

Evaluation of the Bariatric Care Pathway: *Final Report*

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Executive Summary

Introduction

NHS Wirral's Bariatric Care Pathway (BCP) is a weight management programme (see figure 1) which includes lifestyle and weight management education, drug therapy and potentially bariatric surgery. Referrals to the NHS Wirral Bariatric Care Pathway (BCP) are made by health professionals such as the patient's GP, practice nurse or hospital consultant. The bariatric pathway includes the Lifestyle and Weight Management Service (LWMS), for overweight and obese patients (BMI 25 to 35 plus two co-morbidities, e.g. diabetes, hypertension or BMI 35 without co-morbidities). The LWMS runs for a period of 12 weeks and focuses on healthy eating, physical activity and behaviour change; there are, follow up sessions to help patients remain motivated and to give supplementary support. There is also the opportunity for patients to attend activity and healthy cooking classes and patients may also be considered for weight loss drug therapy (orlistat). Following on from the LWMS, in order to ascertain eligibility for surgery, patients are assessed by a clinical psychologist; if not eligible for surgery, they are either referred back into LWMS or to their GP.

In August 2010, a revised version of the BCP was introduced in which patients no longer attend the LWMS service but instead are seen by a dietician for one-to-one lifestyle intervention sessions. As with the previous LWMS service, sessions with the dietician focus on healthy eating, physical activity and behaviour change and also offer opportunities to attend external classes. Current criteria also include each patient taking part in five cognitive behavioural therapy sessions and achieving a 5% weight loss before being considered for surgery. Post operatively, patients now also receive one further session of CBT.

NHS Wirral commissioned an independent study of the BCP by Liverpool John Moores University to evaluate the effectiveness of the project.

Methods

A qualitative approach to data collection and analysis was taken, the aim of which was to describe the views of patients who are currently on the Bariatric Care Pathway. Methods used included:

- Interviews with stakeholders
- Interviews with patients who had been on the BCP in the last five years
- Interviews with patients currently on the pathway plus blogs
- Interviews with significant others

Data were analysed using a framework analysis approach to identify emergent patterns and themes (Ritchie and Spencer 1994). This five stage process involved: familiarisation with the data; the generation of a thematic framework; indexing of all transcripts; charting data; and mapping data extracts to the framework. This was followed by a process of interpretation.

Key findings

Patient profiles

There were very different explanations for weight gain such as injury or having children and also motivators behind wanting to lose weight, e.g. for their children, to look like everyone else or health reasons. When delivering information, NHS Wirral should be aware of these different patient profiles, particularly when patients are seen in a group setting. Further research should be considered, to assess and identify predictors of weight loss success for these distinct patient profiles, i.e. are patients with different motivators for weight loss or different pathways to obesity more likely to lose weight than others?

A word frequency query of participant blogs indicated that many of the words with more negative connotations that may be associated with weight management are in the main absent, for example 'fat', 'hunger' etc. This illustrates the positive approach patients have to the process. In addition, terminology used by practitioners and academics was also absent, for instance, 'obesity', 'bariatric' and 'morbidity'. This has implications for communication with patients, alienation and the preventions of barriers to engagement.

Multidisciplinary working

It was often felt that patients did not know who to contact post-surgery and that the private surgery providers' role post-surgery should be made more transparent. Further, there were some suggestions that the BCP partnership on the whole was not fully coherent and that there were communication issues between different teams. However, this did not appear to be reflected in the service received by patients nor was it identified as an issue during the evaluation.

Lifestyle and weight management service

There were some criticisms regarding the information patients received from the dietician not being specific enough to individual patients needs. However, these comments were in the minority. On the whole, feedback around the information patients received and how they had been treated during the BCP improved greatly over the duration of the evaluation process. It is likely that this improvement is due to changes made to the BCP pathway in that time which included a move away from group sessions to one-to-one sessions with the dietician.

Weight loss

Throughout the evaluation, patients reported being successful in achieving their 5% weight loss within the twelve week BCP programme and felt that they were given achievable targets and having a target to work towards kept them motivated.

Psychological support

The importance of placing psychological support at the crux of the BCP was evident throughout all phases of the study. In some cases, it was felt by stakeholders that psychological support could negate the need for surgery and both stakeholders and patients felt that CBT was an essential part of the BCP programme.

Criteria for surgery

Stakeholders suggested that the criteria for bariatric surgery of BMI 45 plus significant co-morbidities restricted the number of patients who could be referred. Emphasis should also be placed on potential improved quality of life, psychological readiness and patient compliance.

Surgery expectations

Most patients felt that they were adequately prepared for surgery and were involved in the decisions about their surgery options. However, there were some instances when patients felt that they had no input into which surgery they would have and that decisions regarding this were made for them. Furthermore, whilst patients generally felt that they had been adequately prepared for the effects of surgery before it took place, some patients later experienced regret following their operation. This suggests that they may not have been prepared for some of the effects of surgery, such as hair loss and excess skin. As patients did not feel supported post surgery, it is felt that these issues may be exacerbated.

Post-surgery

Both patients and stakeholders highlighted a need for more support post-surgery. This was particularly true in relation to improved psychological support.

Peer support

It was evident that friends, partners, parents and children were a great source of support to patients. However, patients also reported that their significant others were not always supportive. It may benefit both patients and their significant others if patients were encouraged to bring their significant others along to sessions with the dietician and / or surgical team. This would help to increase understanding and also to allay any fears surrounding surgery that significant others may have.

Conclusions

Those whose work involves them in the Wirral BCP are a strongly committed and enthusiastic team who celebrate the successes of their patients and where there is disappointment endeavour to find innovative ways to address those issues. Furthermore, patients enjoyed their time on the BCP and it was apparent that patients had lost weight and improved in confidence throughout the evaluation. There were some concerns regarding support post BCP, and more specifically post surgery. In particular this was with regards to health and psychological issues post surgery.

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1. Introduction

1.1 Obesity as a dominant public health issue

Obesity is one of the greatest public health challenges in the 21st Century (World Health Organisation, 2006). It is defined as abnormal or excessive fat accumulation that may impair health, and studies suggest that, without intervention, reversal of obesity is uncommon (Colquitt et al, 2009). The most commonly used measure for classifying obesity is the body mass index (BMI), calculated as body weight in kilograms divided by height in metres squared (kg/m²). In adults a desirable BMI is between 18.5 to 25 and a BMI of between 25 and 30 is classed as overweight. Obesity is defined as a BMI over 30, while severe or morbid obesity is defined as a BMI of over 40 (NICE, 2006).

According to Picot et al (2009) amongst a standard primary-care trust (PCT) population of 250,000, there would be 5,250 cases of morbid obesity (BMI \geq 40). Between 1993 and 2010 there has been a marked increase in the percentage of adults in England who are obese (BMI \geq 30kg/m²) or severely/morbidly obese (BMI \geq 40kg/m²), from 15.7% (14.9% obese and 0.8% morbidly obese) in 1993 to 28.8% (26.1% obese and 2.7% morbidly obese) in 2010 (The Health and Social Care Information Centre, 2011). There is currently a similar prevalence of obesity in males and females (26.2% and 26.1% respectively), however, more than twice as many females are morbidly obese compared to males (3.8% and 1.6% respectively) (The Health and Social Care Information Centre, 2011).

The Foresight report predicts that by 2050, if no action is taken, 60% of men, 50% of women and 25% of children will be obese (McPherson, Marsh and Brown, 2007). This will also lead to a steep rise in co-morbidities associated with excess weight, in particular chronic health diseases such as diabetes and cardiovascular disease. There are a number of risk factors (both health and wellbeing) that are associated with being overweight and these risk factors increase in individuals who are obese or morbidly obese. These include physical risk factors such as: cancer, approximately 10% of all cancer deaths among non-smokers are related to obesity; Coronary Heart Disease (CHD)– the risk of coronary artery disease increases 3.6 times for each unit increase in BMI; Diabetes (Type 2) – risk of developing is estimated to be 20 times greater with people who have a BMI over 35, compared to those with a BMI between 18 and 25; High blood pressure (hypertension) – 85% is associated with a BMI greater than 25; Non-alcoholic fatty liver disease – approximately 90% of obese individuals have a fatty liver; as well as psychological and sexual/reproductive (Jones et al, 2008). In 2009, obese adults (aged 16 and over) in England were more likely to have high blood pressure than those in the normal weight group. High blood pressure was recorded in 51% of men and 46% of women in the obese group and in 20% of men and 15% of women in the normal weight group (The Health and Social Care Information Centre, 2012).

Factors which strongly influence obesity include: diet, physical activity and family history. People in today's society consume too many calories due to the increased availability of food stuffs as well as consuming foods that are energy dense with high levels of calories and rich in sugar, salt and fat (World Health Organization, 2006). Coupled with this is the decreasing consumption of fruit and vegetables and increasing alcohol consumption (Morleo

et al, 2010). There is also reduced access to/time for recreational activities; less physical education taking place in schools; and more sedentary behaviour taking place, such as watching television and playing computer games (Jones et al, 2008). Genetics have also been identified as an influencing factor, with body weight being identified as an inheritable body feature (Wardle et al, 2008).

Obesity and its associated chronic diseases are more pronounced in disadvantaged groups (Royal College of Physicians, 2004). Fair Society, Healthy Lives (Marmot, 2010) identifies obesity as one of the four main health inequalities (along with smoking, alcohol and drug use) that is directly associated with low income and deprivation. Research by Withall, Jago and Cross (2009) looked at low-income families with pre-existing levels of overweight or obese. It identified that access, availability and cost were barriers to a healthy lifestyle; but concluded that improvements in these areas only showed increased activity in some groups, with unhealthy behaviours influenced by perceived roles of genetics/metabolism and 'high optimistic bias', thus highlighting a number of complex interactions.

1.2 Policy and guidance

Detailed below in Box 1 are a number of key policy and guidance documents. A further list of documents, which may be of interest, can be found in Appendix 1.

Box 1: Key policy and guidance documents

2011

Healthy lives, healthy people: a call to action on obesity in England (DH, 2011) sets out how the new approach to public health will enable effective action on obesity and encourages a wide range of partners to play their part. It highlights the Government's aims to achieve two new goals:

1. a sustained downward trend in the level of excess weight in children by 2020
2. a downward trend in the level of excess weight averaged across all adults by 2020.

Through:

- *Empowering individuals*
- *Giving partners the opportunity to play their full*
- *Giving local government the lead role in driving health improvement and harnessing partners at local level as set out in Healthy Lives, Healthy People; and*
- *Building the evidence base*

2010

The Healthy Lives, Healthy People: Our Strategy for Public Health in England (DH 2010) White Paper set out the Government's long-term vision for the future of public health in England. The aim is to create a 'wellness' service (Public Health England) and to strengthen both national and local leadership. This White Paper highlighted the following:

- The biggest threats to health, such as obesity, sit within/are related to public health
- Two out of three adults being overweight or obese and we are the heaviest nation in the European Union
- The obesity epidemic is affected by social norms, along similar lines, for example, as that seen with smoking uptake – people are more likely to take up smoking if it is a common behaviour within their social network
- The White Paper suggests that Public Health England has a responsibility to fund and ensure the provision of services such as obesity; also that its job is to reduce the pressures of avoidable illness so the NHS can focus its efforts elsewhere, for example, reductions in obesity would also see a lowering in the prevalence of diabetes and liver disease.

2008

Healthy Weight, Healthy Lives: a Cross-Government Strategy for England was published in 2008 (Department of Health and Department of Children, Schools and Families, 2008). Its initial focus was to tackle childhood obesity,¹ then moving on to encompass all ages and weight issues. This strategy was to work by bringing together key sectors including local strategic partnerships, voluntary sectors and non-government organisations (NGOs), health services, food producers and retailers and the leisure industry. It also built upon previous public health policy to tackle obesity, as outlined in the *Foresight report* (McPherson et al, 2007) *The Health of the Nation* (Department of Health, 1992), *Saving Lives: Our Healthier Nation* (Department of Health, 1999) and *Choosing Health: Making Healthy Choices Easier* (Department of Health, 2004); and aimed to help England become the first nation to reverse the rising prevalence of obese and overweight in the population.

2007

Foresight: Tackling Obesity: Future choices (McPherson et al, 2007) highlighted that the majority of evidence relating to obesity focuses upon the causes rather than prevention or treatment strategies. It looks at modelled obesity levels that are likely to be seen in 2050; as well as looking at future predictions of obesity related diseases, health service costs and life expectancy.

2006

Obesity: Guidance on the prevention, identification, assessment and management of overweight and obesity in adults and children (National Institute for Health and Clinical Excellence - NICE), 2006). This guidance is the first national guidance on the prevention, identification, assessment and management of overweight and obesity in adults and children in England and Wales. It replaced and updated the Guidance on the use of surgery to aid weight reduction for people with morbid obesity; *NICE technology appraisal guidance* no. 46 (2002); and Guidance on the use of orlistat for the treatment of obesity in adults; *NICE technology appraisal guidance* no. 22 (2001).

