. White British men had less confidence in their cooking than White British women; Asian Pakistani and Indian men were significantly less confident than their White British counterparts.

Where meals are usually eaten: There is evidence that those who eat snacks and meals in front of the television eat less healthy foods and consume more calories, most likely because they are not paying full attention to what they are eating. Key findings:

1. Overall, 60% of people say they usually eat at the table;
2. Younger people are most likely to eat on their lap or on the go;
3. People with children are more likely to eat at the table; 65%, compared with 58% without children;
4. People living in the most deprived areas, or in routine or semi routine jobs were most likely not to eat at a table.

Eating out or eating takeaway: Food eaten outside the home tends to be higher in salt, sugar and saturated fat. When eating out there is less information available about the cooking methods and ingredients used, and people have less direct control over making changes to these than would be the case for food cooked at home. Key findings:

1. Overall in Bolton, 60% eat out or eat takeaway less than once a week, and 29% once a week;
2. Younger people, men, and those with children are most likely to eat out more than once a week;
3. People from the Asian Indian and Pakistani populations are more likely than White British people to eat out or eat takeaway more than once a week, together with students.

## Vitamin D

Rickets is on the increase and is the extreme manifestation of Vitamin D deficiency in infants and young children.

A conservative estimate suggests that at least 1,000 children are suffering the effects of rickets or severe Vitamin D deficiency (diagnosed by blood tests or on x-ray) with or without symptoms across Greater Manchester[6]. Although often thought of as an issue for dark-skinned groups, there is evidence that the white British population is also at risk. Recently, NICE recognised that all obese women are likely to be insufficient and recommended supplements[7] [8]. Diet alone cannot provide sufficient Vitamin D, however, regardless of deprivation or income the population of Greater Manchester are all at risk due to the latitude we live at.

[6] Ashraf, S. and M. Mughal (2002) 'The prevalence of rickets among non-Caucasian child in Arch Dis' in *Childhood 87:263-264.*
[7] National Institute of Clinical Excellence (2008) *Public Health Guidance 11: Maternal and Child Nutrition*, NICE.
[8] National Institute of Clinical Excellence (2008) *Clinical Guideline 62: Antenatal care*, NICE.

Groups at highest risk of insufficiency and deficiency were identified as those with dark skin and low-income families with pregnant and breastfeeding women and young children at extra risk.

### Key JSNA Indicator Sheets

BEHAVIOUR AND ACCESS TO SERVICES: 5-a-day

BEHAVIOUR AND ACCESS TO SERVICES: Obesity

## Current services in relation to need

Food Access Bolton supports the Food Access Bolton Van which delivers fruit and vegetables (some of which are grown locally) to many areas and settings including schools, workplaces, and hospitals. The team also supports school growing projects, growing on community gardens, and delivers growing courses. The 'Kitchen on Great Moor Street', a community cafe has recently opened.

NHS Bolton has developed the Clock-on-2-Health programme. The aim is to help support businesses to make small changes to improve health and wellbeing in the workplace. One of the health themes of the programme is around healthy eating and 5-a-day. In Bolton, 30 local businesses are currently engaged with the programme.

The Nutritional and Dietetics Service provides nutrition and dietetic care to adults requiring dietetic intervention based on individual needs. Following referral, a client is triaged to an appropriate care pathway for assessment, treatment, and monitoring. The service also offers advice and education to clients delivered in a variety of ways including group sessions at health centres, one to one consultation in clinics, nursing homes, and intermediate care, as well as in clients' homes. The Food and Health Team are the health promotion side of the Nutrition and Dietetics Service in Bolton and are made up of Food and Health Advisors and Community Nutrition Workers. In addition to advisory and support services, the Food and Health Team have established a number of sessions to improve dietary habits in the borough, for example their Cook4life programme. Other cooking interventions include the Market Wellbeing Project which is an eight week cooking course delivered on the market which introduces the participants to shopping and cooking on the market and gives out tasters to hundreds of shoppers every week.