The guidance recommends that the components of a planned weight-management programme should be tailored to the individual's preferences, initial fitness, health status and lifestyle and offers a care pathway which includes diet, physical activity, behavioural interventions, drug therapy and surgery. The guidance aims to:

- stem the rising prevalence of obesity and diseases associated with it
- increase the effectiveness of interventions to prevent overweight and obesity
- improve the care provided to adults and children with obesity, particularly in primary care.

The recommendations are based on the best available evidence of effectiveness, including cost effectiveness. They include recommendations on the clinical management of overweight and obesity in the NHS, and advice on the prevention of overweight and obesity that applies in both NHS and non-NHS settings.

NICE is also currently developing guidance on lifestyle weight management services for overweight and obese adults/children and young people, which is due for publication in October 2013.

The Care Pathway for the Management of Overweight and Obesity (DH, 2006) suggested that weight management assessment should take account of a patient's history including: medical; family; drug; and the patient's readiness to change such as how important losing weight is to a patient. Also, that it should focus upon reducing risk factors, such as co-morbidities.

The care pathway recommended a guideline weight loss of 5-10% weight loss over three-six months, with patients being advised on and attempt interventions on healthy eating, physical activity and behaviour change first. It stated that drug therapy should only be considered as an addition to lifestyle intervention, not an alternative and that bariatric surgery should also only be considered once all other interventions have been exhausted and patients must still make lifestyle changes particularly post surgery. Patients are also to be provided with support in order to maintain weight loss, e.g. through support groups and local services.

¹ Childhood Obesity National Support Team was established in 2007, with the aim of offering support to those local partnerships facing the largest challenges in achieving the Government's key deliverables for childhood obesity.

1.3 Interventions for Weight Management

There are a number of different methods used in weight management of those who are obese, most of which used in combination with other interventions. These include psychological and behavioural interventions – counselling, diet and exercise; medication; and bariatric surgery.

Due to the impact of obesity on individuals, society and in financial terms, an emphasis has been placed on strategies and interventions designed to reduce obesity. NICE (2006) recommends that the components of a planned weight-management programme should be tailored to the person's preferences, initial fitness, health status and lifestyle and offers a care pathway which includes diet, physical activity, behavioural interventions, drug therapy and surgery.

The Department of Health recommend that patients should be advised on and attempt interventions on healthy eating, physical activity and behaviour change first. Drug therapy, such as orlistat should only be considered as an addition to lifestyle intervention not as an alternative. NICE guidelines recommend that multicomponent interventions as the choice treatment for patients. Weight management programmes should include behaviour change strategies to increase people's physical activity levels or decrease inactivity, improve eating behaviour and the quality of the person's diet and reduce energy intake.

1.3.1 Psychological/behavioural interventions

The Cochrane review on Psychological interventions for overweight or obesity provides evidence to indicate that people who are obese benefit from psychological interventions to enhance weight reduction, particularly behavioural and cognitive-behavioural strategies and that these are predominantly useful when combined with dietary and exercise strategies (Shaw et al, 2009).

Brief interventions, are defined as such as they are limited by time and focus upon short-term changes in behaviour and body weight. They are successful if they: focus upon both diet and physical activity; are delivered by practitioners trained in motivational interviewing; incorporate behavioural techniques, especially self-monitoring but also including specific and realistic goal setting; are tailored to individual circumstances; encourage the individuals to seek support from other people (Cavill, Hillsdon and Anstiss, 2011). Issues with this are obviously that weight change may only be short lived, with more sustained changes in behaviour and body weight requiring more intensive interventions (usually involving referral to specialist services) conducted over an extended period.

1.3.2 Diet and exercise

Poor and restricted diet is a contributing factor to obesity. Western societies consume too few fruit, vegetables and omega-3 fatty acids and too much saturated fatty acids, salt and sugar (Traill et al, 2010). Furthermore convenience food has now become the norm, due to longer working hours and busier lifestyles, less time is spent in preparing food resulting in increases in the consumption of fast food and pre-packaged meals (Jabs and Devine 2006).

Also an increase in alcohol consumption is associated with the relationship with food as highlighted in report by Morleo et al (2010).

NICE (2006) recommends structured weight loss programs delivered by health care professionals which aim to reduce calories, usually at around 600 kcal/day deficit. Whilst popular commercial weight loss programs, e.g. Weight Watchers have been found to reduce user's weight at a moderate level, success rates are often significantly impacted by adherence and commitment to the diet (Dansinger, 2005). Structured weight management strategies which work with patients not only by providing dietary advice but also helping in understanding the reasons behind overeating and emotional eating can have much more long term positive benefits to the patients (McDonald, 2009). Furthermore by addressing patient's common misconceptions about meals, e.g. the nutritional value of food can further assist in producing a lifestyle change rather than a quick fix diet which is not achievable in the long term (Cook, 2009) Patients are all different and a one size fits all approach should not be used, often underlying issues need patience and understanding from health care professionals and patients often have different needs regarding how much support they require (McDonald, 2009).

NICE recommends that everyone should take part in some form of physical activity, for those who are obese this is particularly true (NICE, 2009). An increase in body weight cannot be solely attributed to diet; exercise is also a key component in reducing obesity. Furthermore physical activity is associated with improved motivation and therefore a more compliant diet, an improved metabolism and improved body shape (Stear, 2004). Only 35% of men and 24% of women report achieving the recommended physical activity levels (30 minutes of moderate activity five times a week). Evidence has shown that physical activity coupled with healthy eating has a bigger effect on weight loss than interventions that focus only on healthy eating (Goodpaster, 2010), supporting the need for a multicomponent approach to weight loss interventions. For patients whom healthy eating, physical activity and drug therapy are not sufficient, bariatric surgery is recommended (NICE, 2006).

1.3.3 Medication

Statistics on obesity showed that in 2009 the two most commonly prescribed drugs by GPs in England for the treatment of obesity were orlistat (Xenical) and sibutramine (Reductil) – the latter of which has now been suspended. orlistat works by preventing the absorption of a proportion of fat in the intestine (The Health and Social Care Information Centre, 2010b).

The number of prescriptions dispensed to treat obesity in 2010 was seen to decrease to 1.1 million prescriptions (from 1.4 million in 2009). It has been suggested, however, that these figures should be viewed with caution as it may reflect the fact that two key drugs for treating obesity (sibutramine in 2010 and rimonabant in 2009) have been withdrawn (The Health and Social Care Information Centre, 2012).

1.3.4 Bariatric surgery

In 2010/11 there were 8,087 Finished Consultant Episodes (FCEs) for bariatric surgery, of which 18% (1,444) were for maintenance of an existing band (The Health and Social Care

Information Centre, 2012). This may, however, be an underestimate as there is no routine data collected on non-NHS bariatric surgery carried out in the private sector (Dent et al, 2010). There are three commonly used methods of bariatric (weight loss) surgery as highlighted by Dent et al (2010):

- Adjustable gastric banding
- Gastric bypass
- Sleeve gastrectomy

NICE guidelines published in 2006 (NICE, 2006) suggest that bariatric surgery should be recommended in people where the criteria below are fulfilled:

- In people who are morbidly obese with a BMI of $\geq 40\text{kg/m}^2$ or those who have a lower BMI and other significant disease, such as type 2 diabetes or high blood pressure, that may be improved with weight loss
- Where all non-surgical measures have been tried but have failed to achieve or maintain adequate and clinically beneficial weight loss for at least six months
- The person has been/will be receiving intensive management in a specialist obesity service
- The person is generally fit for anaesthesia and surgery
- The person commits to the need for long term follow up

Bariatric surgery is also recommended as the first line of action in those with a BMI of more than 50kg/m^2 . Surgery should, however, be offered as part of a package of services provided by a multidisciplinary team. Two systematic reviews conducted by Colquitt et al (2009) and Picot et al (2009) looked to assess the effects of bariatric surgery for obesity. Both reviews included 26 studies, of which: three Randomised Controlled Trials (RCTs) and three prospective cohort studies compared surgery with non-surgical managements; and 20 RCTs compared different bariatric procedures. Overall, surgery was seen to be more effective than traditional/conventional methods of managing obesity, with limited evidence to suggest that some procedures provide greater weight loss than others. Evidence on the safety of gastric procedures was, however, limited. Box 2 provides more information about the reviews' findings.

Box 2: Surgery for Obesity – Systematic Review Findings

- The reviews concluded that surgery resulted in greater weight loss in those with a BMI greater than 30kg/m^2 as well as severe/morbid obesity when compared to traditional methods of treatment. Weight loss is also more likely to be maintained
- Bariatric surgery appeared to be associated with a reduction in co-morbidities associated with obesity such as diabetes and hypertension as well as improvements in health-related quality of life (the latter occurred after two years, but was unclear as to the effects at ten years)
- When looking at specific bariatric procedures that were used in the studies, there was limited evidence to suggest that one procedure was more effective than another. It was suggested that weight loss is greater following gastric bypass when compared to vertical banded gastroplasty² and adjustable gastric banding, but similar to isolated sleeve gastrectomy and banded gastric bypass

² Vertical banded gastroplasty (VBG) is now performed infrequently, being replaced by laparoscopic adjustable gastric banding, which is said to have better long term performance (Dent et al, 2010).

- High levels of patient follow-up appeared to be lacking
- The studies also highlighted complications associated with bariatric surgery such as pulmonary embolism and a number of post-operative deaths. It was not possible, however, to compare the safety of the different methods of surgery with each other due to lack of clear evidence.

Source: Colquitt et al, 2009; Picot et al, 2009

1.4 The Obesity Burden

1.4.1 Obesity burden to the NHS and wider society; cost-effectiveness of different weight loss management interventions

A briefing by Morgan and Dent (2010) highlighted that it is difficult to interpret trends and compare cost estimates between weight management studies as there is no agreed definition of costs, with different studies scoping and defining costs differently. It suggests that the most up-to-date figures looking at the economic burden of obesity are derived from Foresight (McPherson et al, 2007); the National Audit Office (2001) and the House of Commons Health Committee (2004).

Obesity places a significant burden on the NHS with direct costs estimated at approximately £4.2 billion and the *Foresight* report forecasts this will more than double by 2050 (McPherson et al, 2007). Obesity also has an impact on society and the wider economy through sickness absence and reduced productivity, and these indirect costs are estimated to be around £16 billion. The wider costs of overweight and obesity to society and business are expected to reach approximately £50 billion per year by 2050 if the current trend continues (McPherson et al, 2007).

A review by Picot et al (2009) also included a model to estimate the cost-effectiveness of bariatric surgery comparing methods of bariatric surgery (gastric bypass and adjustable gastric band) against each other as well as against non-surgical comparators. This used a UK cohort of adults who met the NICE criteria for bariatric surgery and fell into one of the following groups:

- BMI 40kg/m² or more
- BMI 30kg/m² or more, or less than 40kg/m² with type 2 diabetes at baseline
- BMI 30kg/m² or more, or less than 35kg/m² with type 2 diabetes at baseline

Overall, it was shown that in each of the groups, surgery was more costly than non-surgical management comparators, despite providing improved outcomes. It has also been suggested that gastric bypass is less cost-effective than adjustable gastric band due to the higher risk nature of the surgery (Salem et al, 2008). Picot et al (2009) also concluded that further data needed to be collected in a number of key areas, namely: quality of life outcomes; the impact of surgeon experience on outcome, late complications leading to re-operation and duration of co-morbidity remission (Picot et al, 2009).

It has been noted that it is important to ensure that bariatric patients have long-term follow up, however, the absence of guidelines for long term management leads to patients being

discharged to GP care (Haslam, Waine and Leeds, 2010). While the impact of bariatric surgery, in terms of weight loss, can be apparent in a short amount of time, these changes will not be maintained unless long term support is given around maintaining this weight loss and other lifestyle related behaviour changes that are needed to provide long term success (Haslam, Waine and Leeds, 2010). It is important to acknowledge the potential cost implications of such follow-up as well as the likelihood that this would be possible in the current economic climate.

1.4.2 Changing architecture of the NHS - Public Health England and budgets available to support health and social care agenda

The architecture of the NHS is changing and is currently in a transitional period to the full implementation of Public Health England (PHE) in 2013, which will promote information-led, knowledge-driven public health interventions – supporting both national and local efforts. This new system will aim to bring together the functions of a range of current bodies and bring to the forefront a focus upon the promotion and protection of health and the prevention of ill health (making people more responsible for their own health) – made ever more pertinent due to constraints upon public finances and the demands made upon NHS services due to a demographically changing and overall ageing population. This will be underpinned by sound public health evidence and intelligence and a key priority of partnership working between the NHS and local authorities (DH, 2010).