Royal Bolton Hospital (RBH) has undertaken some significant evaluation and work in order to improve the environment to promote healthier eating and drinking. All vending machines have been assessed in terms of the nutritional value of the products they contain. The majority of these products were found to exceed the maximum guideline amounts for fat, saturated fat, sugar and salt as defined by the Food Standards Agency (FSA). As a result of this an action plan was formulated which would see a staged withdrawal of many of these

foods. Stage 1 of the healthier food changes required that all crisps classed as 'full fat' i.e. those that are not manufactured to be lower fat/calories should be removed from all vending machines, RBH has catering outlets and WRVS outlets. Stage 2 involved removing all drinks that contain sugar classed as red on the FSA traffic lights scheme. Where natural fruit juices are known to contain natural sugars but still classed as high sugar but provide one portion towards the five a day guidance, they will be removed except for those that are 330ml or less in size. The drinks that remain will be either water, diet or other artificially sweetened drinks.

RBH purchased *menumark* and *dietplan 6* software to facilitate the assessment of the nutritional value of foods prepared on or sold on site. The majority of restaurant products have been assessed and labelled with their nutritional analysis. Menus have now started to be displayed with the traffic light system of food giving both colour coded indications of sugars, fat, saturated fat, and salt and also actual amounts of nutrients per portion. Calorific values have also been added for those who are trying to manage their energy intake. Minimum sizes have been set for the sale of chocolate bars, flapjacks, muffins and cakes and large packets of biscuits are now not sold. The WRVS shops on site have to date not included traffic light systems as they do not sell meals but RBH are working with the WRVS now to see where this can be implemented. The RBH internal catering buffet menu has been redesigned to offer a healthier menu. It is now preparing to include nutritional information on this menu.

RBH is currently supporting the ASK campaign to remove salt shakers from the canteens. Salt shakers have been removed from tables and only available now from one central location.

The FAB Van visits the hospital site every Tuesday morning. This has proved immensely popular and they are now looking for other areas on the site where the van can stop for staff purchases. As the van doesn't visit every day, RBH have a fruit and vegetable stall in the staff restaurant. This too has been hugely successful. These will continue as regular healthy eating events.

The National Healthy Start Scheme offers free vitamins containing folic acid, C and D for pregnant and breastfeeding women and vitamins containing A, C, D for children under 5 years. Only families on low incomes in receipt of certain benefits are eligible. Income level however is not necessarily related to risk. Asylum Seekers, many of whom are likely to be at risk, are excluded from eligibility. Therefore, in Bolton health professionals can provide the Healthy Start vitamins to all pregnant/nursing mothers and children under 2 years in at-risk groups under the Vitamin D Protocol.

### Cost-effectiveness

NICE asserts that modification of diet through health promotion at a population level is cost-effective. Comparing the cost of a range of health promotion interventions (information campaigns, requirements to declare salt content in food, taxes of salty food etc.) with intermediate outcomes in terms of blood pressure reduction and the consequent impact upon myocardial infarction and stroke rates, models demonstrate health promotion to be a cost-saving intervention as the direct costs of such programmes are less than future medical costs avoided and lost productivity due to morbidity and premature mortality[9].

## Projected service use and outcomes

There is not enough historical data available on which to base future projections. In addition, it is not appropriate to base projections on modelled estimates.

In light of food security issues raised in *Food 2030* (Department for Environment, Food and Rural Affairs, 2010) Food Access Bolton will be endeavouring to build a sustainable local food system.

## Evidence of what works

Bolton's Health Matters has created a collection of evidence and intelligence to ensure best practice in decision within this area. To view this collection, please click here.