Under PHE, budgets for public health will be ring-fenced by DH which includes health improvement budgets (DH, 2010). These budgets are, however, allocated on the basis of relative population health need and include a 'health premium' designed to reduce inequalities. This 'weight calculation formula' – takes account of age and need profiles of local populations and of regional variations to input costs, however, due to potential funding freezes/restrictions, PCT allocations are less likely to move towards their formula-based target budgets. While there is a definite socio-economic split in the prevalence of weight issues, with those in the most socially deprived groups having higher levels of obesity (National Obesity Observatory, 2011), weight is increasing relatively across all socio-economic groups (Health Survey for England, 2010), therefore it is something that needs to be tackled at whole population level.

Unprecedented increases seen in NHS funding came to an end after 2011 following the impact of economic recession. Analysis by The King's Fund and researchers from the Institute for Fiscal Studies (IFS) suggest that in order to increase NHS funding in real terms, would need to make significant cuts in other areas/increase taxation (The Kings Fund, 2012). Funding of services is crucial in order for the maintenance and progression/development of services. There is no doubt that Government budgetary changes will affect investment potential, with monies being focussed towards interventions where evidence for cost-effectiveness is the strongest. Such evaluation measures are also most likely to be taken over a short duration of time. In the case of many interventions, particularly lifestyle related behaviour change and the impact that this has upon the health and wellbeing of the population that it is serving, change is not always instant and noticeable and may not be apparent for some time after, by which time funding has been withdrawn. The evaluation of

health treatment interventions is important so that there is an evidence-based approach from which to inform policy and practice

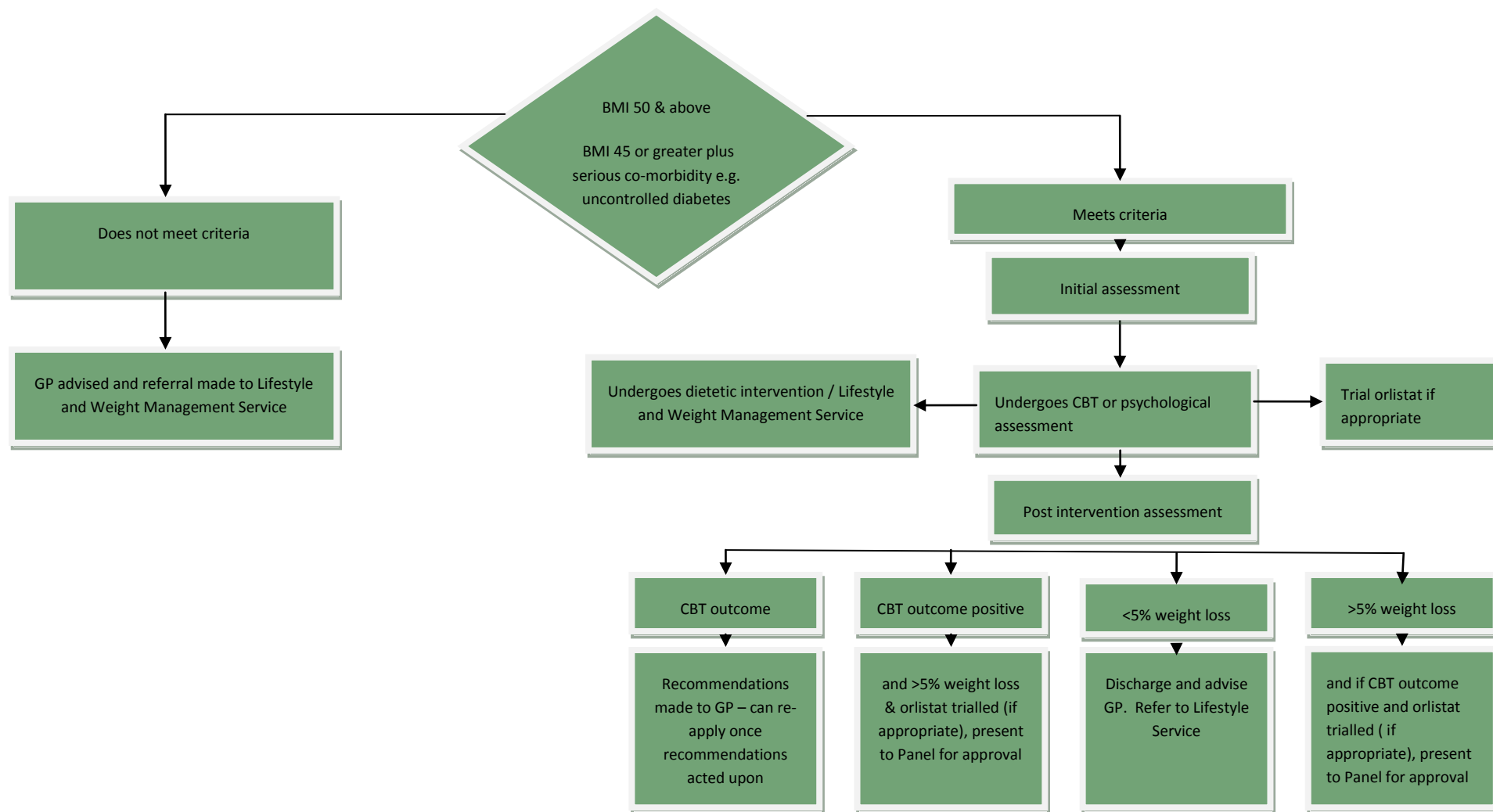
1.5 NHS Wirral

NHS Wirral's Bariatric Care Pathway (BCP) is a weight management programme (see figure 1) which includes lifestyle and weight management education, drug therapy and potentially bariatric surgery. Referrals to the BCP are made by health professionals such as the patient's GP, practice nurse or hospital consultant. The bariatric pathway includes the Lifestyle and Weight Management Service (LWMS), for overweight and obese patients (BMI 25 to 35 plus two co-morbidities, e.g. diabetes, hypertension or BMI 35 plus without co-morbidities). The LWMS runs for a period of 12 weeks and focuses on healthy eating, physical activity and behaviour change; there are follow up sessions to help patients remain motivated and to give supplementary support. There is also the opportunity for patients to attend activity classes and healthy cooking classes; patients may also be considered for weight loss drug therapy (Orlistat). Following on from the LWMS, in order to ascertain eligibility for surgery, patients are assessed by a clinical psychologist; if not eligible for surgery, they are either referred back into LWMS or to their GP.

In August 2010, a revised version of the BCP was introduced in which patients no longer attend the LWMS service but instead are seen by a dietician for one-to-one lifestyle intervention sessions. As with the previous LWMS service, sessions with the dietician focus on healthy eating, physical activity and behaviour change and also offer opportunities to attend external classes. Current criteria also include each patient taking part in five cognitive behavioural therapy sessions and achieving a 5% weight loss before being considered for surgery. Post operatively, patients now also receive one further session of CBT.

NHS Wirral commissioned an independent study of the BCP from Liverpool John Moores University, to evaluate the effectiveness of the project.

Figure 1: NHS Wirral's Bariatric Care Pathway (BCP)



1.6 Aims

The main aim of this report, is to combine and discuss the findings of the individual stages of the Bariatric Care Pathway (BCP) evaluation; stakeholder, retrospective, significant other and prospective. The overall aims of the evaluation were to explore the effectiveness and impact of the Bariatric Care Pathway, which take account of the service user and service provider experience. Specifically this report aims to

1. Retrospectively explore self-reported outcomes and experiences of the BCP journey, with patients who have had surgery within the last 5 years
2. Prospectively explore the experiences of patients currently on the BCP
3. Retrospectively explore quality of life, self-reported outcomes and experience of patients on the BCP who did not have surgery
4. Assess experiences and views of Service Providers and family/carers.

2. Method

2.1. Data collection

A qualitative approach to data collection and analysis was taken.

2.1.2 Stakeholder phase

Data collection took place between October 2010 and February 2011. Professional groups recruited to the study included NHS service commissioners, health professionals, NHS administrators and private healthcare providers. Eleven interviews were completed in total and were conducted either face to face (9) or by telephone (2). Interviews were semi-structured and focused on the perceived strengths and limitations of the Bariatric Care Pathway (BCP). Suggestions for improvement were also invited (for interview schedule see Table 1).³

Table 1 Stakeholder interview schedule

1. Please can you tell me about your role as part of the Bariatric Care Pathway (BCP)
2. In what ways does the BCP impact on the patient experience for those who have surgery?
3. In what ways does the BCP impact on the patient experience for those who do not have surgery?
4. In your opinion what are the main strengths of the BCP?
 - a. For the service
 - b. For the patients
5. Can you tell me whether you think the BCP represents good value for money?
6. Can you tell me what measures could be taken to improve the BCP?
7. Can you recommend any measures that could be taken to enhance the economic value of the BCP?

³ Multiple attempts to interview private service providers were made, however they were not successful in some cases.

2.1.3 Retrospective phase

Twenty two participants took part, fifteen of those had had surgery, three had not had surgery and four were significant others of the patients. There were sixteen female patients and four male patients, three of the significant others were male and one was female. The interviews were carried out in the patient's own homes between March and June 2011. Interviews were semi-structured and focused on patient's experiences of the BCP and the impact of the BCP upon them (for interview schedule see Table 2).

Table 2 Retrospective interview schedule

1. Please can you tell me about your experience of the Bariatric Care Pathway (BCP)?
2. Please can you tell me about the weight you lost at each stage of the BCP?
3. Can you tell me about how long you were on the BCP and what sped up or slowed down your progress at each stage of the pathway?
4. In what ways did the BCP affect your health and health care?
5. Can you tell me about how you were involved in decisions about the treatment options you received whilst on the BCP?
6. Can you tell me what do you think was good about the BCP?
7. Can you tell me what do you think was NOT so good about the BCP?
8. What do you think could be done to make the BCP better for patients?
9. Can you tell me whether you think the BCP represents good value for money?

For those who did not have surgery additional questions are:


10. Can you tell me the reasons why surgery was not pursued?
11. Can you tell me about any alternative measures you have taken to lose weight?

2.1.4 Prospective phase

Eleven participants took part. There were seven female patients and four male patients. Participants were asked to blog their weekly progress on a specially created website (Figure 2). The website, named BELUS⁴, an acronym for **Bariatric Evaluation Log by Users of the Service** was created by staff at Liverpool John Moores University. After agreeing to take part in the research, participants were emailed a username and password for the website and instructions on how to blog (see appendix 2). Participants were reminded to blog through email, text, telephone calls and blackberry messenger. Participants were also encouraged to upload pictures, poetry or paintings which illustrated their journey on the BCP. A forum was set up and participants were encouraged to post questions and use this function to socialise with each other (Figure 3).

⁴ Belus is a Celtic Sun God whose May festival is a time for transformations, cultivation and a celebration of life.

Figure 2: BELUS home page



BARIATRIC EVALUATION LOG BY USERS OF THE SERVICE
BELUS
BARIATRIC EVALUATION LOG BY USERS OF THE SERVICE

HOME ABOUT US BLOGS FINDINGS RESEARCHERS BLOG FORUM LOGIN BLOGGERS

You are here: Home

BELUS
Bariatric Evaluation Log By Users of the Service

Belus/Belenos/Bel is the Celtic Sun god of light, health and healing. According to ancient mythology Belus drove a chariot carrying the Sun's disc and is also linked to healing waters, wells and springs. His name is given to the May festival of Beltane which means "the fire of the god Bel." Beltane takes place on the 1st May each year and is a celebration of spring coming into full flower and the return of the sun. Beltane is also a time for transformation, cultivation, awareness and a celebration of life.

During your time on the bariatric care pathway / CHANGES weight management programme you will be facing change and transformation and we would like to hear about your successes, triumphs and your setbacks during this process. We would like to know how your outlook on life has changed and what this has meant for you on a day-to-day basis. By keeping a weekly blog you can write about how you feel at each stage of the bariatric pathway / CHANGES programme and this will help us to look at the good and bad points of the bariatric care pathway / CHANGES programme.

[New NHS Knowsley report discussed on Findings page!](#)

Latest Blogs

- Blog 1
- Pictures 11 an half Months Post Op
- Lost interest
- Finished CHANGES
- Gone back onto diet

Latest Findings

- Knowsley stakeholder report
- Retrospective interviews with patients - NHS Wirral
- Interviews with stakeholders summary- NHS Wirral

Bloggers

- DA
- MA
- AB
- MB
- IC
- SC

Figure 3: BELUS forum



BARIATRIC EVALUATION LOG BY USERS OF THE SERVICE
BELUS
BARIATRIC EVALUATION LOG BY USERS OF THE SERVICE

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You are here: Home - Forum

FORUM

 **Jenny Russell**
Welcome new bloggers
 Added on 28 September 2011

 **Jenny Russell**
Significant other Interviews
 Added on 12 May 2011

Latest Blogs

- Back on track
- Blog 1
- Pictures 11 an half Months Post Op
- Lost interest
- Finished CHANGES

Latest Findings

- Knowsley retrospective report
- Knowsley stakeholder report
- Retrospective interviews with patients - NHS Wirral
- Interviews with stakeholders summary- NHS Wirral

In addition, interviews were carried out every month to tease out and obtain further details on information provided in the blogs. The number of interviews varied between participants.⁵ Interviews were also carried out with participants who did not have access to a computer and mostly occurred in participants homes. Interviews were semi structured in nature and focused on participants perceived strengths and weaknesses of the BCP (see Table 3 for interview schedule).

Table 3 Prospective interview schedule

1. Can you tell me about how long you have been on the Bariatric Care Pathway (BCP) (1 st interview only)
2. What has sped up or slowed down your progress at each stage of the BCP so far? (1 st interview only)
3. Can you tell me about your experience of the BCP over the last 2 months?
4. Can you tell me about the weight you have lost over the last 2 months?
5. What has been the most effective step on the BCP so far and why? (1 st interview only)
6. What has been the least effective step on the BCP so far and why? (1 st interview only)
7. In what ways has the BCP affected your health and health care over the last 2 months?
8. Can you tell me about how you have been involved in decisions about the treatment options you have received on the BCP over the last 2 months?
9. Can you tell me about any alternative measures you have taken to lose weight in the last 2 months?
10. Can you tell me what do you think has been good about the BCP over the last 2 months?
11. Can you tell me what do you think has been NOT so good about the BCP over the last 2 months?
12. Over the last 2 months has there been anything that could have been done to make the BCP better for patients?
13. Can you tell me whether you think the BCP represents good value for money?

2.2. Data analysis

Data were analysed using a framework analysis approach to identify emergent patterns and themes (Ritchie and Spencer 1994). This five stage process involved familiarisation with the data; the generation of a thematic framework; indexing of all transcripts; charting data and mapping data extracts to the framework; followed by a process of interpretation.

2.3. Ethical approval

The protocol was presented to Northwest 12 Lancaster Ethics Committee (NHS REC) who deemed the work a service review and advised that NHS REC approval was not required in

⁵ Those participants who were prolific in their blogging needed less follow up interviews.

this case. Subsequently, ethical approval for this research was granted by Liverpool John Moores University Research Ethics Committee.

2.3.1 Confidentiality

To preserve confidentiality, a code was allocated to each participant and was used on all recordings and ensuing documentation. The list of master codes is known only to the research team. The master codes and corresponding names are kept in a locked filing cabinet and on a password protected university PC, accessible only by the research team. Interview recordings were available and listened to only by the researchers and when not in use stored on a password protected PC and destroyed after transcription. All interview transcripts are securely stored in locked filing cabinets and on University password protected computers. According to Liverpool John Moores University guidelines, research data will be stored for ten years and personal data will be destroyed on completion of the study.

3. Results

3.1 Stakeholder phase

Analyses of the data elicited five main themes. These themes were characterised by a number of categories.

Figure 4: Stakeholder themes



3.1.1 Theme 1: Aspects of the Pathway

The study revealed the existence of key aspects which contributed to the success or failure of the Bariatric Care Pathway (BCP) and these were divided into five main categories of pathway features: referral process; Lifestyle and Weight Management Service (LWMS); psychological support/counselling; and post surgery care.

3.1.1a Category: Pathway features

It was evident from the data that the BCP was viewed positively, being described as well-defined and multi faceted. Incorporating a number of different services in combination such as lifestyle intervention, drug therapy and surgery was thought to provide an optimum service for the patient.

“Now we have a very well defined pathway...unlike some areas, we have a lifestyle and weight management service, so they have to go through that and the drugs regimes, and they have to do the CBT”

There was suggestion that the previous BCP failed to provide adequate psychological support for patients, particularly in assessing whether individuals were suitable for surgery. However, it was considered that the new enhanced pathway addressed this problem through provision of several sessions of CBT for each patient.

“The pathway has changed quite a lot...there is a requirement for a psychological assessment for people’s suitability...I could see the sense in that from two angles, one is the ability to withstand surgery, the risks attached psychologically – and the other one was their ability to benefit. So if their weight gain reflected a whole host of psychological problems it might be that they wouldn’t benefit from surgery”

A fairly recent innovation on the pathway is the introduction of a five percent weight loss target for patients before they complete lifestyle intervention. There was praise for this target as it offers an objective way of deciding who might be suitable for the surgery in addition to a more subjective assessment of emotional state. The combination of the psychological assessment along with the target of 5% weight loss is considered a good positive addition to the pathway because:

“... the first is a judgement...whereas the five percent is more pragmatic. Despite the fact a patient may have psychological problems if they can lose the 5% the problems are not preventing them from losing weight”

3.1.1b Category: LWMS

The LWMS run a 12 week course for patients focussing on healthy eating, physical activity and behaviour change. Stakeholders generally viewed the LWMS as a positive step for patients as well as recognising it as a cost effective service, which adequately prepared patients for the lifestyle changes they would need to make.

"I think the lifestyle and weight management pathway is the strength for them, elsewhere some people don't have that and they get referred straight from GPs and are unprepared for the lifestyle changes that they have to make"

"I think in terms of the costings that I did I think it worked out the whole service that's LWMS, I think to the point where they get to surgery it's reasonable cost effective yes it's about £350 per patient to go through the pathway"

3.1.1c Category: Psychological support/counselling

In June 2010 an additional intervention was introduced for patients on the bariatric pathway in the form of Cognitive Behavioural Therapy (CBT). Each patient attends five sessions of CBT during lifestyle intervention and some of the more complex cases have more sessions according to need via the Psychology Service. The CBT addition was succinctly described by one stakeholder as *"...the enhancement of the intervention by applying psychological principles."* Other stakeholders also supported this view of the positive effect of CBT:

"I think a lot of the time the counselling that goes alongside it gives them a greater insight into their health"

Box 3

"...Weight gain is one of these self-exacerbating processes – once you are heavy, you tend to get heavier, for a whole raft of reasons such as you get depressed about being overweight so therefore you are inclined to eat more. It is a vicious cycle, if you are overweight it is harder to exercise, if you are overweight you tend to hide away – there are mobility problems and self-consciousness. If you hide away a number of other vicious circles come into play, you get more depressed because you are deprived of stimulation and company, therefore you are going to get more depressed, and therefore if you are an emotional eater you are going to eat more. If you hide away you are going to be in the house with food, so that means you are going to be more exposed to food if you are an external eater – in other words if you are someone who reacts to food cues..."

A key point about changing the mindset of an obese patient is the idea of changing someone's eating habits and attitudes to food for the rest of their life. See Box 3 for a stakeholder's cogent description of psychological processes related to overeating. Whilst some patients may be able to maintain restraint for a short while and lose the 5%, there was a suggestion that they may *"still secretly be wanting the ability to eat what they like"*, although being incentivised by their weight loss post surgery and realising their aspirations may be extremely effective in helping maintain a healthier approach.

It was suggested that the BCP *without* psychological support negates the necessity for behavioural change, because patients may feel that once they have undergone

surgery they can successfully lose weight without changing their behaviour, thus bariatric surgery is viewed as the 'magic bullet'. Therefore, commencing CBT early on the pathway is more beneficial for patients in terms of effecting lifestyle changes (especially the patient's relationship with food) and consequent weight reduction over the long term.

"The BCP in conjunction with cognitive behavioural therapy compared to other interventions is probably the most attractive way to run the programme...the toxic relationship with food"

... needs to be established very early on in the process. I don't believe that one issue is addressed early enough"

At the time the interviews took place the CBT programme was due to finish in March 2011. An interesting point that will be followed up by the research team is the success rates in terms of weight loss for those 35 patients who were involved in the CBT programme during June 2010-March 2011. This CBT programme focussed on establishing patients' suitability for surgery and supporting them to reach that 'goal'. However, the suggestion was made that some patients engaged in CBT feel they no longer require surgery as they have been able to bring their eating behaviours under control.

"The earlier we intervene the chances are statistically that it will negate the requirement for people to go to that pathway...i.e. elect not to go for surgery"

There are clear implications in terms of cost effectiveness relating to the idea of alternatives to surgery in some cases. In addition to supporting patients with complex psychological needs to return to work (thereby reducing state benefit claims), reducing the number of people requiring surgery by the use of a less costly approach in the form of CBT would appear to be to be an option worthy of consideration.

"...the cost purely of bariatric surgery is in the region of about 15-20k, there is another view that says that if we spend significantly less than that on CBT interventions and the process, then that is better value for money"

3.1.1d Category: Post surgery care

Until recently, once patients were referred for surgery and left the pathway, the bariatric team tended to lose contact with them. Although the private provider is contracted to follow up the patients and inform the bariatric team of whether the surgery had taken place, this appears not to have been the case. The patient follow up offered by the private provider tended to involve a medical check rather than psychological support. Before the surgery and whilst they are on the pathway, patients receive support both physically and psychologically and until very recently this support appeared to cease at the point of referral for surgery.

Many of those interviewed for this report felt that there should be support and follow up for their patients after they had undergone their surgery. There were suggestions that patients were 'abandoned' after surgery, with no reinforcement of the messages and no psychological or practical support. One stakeholder stated:

"...they shouldn't just be cut off...maybe to make the best use of surgery they might need one post surgical intervention (one session of CBT), we don't know really because we just don't have a feel for post surgical patients"

3.1.2 Theme 2: Criteria for surgery

Participants discussed criteria for surgery including the recent change in criteria and four main categories characterised this theme; namely, co morbidities, change of criteria, surgery declined and selection of patients.

3.1.2a Category: Co morbidities

Patients completing the pathway often have a range of complicated co-morbidities including diabetes and hypertension. By reducing a patient's weight it is assumed that this will have a positive effect on their co morbidities in the long term.

"They're better for it, a couple of patients we've taken off medication for hypertension medication and diabetics"

Stakeholders commented that co-morbidities and problems caused by being overweight cost the NHS a large sum of money each year. Therefore reducing a patient's weight should lessen the cost caused by obesity related medical issues to the NHS in the long term.

"If you've got someone who is diabetic, grossly overweight pitches in every few days for dressing on ulcers on legs that won't heal because of their weight...they're already costing the NHS a huge amount. If you can then alleviate the problem and reduce their weight and therefore heal the ulcers and improve the diabetes and improve everything for them then I think it is good value for money"

3.1.2b Category: Change of criteria

The criteria have recently changed from BMI 40 without co-morbidities to BMI 45 plus significant co-morbidities, or BMI 50 without co-morbidities. Fewer patients are being put forward for bariatric surgery since the criteria changed and at interview one stakeholder commented that this was 'a real shame'.

"I think having a cut-off of 50 or significant morbidity is not seeing the whole process...and I think these patients are also costing the NHS a significant amount of money..."

3.1.2c Category: Surgery declined

A number of patients complete the pathway but for reasons such as failure to achieve the five percent weight loss or psychological unsuitability, they are declined surgery. The perception is that for this group there probably follows a downward spiral in terms of mental and physical health i.e. they tend to become disheartened and their morbidity worsens. One stakeholder commented:

"... it is a difficult sort of limbo, do you sit there and get fatter or do they actually try and do something? I can't see that those patients improve in any way..."

3.1.2d Category: Selection of patients

A key concern to emerge from analysis of the stakeholder interviews was whether the 'right' people are being put forward to undergo surgery in terms of benefit. There is a dilemma regarding bariatric surgery being a life-saving intervention for those with a very high BMI, compared to those with a lower BMI who might gain more benefit from surgery (and consequent weight loss) in terms of being able to go back to work, look after their family and lead a more active life.

“Sometimes you are going to get patients who have a BMI of over 60 who even if you do surgery it will have no direct impact on their quality of life, or very little, ...and you may have people who are under (BMI) 45 who may be very compliant and who may make a significant difference to their life”

There was criticism regarding the use of BMI as a criterion for selection rather than considering the patient’s attitude in terms of compliance with their dietary regime and the benefits that might be gained from weight loss. There was also the suggestion that the driver for using the BMI criterion was an economic rather than a clinical decision.

“If you are looking at cost effectiveness and value for money it needs to be patients that are – A. going to be compliant and B. that are going to see a measurable benefit and improvement in their life.I don't think this decision has been made clinically but for economic reasons, and they are not very valid reasons, because if you have got someone with a BMI of 43 and they know you have to have a BMI of 45 to get surgery, what are they going to do?”

There was further criticism for the use of BMI as an initial criterion for selection from the standpoint that rather than purely physical factors, emotional state should also be considered when referring a patient to the BCP.

“I don't think someone's BMI is necessarily a good way of deciding if someone is a good candidate for surgery or not because I think that the bigger they are the more deep-seated their eating behaviours, and the more deep-seated their mental health issues...it is about motivation and people who make good candidates emotionally”

3.1.3 Theme 3: Organisational factors

Interviewees gave detailed accounts of how organisational factors impacted on the effectiveness of the BCP. These were categorised into four main areas; NHS versus private care; multidisciplinary working; administrative processes; and value for money.