## Community views and priorities

### Talking food taking action (Young People's enquiry) – The Community's views

Our Life, a regional advocacy organisation sought the views of communities about the food environment using a deliberative engagement process. The communities which they engaged with raised the following issues:-

1. There are more fast food places that sell unhealthy food and the popular places are not healthy/easier access to junk food;
2. Adverts on TV mostly advertise junk food, that is most appealing;
3. Unhealthier options often look more appealing because of packaging;
4. The cost of healthy food is more expensive than unhealthy food/some families have a budget and may be able to afford more junk food than healthy food/offers on in shops, mostly in frozen and processed foods;
5. It's difficult to know what's actually healthy and what's not with all the labelling;

[9] NHS Health Development Agency - Economic appraisal of PH interventions

6. Laziness/willpower/got to be close/convenience/It's easier to cook pizza and chips than it is something healthy;
7. Peoples culture/Special occasions (which can be frequent) = more junk food eaten and pop and alcohol drunk/influence of family and friends, bad habits from family and friends also all family could be uneducated and unaware of how to be healthy.

## Equality impact assessments

No recent local equality impact assessments have been carried out that we are aware of. If you are aware of any such work locally please let us know at Bolton Health Matters.

## Unmet needs and service gaps

People with less healthy food habits are mostly concentrated in and around the Town Centre, and to the east of the borough. Also, people from the Asian Pakistani population in Bolton are more likely to make less healthy choices relating to key foods.

Access to fresh fruit and vegetables is noted as a significant issue in Breightmet.

The National Obesity Observatory (NOO) reports there to be 250 fast-food outlets in Bolton. The NOO demonstrate a strong association between the fast-food outlet to population ratio of a local authority and the prevalence of obesity. In Bolton the crude rate of fast-food outlets in 93.8 per 100,000 population. This is just higher than is average for Bolton's statistical peers.

Influencing the food chain at the manufacturing and processing stage will improve the food offer provided by local retailers and caterers. There are 46 food manufacturers in Bolton. Monies were secured to provide a package of support for SME food businesses in Bolton to encourage and promote food manufacturers to develop and market 'healthier food products'. Due to the significant budgets cuts the council have had to implement the funding for the project has been withdrawn. As such, there is now a gap in funding for the manufacturing and processing project. Work with local food manufacturing businesses through Clock-on-2-Health may provide an opportunity to open discussions with these businesses around production of healthier foods and hence influencing the food chain.

Due to the reduced capacity of the Environmental Health Team the work around food and healthy eating is under threat and the 'Ask' and 'Healthier Food, Healthier Business' campaigns may not be continued. Bolton is only one of three areas in Greater Manchester who will not be running the campaigns despite these being included as key targets in the AGMA business plans.

There is emerging evidence to show there is a link between alcohol consumed and obesity. A recent headline stated: "the average adult is drinking enough lager, wine, cider and spirits

to add almost 3,000 calories to their weekly calorific intake". There are therefore opportunities to be explored between these two health improvement areas for the benefit of both agendas such as joint social marketing campaigns.

There is not a universal understanding and commitment to tackling the obesity agenda across some local authority departments. The upshot of this is staff not being released for training and/or staff not understanding that 'obesity' is part of their role.

Other health services have yet to follow the example set by RBH in terms of improving healthy food offered and promoting physical activity and active travel.

There is currently no robust pathway in place in Bolton to help ensure that women of childbearing age are made aware of the importance of Folic Acid to pregnancy outcome; one is needed that helps enable them to obtain timely supplementation whatever their income.

## Recommendations for further needs assessment work

Assessment and regular monitoring/analysis of the Public Health Outcomes Framework indicators linked to diet and nutrition are necessary. These are: 2.1 Low birth weight births; 2.2 Breastfeeding; 2.6 Excess weight in 4-5 and 10-11 year olds; 2.11 Diet; 2.12 Adult obesity.

Commission a report similar to *Who Feeds Bristol?*[10] as a first step to gain a better understanding of the food system in Bolton.

## Key contacts

Bryony O'Connor – Health Improvement Specialist (Nutrition and Obesity)

[10] Carey, J. (2011) *Who Feeds Bristol? Towards a resilient food plan,* NHS Bristol.