3.1.3a Category: NHS versus private care

A number of concerns were highlighted regarding the interface between NHS and private care which include the paucity of data regarding patient progress once they have left the BCP, the lack of (bariatric) surgical capacity within the NHS and poor communication from the private provider to NHS Wirral bariatric services.

“We have very poor information from the provider and I think that is because we didn't set up a minimum data set requirement within the contract”

Some of those interviewed appeared unsure as to the private provider’s duties towards their patients after surgery, whether the post surgery appointment is purely medical or if it includes nutritional advice.

“I think some of the people don't do well after surgery because...they go off to (private provider) and they get no follow up whatsoever after surgery... we have no evidence that

they provide anything other than a doctor's appointment where they look at whether their band's working, whether their gastric bypass has healed, have they any medical symptoms that are causing them problems – they are supposed to get dietetics and psychology, but they don't. There is a question around what is in the contract and what isn't"

3.1.3b Category: Multidisciplinary working

A number of teams from both the private and the public sector are involved in delivering interventions at different time points to patients on the BCP. These range from those who manage the LWMS; the dietetics service; the commissioning team who manage the bariatric surgery contract (including the complex case team); those who deliver therapy in the form of CBT; clinical psychologists and the surgical team who carry out the bariatric procedures if the patients are approved for surgery. There was some suggestion that sometimes the different services do not always work together in an efficient way.

"One of the issues we have is that we don't, (work together) it is quite fragmented... there is the gap, which we don't think works very well, and we are trying to get someone who will have an overall responsibility for the whole pathway from beginning to end"

During 2010 there were regular meetings between the different service elements in order to redesign the pathway; however prior to this, poor communication appears to have been an issue as meetings between the services were irregular.

"Now (communication) it is a lot better, the last 12 months we have been sitting as a group and working through this pathway... we are now sharing a database so now know we have the same patients, and that is with the finance team as well"

3.1.3c Category: Administrative processes

Stakeholders recognised that administrative processes could be improved. This was especially apparent when patients were being referred into different aspects of the Bariatric Care Pathway. Global databases have been set up to allow all stakeholders access to the same information and to update patient information and progress. However, there was uncertainty around whether these databases are being used by all groups and also whether there were unresolved technical issues, such as database time lag.

"It has been set up, whether everyone is populating it as well as it should be, I think there is a bit of a time lag when people enter stuff and when people put the next bit in, so when you are looking at it you might not always have the most up to date information"

3.1.3d Category: Value for money

There were a number of responses at interview about whether the BCP represents good value for money. In most cases the response represented a long term perspective and focused on an improvement in patient health (with a consequent reduction in medication) and a return to work:

"...for us value for money means people might be able to go back to work...also that their co-morbidities have been resolved, and that only happens generally when you achieve a certain weight loss..."

"... (it could be) five years before the NHS recoups its money because of the medication levels going down... people coming off benefits so they're gaining the money there, going back in the workplace they're gaining the taxes that's been paid and the reduction as well in medication..."

Linked to these responses was the idea of selecting appropriate candidates for bariatric surgery, i.e. those who would be compliant and adhere to a healthier lifestyle over the long-term and thus benefit most from the intervention.

"I think it is about picking the right patients... I think if the selection is appropriate it is value for money"

In terms of the obesity problem in general, a view was expressed that the Wirral BCP were only treating the 'tip of the iceberg' and that the numbers were so small it was not possible to;

"...look at it seriously in terms of the cost effectiveness to the NHS...so it really isn't dealing with the obesity problem per se across the service"

3.1.4 Theme 4: Individual factors

Interviewees gave detailed accounts of how individual factors impacted on the effectiveness of the BCP. These were categorised into two main areas of professional issues and patient issues

3.1.4a Category: Professional issues

Stakeholders in general expressed empathy towards obese patients and in some cases had over time, developed more understanding for those on the BCP.

"Having more empathy for people with obesity, experiencing more and more people who, I mean it is a significant condition that they struggle with".

Stakeholders also expressed views regarding patient motivation with some believing that patients just wanted the 'quick fix' of surgery and were reluctant to consider alternative weight loss strategies. In particular stakeholders discussed patients' lack of motivation to lose weight for themselves; *"I don't have to do anything I can get someone else to do the work for me, I can just go and eat and eat and eat"*. The main suggestion for improving patient motivation was ensuring the most appropriate individuals who would be engaged with the pathway were selected; with one stakeholder stating the pathway is a *"very positive thing if it's for the right patient"*.

"My personal view is a lot of them it's a quick fix because they can't be bothered but that's just my own personal opinion. Some of them, yes, it will work for them but others I don't think that they want to. They like all the naughty things like we all do some cannot probably reduce the amount that they're eating, it's a quick fix"

3.1.4b Category: Patient issues

Stakeholders discussed patient profiles and highlighted the fact that most patients who come forward for weight loss surgery were from the lower socioeconomic groups. However they recognised that this does not necessarily indicate that these are the groups most at risk of obesity; and suggested that patients in higher socioeconomic group may be more likely to seek private care than to use the NHS.

“If you look at the figures for Wirral the vast majority of patients who come for weight loss surgery come from the lower socioeconomic groups”

Stakeholders were aware that patients may have underlying issues contributing to their obesity and understood that in these instances patients’ required additional support and assistance.

“People have their reasons for being where they are in their life and having surgery doesn’t change a lot of those reasons, so they are going to need support”

Stakeholders also recognised that one of the key components to the success of the pathway was patients’ motivation and compliance.

“I’ve got a few patients who’d like it but they’re certainly not motivated enough to do it”

3.1.5 Theme 5: Outcome of Bariatric Care Pathway

Participants talked of the outcomes of the BCP in particular, the outcomes from surgery. These were categorised into two main areas of success rates and skin fold

3.1.5a Category: Success rates

Stakeholders recognised that for those patients who had been through the pathway and undergone surgery there had been *“a hugely positive response from it”* with patients successfully losing weight and subsequently being taken off medications following the pathway and/or surgery. However other stakeholders acknowledged that NHS Wirral was not meeting their predefined targets for weight loss.

“We are about 50% shy of what we should be expecting for average weight losses...our figures are currently showing after the 2 year point on average a 29% excess weight loss when there should be looking at closer to 50 to 55% on average”

Some participants explained that the reason why NHS Wirral was not meeting national targets was that patients did not follow the pathway dietary advice after they had completed the pathway.

3.1.5b Category: Skin fold

Rapid weight loss after bariatric surgery can result in ‘skin fold’ due to patients’ skin not reverting to pre-obesity firmness. Cosmetic surgery can be used to remove excess skin, although this is not routinely available as part of the NHS Wirral service. Stakeholders described the issue of excess skin as something that patients find upsetting, and in some

cases wondered if patients would rather be overweight than endure the trauma of excess skin.

“Really traumatic for patients because they are going around with huge amounts of excess skin, which in some ways is worse than being overweight in the first place”

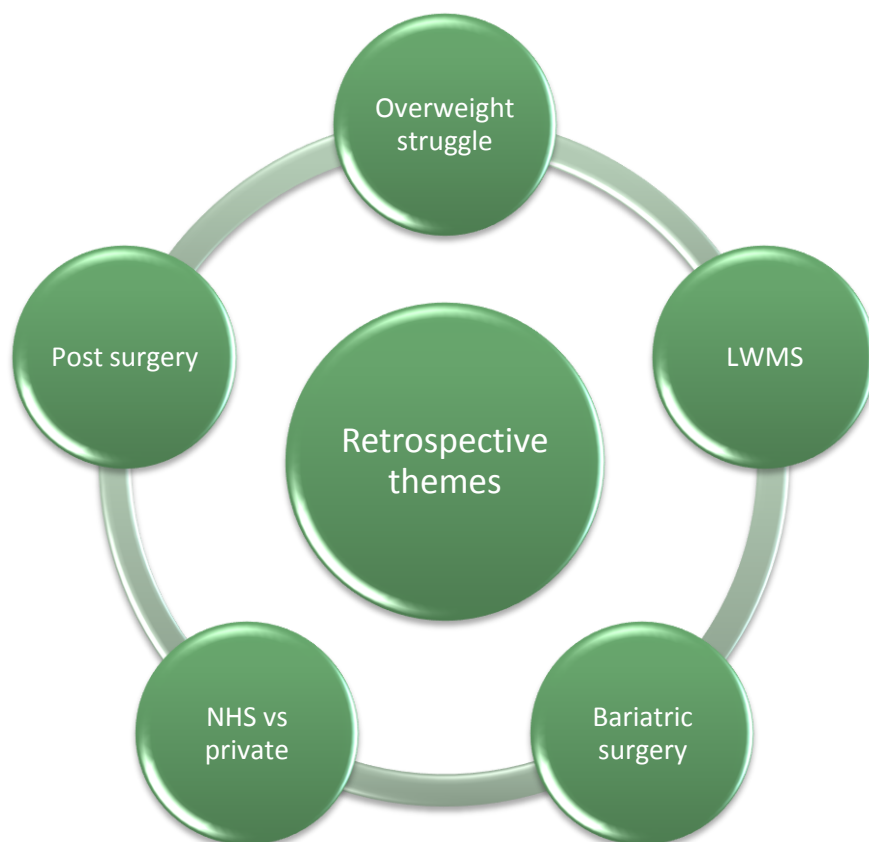
It was also suggested that some patients who would like cosmetic surgery to remove the skin fold were unable to do so because they were unable to achieve the required weight loss needed to have this particular surgical procedure (possibly due to the weight of the excess skin).

“She is unable to get below the weight that will allow her to have the surgery (to remove excess skin)”

3.2 Retrospective phase

Analyses of the data elicited five main themes. These themes were characterised by a number of categories.

Figure 5: Retrospective themes



3.2.1 Theme 1: Overweight; the chronic struggle with associated health problems and co-morbidities

All those interviewed had experienced problems with their weight for most of their lives or at least over many years and had tried many different ways to lose weight. Most have attended diet clubs such as Weight Watchers and been prescribed weight loss drugs such as orlistat (or in some cases Reductil, now withdrawn due to increased risk of heart problems – (Burns et al, 2010)). In some cases participants had managed to lose a certain amount of weight for a short period of time but were unable to maintain the loss, becoming increasingly heavier over time.

“I’ve done all the stuff like going to slimming clubs, I’ve tried tablets, I’ve done this and that...”

Prior to undergoing bariatric surgery those interviewed reported experiencing a whole range of problems associated with their weight such as reduced mobility due to knee problems, other joint problems, having difficulty walking, gastric reflux, high blood pressure, diabetes (type 2) and sleep apnoea. Many of these problems have improved or gone into remission as participants reduced their weight after surgery.

“I did have high blood pressure for which I was on tablets. I had acid reflux, depression, back ache, aching joints, everything that comes with being so morbidly overweight...my blood pressure has gone back to normal...back ache has totally gone”

3.2.2 Theme 2: Experience of the lifestyle and weight management service

Referral to the lifestyle and weight management service (LWMS) had in most cases been made via the patient’s general practitioner or practice nurse. Individual experiences of the service appeared to differ somewhat in terms of location and programme delivery. A number of patients reported attending courses where they routinely underwent weekly (for 12 weeks) one-to-one sessions with a dietician, others reported attending group sessions (with privacy whilst being weighed) and one-to-one sessions with a dietician only if needed. In the case of group sessions, one patient found the lack of privacy upsetting and was transferred to a LWMS location where one-to-one sessions and privacy were available. Only a few patients reported positive outcomes from attending LWMS courses and two participants reported particularly negative experiences.

“Absolutely awful...horrendous, it needs an overhaul. You can’t ask me how fit I am or how do I get on in work in a room full of people...they were taking my blood pressure whilst people were sat here...everyone could hear you...”

“The lifestyle part of it I would recommend to anybody...It was really good”

Almost all those interviewed who had completed the BCP prior to being put forward for surgery reported a positive experience. A one-to-one session with the dietician and having a diet tailored to individual needs was reported as being particularly helpful. Being held accountable to the same person each week for individual weight loss was added encouragement in losing weight, as was the incentive of the surgery if the 5% weight loss

was achieved. One participant found the programme beneficial but struggled to fit it around work commitments as her employers did not allow time off during working hours.

"...absolutely fine and educational. The only thing was it didn't fit in with my being in work...it was during the day and I had to juggle things around...I had to take time off, they didn't give me time"

Other participants mentioned they enjoyed the assessment sessions with the clinical psychologist.

"...we were there for a couple of hours. It was one of those things that usually take about 40 minutes. [Psychologist] was very thorough and very nice"

3.2.3 Theme 3: The complexity of bariatric surgery and physical problems that have resulted from undergoing this type of operation

Of the three types of bariatric surgery undergone by those who took part in this study, nine patients underwent the gastric by-pass, three had the duodenal switch and three had a gastric band fitted. Some of those interviewed reported extreme pain and complications post-surgery; with half being re-admitted for further operations (at least two patients had two further corrective operations). Most patients spent very little time in hospital post surgery, although one patient spent five weeks in an NHS hospital post operatively.

"I was in first of all for 4 days...I came home with the staples and everything in, but I was extremely unwell at home. I was due to go back on day 10 to get my staples out and when I got there I passed out with the pain... I was in for another 3 days...that took me about 6-8 weeks to get over"

*"When I had the surgery I really was quite unwell after, I was just out of it really."
"Initially I was fine for the first 2-3 hours. After that I was in agony. They had given me the maximum of morphine and I was still in pain. I could have done really with being put out"*

3.2.3a Category: Patient involvement in the choice of surgery

Whilst most of those interviewed felt they had been involved in the choice of surgical procedure, others felt they had been denied this choice.

"...I was having the gastric band and then all of a sudden my GP and the specialist decided the band wouldn't be good enough, it's got to be the bypass. I wasn't even asked. I was told I was having it"

3.2.4 Theme 4: The experience of being an NHS patient in a private healthcare system and problems of follow-up care

Participants reported undergoing their surgery and follow up care in one of two hospitals which will be referred to as Hospital A and Hospital B.

Hospital A

Participants who had undergone surgery at Hospital A felt let down by the lack of after-care. One patient reported no communication at all from the hospital post surgery. Another telephoned the emergency number he had been given because he was feeling very unwell two days after his surgery and the only advice he was given on this occasion was to attend his local Accident and Emergency Department. Another patient felt let down by the apparent lack of communication between the hospital and her local district nurse who she expected would visit her to remove her surgical staples; the district nurse did not attend and the staple site became infected. A further complaint concerned the administration department because the patient was receiving notice of her appointments the day after they were due.

There were mixed views regarding treatment by staff at Hospital A in the days following their surgery.

"It was marvellous...staff were wonderful"

"I was glad to get home, I felt my after care was atrocious...I felt they didn't listen to me...I didn't want to be in the bed all the time, I was so uncomfortable, and when I asked for help to get out they wouldn't give me help, because they were not insured or whatever excuse they want to use, which I thought was absolutely appalling"

There were no negative reports regarding the post operative after care at Hospital B, although one patient said that she would have preferred more information about how to cope once she went home.

Hospital B

There were no complaints about the aftercare at Hospital B. One patient reported follow up appointments every 3 months for a while and then every 6 months over a period of two years, she also felt there was someone she could phone if she needed to.

"Excellent...they were there when I wanted them, and they would do what I asked. I couldn't ask any more"

"They were ok. I felt like it was a bit of a production line though. I don't think they gave enough information out"

3.2.5 Theme 5: Physical and psychological changes experienced post bariatric surgery

The majority of those interviewed were glad they had been given the opportunity to have bariatric surgery and, despite the problems, most felt it had made a big difference to their lives. However, one or two patients expressed regret at having undergone the operation and felt they hadn't been given enough information regarding the long term effects such as vitamin and mineral deficiencies leading to hair loss, crumbling teeth and losing toenails.

"No regrets. Even if I had the pain again I would still go down that route"

"If you are asking me whether I would have it again, no I wouldn't...they don't tell you what can happen in the future"

3.2.5a Category: Excess skin

In the longer term as participants shed excess weight the problem of loose skin emerged, causing distress in some cases.

"...it's so ugly, I can't go swimming it's just horrible the way it looks and it seems to take the shine off the whole thing, it's like you've made this swan but it's got a big boil on its bum..."

3.2.5b Category: Psychological effects

Some participants reported feeling depressed since their operations and thought they might have benefited from counselling. Others stated that although the operation might have improved their physical health, their underlying problems had not been addressed. Yet others are having problems in eating 'normally' because of the perception of the physical changes the operation has made.

"...it's after the operations that the problems hit home...the operation has changed him, not the same happy person he was before..."

"Fat people aren't daft...I know I shouldn't have a cake, but do you know I'm sad inside and that cake makes me happy.. I know what I am putting in my mouth, I know what I am doing – but do you know what? They give me that comfort..."

3.2.5c Patients who did not have bariatric surgery

Three participants were interviewed who had been referred onto the BCP but who did not go on to have bariatric surgery. One participant (1) was not obese as a child but started to gain weight post-pregnancies and was referred onto the BCP by her GP when her BMI became excessive. The other participants (2&3) had experienced problems with their weight throughout their lives and had been referred onto the BCP by their GPs because of increasing ill-health due to obesity-related conditions. For full details please see Retrospective report (Stuart, Brizell, McVeigh and Irvine, 2011).

3.3 Prospective phase

Analyses of the data elicited five main themes. These themes were characterised by a number of categories.

3.3.1 Blog word frequency

Participant blogs were entered into NVivo version 9 and a word frequency query (Figure 6) was undertaken (70 most frequent words, 6+ letters, filler words were removed e.g. 'because'). The purpose of this was to see which words appeared most often in participant blogs, establish areas of importance for participants and to guide the framework analysis. The most common words were 'weight', 'surgery' and 'eating' which is unsurprising given the subject of the evaluation. Frequent words of interest, included 'change', 'realised', 'differently' and 'before' which indicated that participants had, during their time on the BCP made changes to their lifestyle. In addition, participants often discussed significant others

such as 'friends' and 'mother' suggesting that their decision to go onto the BCP had impacted upon their friends and family or potentially that their significant others had acted as a support network. It is of note that many of the words with more negative connotations that may be associated with weight management are in the main absent from the blogs, for example 'fat', 'hunger' etc. This illustrates the positive approach that patients have to the process. In addition, terminology used by practitioners and academics was also absent, for instance, 'obesity', 'bariatric' and 'morbidity'. This has implications for communication with patients, alienation and the preventions of barriers to engagement.

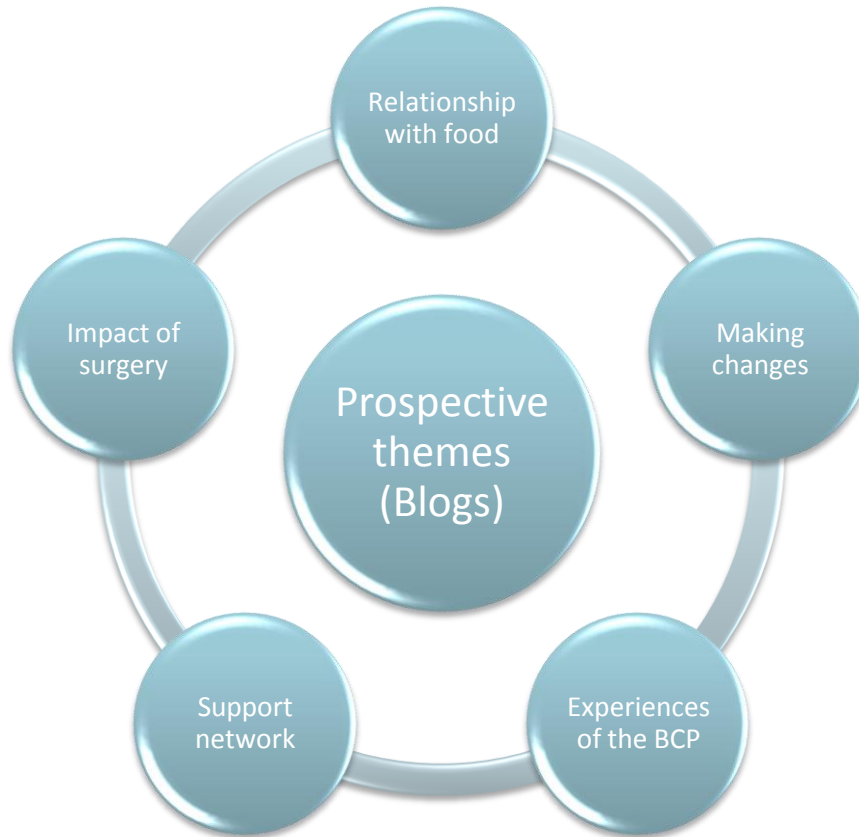
Figure 6. Blog tag cloud



3.4 Prospective themes – Blogs

Analyses of the data elicited five main themes. These themes were characterised by a number of categories.

Figure 7: Prospective themes - Blogs



3.4.1 Theme 1: Relationship with food

There was a high level of awareness as to how individuals had become obese and these reasons differed greatly between participants, e.g. anxiety, addiction or injury (not mentioned in blogs but in follow up interviews). Some participants also recognised that sometimes the reason was simply overeating and whilst they did not want to make what they deemed as excuses, they stated that they liked food and enjoyed eating. Further, some participants felt that food was an addiction, similar to alcohol or tobacco. However, the issue with an addiction to food is that the body needs it and a person cannot cease eating in the same way that they can cease drinking alcohol or smoking.

I hate the fact I have let myself get this overweight in the first place and I am not going to blame my penchant for over indulging on my troubled childhood or hard life that invariably followed for my addiction to food. Personally I think people are too quick to judge that a fat person eats because they have issues. I like food, I like food A LOT and I eat when I am hungry which albeit is 9 times out of 10... The problem with having an addiction to food is you can't cut it out of your life completely say

*like alcohol or cigarettes lucky for me (not) food is something the human body cannot function without. I am addicted to the very thing that's sustains my life, how cruel is that?*⁶

3.4.1a Subtheme: Loss of relationship

At times, patients described food using language akin to how one may talk about a relationship. Participants discussed how food was there for them in their times of need and how they suffered feelings of loss when they could no longer use food as an emotional crutch. This highlights the deep psychological associations some patients had with food. However, the fact that they could recognise and acknowledge these issues suggests that their ties with food had been somewhat broken.

"How I long to rewind 6 months ago to a time when I could eat a portion of chips, or to savour a slice of chocolate cake. My need and want for you have never wavered until of late because I had to do something and I am truly sorry that I've had to cut you out of my life"

3.4.2 Theme 2: Making changes

Different motivators had driven patients to decide to lose weight, this included health reasons, self image and friends and family. In particular, one participant discussed how their child had been the main motivator behind them losing weight as they wanted to see him grow up and did not want to be the 'fat mum' picking their child up at the school gates.

"The only thing that has kept me from pressing the self destruct button is my little boy [name removed]. For a 4 year old he's incredibly insightful and has this innate ability of making me feel so much better because ultimately he is the sole reason I am undertaking this vital transformation"

3.4.2a Subtheme: Fear of change

Whilst many patients expressed excitement about the prospect of losing weight and improving their health, they did still express concern about what lay ahead (particularly those who were considering surgery). Patients knew that their weight loss would take time and that it wouldn't always be easy. However there was recognition that a radical change was needed and on the whole patients kept positive throughout the process. Patients demonstrated knowledge to indicate that they were aware of the risks of surgery. This suggests that they had been adequately prepared during the BCP.

"What's that saying again? "A positive patient is a healthy patient" there's a lot to be said about positive thinking and a person's road to recovery so with that in mind if I keep a positive attitude I should theoretically sail though this and my worries will be unfounded...."

"I'd be lying if I said I wasn't worried but if I am honest I am absolutely cacking myself. The horror stories I've heard about what can go wrong from these kinds of surgery's but for each tale of misery there is a feel good story for each of the more successful ones. You see I'm taking a chance having this operation it may go horribly awry and I am only fully too aware of the possible pitfalls that may

⁶ Quotes from blogs have been edited throughout for ease of reading. This includes corrected grammar and spelling.

lay ahead but what about the risks I'm subjecting my body to at this moment in time by remaining the obese size that I am?"

3.4.2b Subtheme: Implementation of change

Patients discussed how useful the information they had received during the BCP had been. Patients considered themselves to be making positive changes to their lifestyle and for those patients who were considering surgery, there was awareness that surgery was not a quick fix and that only through making positive lifestyle changes would they lose weight.

"I've learned a lot over the last 12 months in regards to the lifestyle changes I needed to make in order to receive the now imminent surgery and the changes I need to continue with long after because if there is one thing I'm certain about this operation is, that it is by no way means a quick fix to lose weight"

3.4.2c Subtheme: Problems with change

Whilst patients generally reported making changes to their lifestyle and often commented on how successful they had been, there were instances in which patients had lost the motivation to eat healthily and undertake exercise. In these cases, patients often found that once their willpower had gone, it led to periods of self loathing which only further served to decrease motivation. Furthermore patients found motivation difficult to re-establish, however usually after a period 'off the wagon' patients in time did regain their motivation. Other patients found that by not considering the change a diet and allowing themselves a treat every now and again helped to keep their motivation going.

"I really don't know where my will power has vanished. I'm thinking that it's disappeared on holiday with no postcards advising of its imminent return because it wasn't just one setback. Every day since then I've been having an odd chocolate bar or bag of crisps. I loathe myself for rebelling against the perfectly well groomed lifestyle change that has encompassed my life solidly for the last 6 months"

"I carried on with my healthy eating I realized it wasn't a bind (like a diet) but a change of lifestyle and I grabbed it with both hands and embraced it and I even had a little bit of what I liked now and then (in moderation of course). I also found when I had the cravings for certain bad foods I could have a little then that would stop me going off the rails and binging out on it"

3.4.2d Subtheme: Psychological change

Throughout the course of the evaluation patients became more self aware and were able to recognise different psychological changes they were undergoing. Patients discussed how they had previously used food as a crutch but were now beginning to realise that food was just fuel for the body. Patients sometimes struggled to accept these changes, for example a patient described a time when, while she knew was not hungry yet, when offered food found it was difficult to say no. She found it hard to accept that overeating did not have to be a part of her day to day life anymore. Patients also discussed how CBT had made them think more about their lives and how they could make positive changes to improve their situation.

“Before seeing her [dietician], food to me was kind of like a crutch or a poison depending which way you look at it. If I was anxious / upset or even happy I turned to food, I felt it was my only comfort and at that point I was unable to exercise regular due to excessive weight gain and obviously not exercising was piling the weight on kind of like a vicious circle I thought my life was over as I felt like a freak and didn’t know how I could get out of this nightmare. She also helped me to view food differently and I started to think of it as a fuel, nothing more nothing less”

Category: Confidence

Patients reported an increase in confidence whilst losing weight and the more weight they lost, the happier and more confident they became (see Researcher Note). However, some issues still remained, e.g. participants reported not feeling confident enough to go swimming and on occasion suggested that they would have enjoyed attending a swimming group or water aerobics class with their BCP group.

Researcher Note – During the evaluation process, researchers saw an increase in confidence in the participants. For example, one participant did not want to meet for the first interview due to a lack of confidence and so interviews were conducted over the phone. At later interviews however, the participants requested to meet face to face.

“As I started losing weight quite quickly (but not too quickly) I started to become a happier person and my confidence started growing slowly”

“I am dying to just go swimming emerging myself in water and having a good old swim but unfortunately I haven't yet got the confidence to match my drive...In a few weeks I'm going away for four days as a mid week girlie break and there is a pool and spa there but I don't think I'm brave enough to bare all I feel so ugly enough with my clothes on I perish the thought of being in a swimming costume in public”

3.4.3 Theme 3: Experiences of the BCP

For those patients who were considering surgery or who underwent surgery, they found that they were involved in the decisions about surgery. Prior to having surgery, patients were given advice on the different procedures and the risks involved.

“I came away with another appointment booked in 2 weeks with my consultant and anaesthetist, were we would discuss in detail my choice of surgery (as nothing is set in stone yet) and what it would entail for me on a personal level, given the fact that no person’s surgery is ever the same”

3.4.3a Subtheme: Increased awareness

Throughout the BCP, patients became increasingly aware of the impact obesity was having on them. This was not limited to day to day situations, e.g. not being able to play with their children, but also in the increased risk of different co-morbidities such as diabetes and high blood pressure.

“Diabetes, heart failure, joint pain, high blood pressure and cholesterol are to name a few of the glorious ailments of being fat has to offer”

3.4.3b Subtheme: Information satisfaction

Patients, on the whole reported being pleased with the information they had received during the BCP and demonstrated increased knowledge in nutrition. There were some instances particularly post surgery when patients felt that they had not received all the information available and that other options that they had not known about may have been available to them. Whilst much of this information came from internet forums, it may be of value to allow patients to ask about different weight loss programmes or post surgery diets to dispel myths and highlight the importance of following the information provided during the BCP.

"Thinking back, the lifestyle weight management, I was one of these people who would go into the supermarket or shops and go pick, pick, pick whereas now I look at what the fat ingredients is and how healthy it is for you, so it has, the programme did help me in that way in my eating habits. I have scoured the internet for people in similar situations and it transpires Americans who have had this surgery only live on protein shakes for the first 4 weeks post op, and then introduce food at this point. Why don't we do that over here in England?"

Category: Information consistency

On occasion, participants felt that the pathway did not always run as smoothly as it should and found that they were given different information from different health care professionals. In the quote below, this participant explains how they were told to see the psychologist, only to then be told this wasn't necessary. Often the health care system can be confusing for patients and information provided needs to be clear and consistent with advice from other health care professionals.

"I had a bit of a blip because I was feeling very, very depressed and my bariatric dietician said we'll put a stop to it (the pathway), she wanted me to put a stop to it. I've since seen the psychologist and he said well I don't know why she's sent you to see me because you seem fine"

3.4.3c Subtheme: Health improvements

At the beginning of the pathway, patients viewed their potential weight loss positively in particular with regards to the impact it would have on their health. Patients felt that by losing weight this would help with such ailments as hernias, diabetes and blood pressure. During the evaluation, as patients began to lose weight, many patients began to experience improved health such as reductions in medication and enhanced mobility.

"My health has been ok this week. Still having injections for my diabetes had swine flu injection the other week. Can't wait to not having to have all this medication...touch wood my back pain I have had in recent weeks isn't too bad at the moment. My wife says it will get a lot better when I lose weight"

"Started to stop medication feel great"

Category: Weight loss

The discussion of how much weight patients had lost was not a prominent feature of the blogs; patients more often discussed how weight loss had affected them in relation to their health and day to day life. In those instances when patients did discuss their weight loss it was either very positive or very negative, i.e. how little or how much weight they had lost.

Patients should be made aware of the expectations regarding weight loss prior to starting the BCP. Patients who do not lose sufficient (in their opinion) amounts of weight may become demotivated by the pathway.

“My health has been pretty good so far weight coming of slowly walking is getting better...sorted my holiday clothes and they are fitting me a lot better and I am feeling a lot more comfortable I am getting out a lot more becoming more mobile and it feels great. I am now 22 stone 7lbs and have reached that point where it’s starting to come off very slowly and in all its about 12 stone I have lost and I’m very proud of myself”

“I’m so frustrated with myself I’ve stopped losing weight kind of like I’ve stabilised I know I haven’t put it on and that’s good but I feel like before my surgery I lost a load of weight and since I went through all that pain and suffering post op nothing has come off. It feels like I’ve gone through it all for nothing”

3.4.4 Theme 4: Support Network

3.4.4a Subtheme: Significant others⁷ support

Once patients leave the BCP, they have to rely on their own motivation and support from their friends and family. Patients mentioned their significant others several times throughout their blogs and it was evident that friends, partners, parents and children were a great source of support. However, patients also reported that their significant others were not always supportive. For example, significant others did not always understand why patients were putting themselves through the risks of surgery and did not always support them in their changed lifestyle by encouraging them to go back to their old way, e.g. eating high calorie food and drinking large amounts of alcohol. It may benefit both patients and their significant others if patients were encouraged to bring their significant others along to sessions with the dietician and / or surgical team. This would help to increase understanding and also to allay any fears surrounding surgery that significant others may have.

“My partner is being a great support throughout the time I’ve been on the programme”

“Furthermore it doesn’t help when your support system, that is your ‘friends’, advocate this momentary lapse in judgement, so wine it was, followed by copious amounts of shots. Not such a clever decision the morning after, my hangover was testament to that”

Category: Home life vs BCP

Whilst writing their blogs, patients often discussed their personal life and talked about things of importance that were present at that time. It became apparent that patients’ home lives could easily have a direct influence on their levels of motivation. Many patients on the BCP are in their 40’s and 50’s and this can often be an age when parents may start to suffer from ill health. Participants discussed having to care for unwell parents and mentioned that sometimes this could impact upon how well they stuck to their healthy eating regime. Whilst it should be accepted that unexpected events in life could hinder a patient’s

⁷ Significant others can include family, friends, work colleagues etc. The whole support network that an individual may have.

motivation, it would be useful for the BCP to prepare patients for this and discuss how to keep motivation going, even through difficult periods of their life.

“My week has been a bit upside down. This week my mum who is 85 has just found a lump in her breast and has to go on treatment and have an op to remove it. I find I have to try harder not to eat a lot more than I should”

3.4.4b Subtheme: Ability to work

There were differences in patients' ability to work. Some of those taking part in the evaluation were working prior to the BCP; however they did find that losing weight often made it easier and more enjoyable for them to carry out their work. Other participants were not working and felt that post BCP; they would be able to work. More than this however, was the overwhelming sense that patients were getting their lives back, whether that was through working, having children or just enjoying life.

“It's more of a pleasure at the moment doing my job as a taxi driver due to my back not being as painful”

“Hopefully one day I'll now get to be a mum and I have decided I'll want to become a counsellor it's not going to be easy, But I want to help people in the way I was helped, And I'll never take life for granted again”

3.4.4c Subtheme: Surgical team

When mentioned, patients were complimentary of the surgical team stating that they made them feel at ease and helped to alleviate any fears that they had.

“Any apprehension or fear I was experiencing quickly evaporated because of how relaxed the surgical team made me feel. As part of walking into theatre you get to meet your surgeon, anaesthetist and the anaesthetist's nurse who by the way was fecking hilarious. They had this innate ability of allaying any fears and the butterflies that had taken up residence in the pit of my stomach a few hours prior well it was either that or the over whelming rush of anaesthetic”

Category: Post surgical support

However, patients were not so complimentary of the post surgical support that they received. Patients felt that they were given conflicting information about who they needed to contact for help. Additionally, patients felt during the pathway they were very well supported, however post surgery they felt abandoned. This included both dietary and psychological support.

“I phoned the hospital and begged for help and was told to go to my local hospital if I wasn't feeling well, I felt like all the promises that were made to me (i.e. always on hand in case of any problems) were all fake and pointless and I felt more alone than I had ever felt in my entire life and I was regretting having my surgery. I just wished that I had carried on with my path pre op because the reason I didn't is even though I was losing weight at one point the loss would have slowed right down and may have even stopped”

3.4.5 Theme 5: Impact of surgery

Whilst patients' blogs suggested that they were prepared for surgery and its associated risks, this was not always evident post surgery. Patients discussed a range of different problems they had experienced post surgery and whilst some had a positive attitude and felt that they would get through them, others felt their future was more bleak. Due to issues such as hair loss, infections and excess skin, some patients felt 'uglier' now than they did before losing weight.

"Surgery isn't a quick fix as most people think you still have to put the work in to get the results you want out and it does come with its own set of problems but hopefully problems I can overcome in time"

"I feel more ugly and gross now than I ever felt when I was 34 stone"

Category: Adjustment

Patients occasionally discussed how the change in diet was affecting them. In most instances, patients did not experience any major problems with changing their diet. However there were some issues regarding lack of energy from a reduced diet and adjusting to smaller portion sizes.

"I'm a dippy blonde enough as it is so with the lack of food helping the brain matter function properly I'm even worse, much to my colleagues amusement. Thing is though regardless of the tiredness I'm experiencing, when I first get up for the day I do feel full of vim and vigour and I know that has only come from the weight loss"

Category: Health issues post surgery

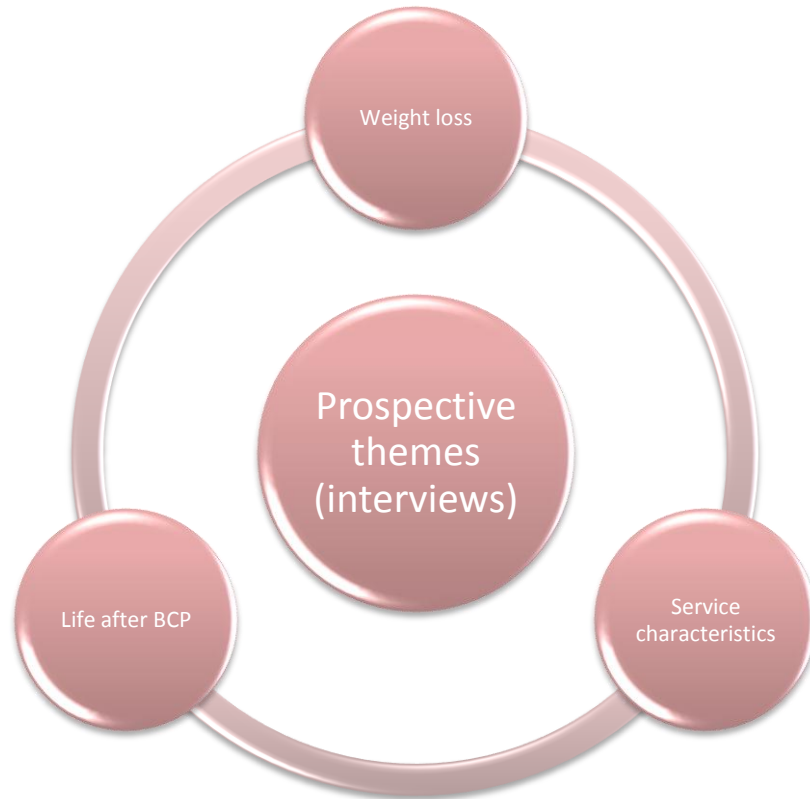
Few patients reported having any serious health issues post surgery. However the patient below described how they were in and out of hospital for a while with different issues post surgery. The patient described that they were left to feel like they had done something wrong e.g. eating more than they should, and stated that even when it was determined what the problem was, they were still prescribed incorrect medication which only served to make the problem worse. This particular patient felt like the information regarding their health was incorrect and inconsistent. However because the patient was unable to see their surgical provider, they perhaps did not receive the specialist advice they needed.

"I was in for ten days and it seemed like years to me and every day I felt I was losing hope and getting no better just worse. Test after test showing up with nothing made me feel like it's just me I'm a weak pathetic wimp...So they realised I had a Thiamine deficiency and they said in their defence that they didn't think it was very likely as they hadn't seen it in a patient before. I stopped retching and they discharged me with extra supplements I would have to take for life"

3.5 Prospective themes: Interviews

Analyses of the data elicited three main themes. These themes were characterised by a number of categories.

Figure 8: Prospective themes - Interviews



3.5.1 Theme 1: Weight loss

This theme centred on how much weight patients had lost, what were the motivators behind them wanting to lose weight and how well they kept their motivation going both during and after their time on the BCP.

3.5.1a Subtheme: Motivation for weight change

During interviews, patients described various reasons behind why they wanted to lose weight. Some of the reasons given were; health issues, their appearance and for their family. This suggests that even within this relatively small sample of patients, there are varying patient profiles and those who deliver care during the BCP should be aware of patients individual motivators. In addition, one patient who had withdrawn from the BCP early stated that whilst the programme was good, it was not the right time for her to do it. This highlights the need to identify patient levels of motivation prior to patients starting the BCP.

"I don't want my son being the fat kid taunted who's got a fat Mum"

"I was sick of looking the way I was, I wanted to be normal. It's funny because I know once I've lost the majority of my weight and I get down to a healthy weight that's deemed healthy by the NHS "
and

"Perhaps one thing it was the wrong time for me "

In addition, patients also discussed different reasons behind why they had put weight on in the first place.

"I just went along because my weight was getting out of hand and because of that being diabetic the more weight I was putting on the more insulin I was having to take and the more insulin I took the more weight I put on because insulin puts weight on you anyway. So I was getting involved in a vicious circle until I went on the course "

"I mean I was always like what my mother called well made, but I was only a chubby girl I wasn't fat. But once I've had each child I've piled weight on "

3.5.1b Subtheme: Continuing motivation

Both during and after the pathway, patients occasionally discussed how difficult it was to keep motivated particularly in social situations or at times when over eating is expected such as Christmas.

"I do know what I need to do but as I say at the moment I'm just trying to do that. With the run up to Christmas as well, I'm not too bothered even if I just stayed this weight for a bit I'm happy you know I was 24 stone this time last year I'm now 14 so you know it's one of them "

Category: Patient support groups

One suggestion that was derived from discussions around motivation was the idea of patient support groups. Participants liked this idea, firstly to be with people who were in a similar position as themselves as secondly to assist in keeping motivation strong post pathway.

"Yeah a bit like an AA meeting I suppose, once a week, how you getting on you know how you finding it, just as it wouldn't have to be set every week you if you just felt that you wanted to go you know and see if people are in the same position "

3.5.1c Subtheme: Satisfaction with weight loss

Patients were pleased with the weight they lost during the pathway and were positive about future weight loss.

"You feel your body shape changing "

"I've lost a stone since I've gone to the thing; I've lost a stone in weight "

Category: Health

One of the key reasons behind patients' decision to access the BCP was due to health issues relating to obesity. Patients reported improved health during the BCP and for those at

the beginning of the pathway, there was a feeling that the BCP was going to impact positively upon their health.

"I'm diabetic, I've got high blood pressure, I've had a small heart attack in the past, I've got angina. So all that goes against me so hopefully if I gradually lose the weight then my other health issues might sort themselves out. Losing weight isn't just going to affect me in one way, it should affect my health in many ways"

3.5.1d Subtheme: Confidence

Whilst patients appeared to improve in confidence during their time on the BCP, there were still some residual confidence issues particularly around attending a gym or swimming pool. Participants were keen on the idea of having closed access to the general public whilst their weight management group used the swimming pool.

"Yeah they should have a fat pool somewhere. No I don't mean that nasty I mean you know where people like us could go and not feel looked at or stared at... They have it for old age pensioners the open pool just for pensioners"

3.5.2 Theme 2: Service characteristics

The second theme looks at patients' opinions of different aspects of the BCP including sessions with the dietician, cognitive behaviour therapy and surgery, and how this has impacted upon them.

3.5.2a Subtheme: Lifestyle and weight management

Patients generally praised the lifestyle and weight management information and found it extremely valuable. There were also instances when patients who had finished the course were still using the information learnt and finding it helpful. In addition, patients commended the dieticians as being helpful, friendly and informative. However, although in the minority, there were some comments regarding the information not being specific enough and patients being unhappy with how they treated if they needed to cancel appointments.

"Yeah the lifestyle. We have learnt a lot actually because my lifestyle food now has changed so much it's unbelievable where I end up, where I used to have a plate like that I've got a plate like that and I eat more salads, more veg than anything else I ever done and I'm finding it's nice"

"I was delighted when I thought I was going to go to a dietician because I thought I could go to someone and speak to them about the things that upset my stomach really and that she would try and work out something with me that we could hopefully try and lose weight but also it would accommodate some of my health conditions. Like I couldn't, if I have 5 lots of fruit and vegetable a day I'd never be off the loo, do you know what I mean but could I get her off this blasted place, could I heck"

3.5.2b Subtheme: Psychological support

Most patients found the psychological support received invaluable. Some patients felt that CBT was not suited to them and did not wish to delve into past issues to search for a reason behind their weight loss. However on the whole, the psychological input was viewed as one of the most important aspects of the BCP.

"Excellent, absolutely. She (CBT therapist) was really and she was a woman you could speak to . "

"She thinks because I'm big, very protective about my family, she thinks that's why I'm big but I couldn't get it through to her that I've always been a big lad, I've never been... I think she's looking for a little lever to say that's why you're big and she's put it down that I was angry and all that"

Category: Loss of a relationship

Some patients discussed how since being on the BCP, particularly post surgery they felt that they had lost a friend in food. Participants likened this to the loss of a relationship.

"I'm quite self aware to acknowledge the fact I have got an eating problem, it's like when you go out with a bad boy, you know you shouldn't have it but you want it"

3.5.2c Subtheme: Post surgery

One criticism from patients was that whilst they felt supported during the BCP, once they had left the pathway the support system was taken away. Patients often reported feeling abandoned and felt that in particular, psychological support post surgery was necessary. In addition, some patients felt that they may not remember to ask all the right questions beforehand and needed someone to talk to post surgery about issues such as excess skin.

"Both but you only got one session after it then that's it the cut off is end. It's no well we can help you with this, that, you know what happens if I get excess skin, what are you going to do for that?"

"There's quite a bit of intense support the first 6 weeks, well not even that I'd say 'cause as soon as you're kicked out the hospital you get on with it. There's nothing, I'd say it's more needed for when you get to the 4 month era 'cause then you've got the appetite back and you're like or you're scared to be because you've got your appetite and then you shouldn't be eating this and it is I think there should be something more maybe CBT therapy afterwards because your behaviour, you're picking up new behaviours and this new way of eating which it isn't necessarily the good way because you haven't dealt with the bad behaviours, does that make sense?"

Category: Regret

Whilst most patients were happy with their time on the BCP, there were some patients who described feelings of regret particularly around their decision to undergo surgery. Whilst in the minority, some patients felt that they should have continued losing weight through healthy eating rather than enduring bariatric surgery. Mainly patients felt happy with the weight they had lost but missed the social aspects of eating and felt like something was missing in their life. This further highlights the need for support post surgery and also adequate preparation prior to surgery.

"I'm happy with results but I still, if I had my time over again I wouldn't do it. I'd stay on the healthy eating plan"

Category: Excess skin

Some of the patient who underwent bariatric surgery expressed dismay at their excess skin. However, patients were usually realistic and accepted that they could not do anything about this for three years post surgery and that their improved health was more important.

“The only thing that is bothering me in the saggy skin situation as much as I'm trying to tone up it's not going to do it itself but obviously I can't even look at doing anything on that until three years post op if I wanted to but I'm not going to let it get me down”

3.5.3 Theme 3: Life after BCP

The third theme is concerned with how patients adjusted post BCP focusing on how their changed lifestyle impacted upon their own life and those around them.

3.5.3a Subtheme: Socialising

One of the biggest adjustments that patients who had undergone surgery had to make was to their social life. Patients discussed how they sometimes felt excluded from social occasions such as work nights out because they were no longer able to eat and drink as much as they could previously. Patients had occasionally 'tested' their surgery by overindulging and either eating or drinking too much but, found the consequences were not pleasant. However, patients soon adjusted and quickly became aware of their limitations with regards to food and alcohol.

“Sometimes it just annoys me 'cause we've got out Christmas dinner in here, we've all booked it a three course meal, I can't book it, I can't eat it it's a waste of money. I feel like I'm being a miser but I'm not I just refuse to pay for things that I can't eat you know I can't eat a normal sized little meal let alone”

3.5.3b Subtheme: Work

There was a mixture in patients' working background. Some patients did not work and had not worked for a considerable time and others were at work. For those patients who had not previously worked, there was a consensus that they were feeling more optimistic about their working future and for those who were working, they felt that as their weight was decreasing, the easier and more pleasurable they found work.

“That is my end goal, to go back to work”

3.5.3c Subtheme: Impact on significant others

Participants discussed how their time spent on the programme had effected their significant others. Significant others had on occasion been put under stress whilst the patient was undergoing the surgical procedure. However, the change in lifestyle had also had positive effects on patients significant others.

“Honestly I thought she was dying in that hospital, it was horrible. Even when I rowed with that woman she went to me I think you're blowing it out of proportion, I went have you got kids? Is it your child that's been crying for 3 weeks writhing in pain?”

“It's also been better for me because I know exactly what to go and buy and the cakes are out, the biscuits are out. We don't buy no cakes, no biscuits and if we do have any we wait for him to go to bed”

4. Discussion

4.1 Patient profiles

Evident in the retrospective and prospective findings was that, patients were able to clearly explain both how they had become obese and also why they had decided that this was the right time for them to address their weight issues. There were very different explanations for weight gain such as injury or having children and also motivators behind wanting to lose weight, e.g. for their children, to look like everyone else or for their health. When delivering information, NHS Wirral need to be aware of these different patient profiles particularly when seeing patients in a group setting. Further research could be carried out to assess and identify predictors of weight loss success for these distinct patient profiles, i.e. are patients with different motivators for weight loss or different pathways to obesity more likely to lose weight than others.

4.2 Multidisciplinary working

It was felt that often patients did not know who to contact post surgery and the private surgery providers role post surgery should be made more transparent. There were some concerns from stakeholders regarding what was in the contract for the private provider's role post surgery and this was mirrored in the patient experiences. Patients often did not know who to contact concerning both medical and psychological issues post surgery, and were often given conflicting information. Furthermore, there were some suggestions that the Bariatric Care Pathway (BCP) partnership on the whole was not fully coherent and that there were communication issues between different teams. However suggestions were made that this problem could be addressed through the appointment of an individual who would take overall responsibility for the whole pathway from beginning to end. Conversely, this issue was not picked up upon by patients and did not appear to be reflected in the service received by patients.

4.3 Lifestyle and weight management service (LWMS)

In the retrospective report, some patients reported negative experiences of how the LWMS courses were run and how they felt they had been treated. It may be the case that as the purpose of the LWMS courses were to lose weight that some of those interviewed had failed to do this, and thus mentally consigned the experience to the list of other failed weight loss attempts. However, in the prospective phase, patients were very complimentary of the lifestyle information they had received. In August 2010, a revised pathway was implemented meaning that patients no longer attend LWMS but instead have one-to-one sessions with the dietician. The patients in the prospective phase of the study would have been referred into this new revised pathway and on the whole, the feedback around the information they had received and how they had been treated during the BCP on the whole was vastly improved. There were still some criticisms regarding the information received from the dietician not being specific enough to individual patient needs but these

comments were in the minority and may still reflect the handover period from the old pathway to the newer revised pathway.

4.4 Weight loss

The participants in the retrospective phase were successful in achieving their 5% weight loss within the 12 week BCP programme where, presumably, they had been unable to do this previously. In the prospective phase, patients generally felt that they were given achievable targets and having a target to work towards kept them motivated. However, there were some negative comments from patients concerning how much weight they had lost. It is difficult to ascertain whether the discrepancies between what patients reported is due to some patients not having clear expectations set out at the beginning or whether some patients were, either due to commitment issues or other circumstances, not meeting their targets.

4.5 Psychological support

The importance of placing psychological support at the crux of the BCP was evident throughout all the phases of the BCP study. In the stakeholder phase, interviewees felt that Cognitive Behavioural Therapy (CBT) enhanced the BCP and could in some cases negate the need for surgery. Additionally, patients discussed how the psychological support had changed the way they thought about food and changed their frame of mind. Most importantly, those patients who did not experience any psychological support often struggled to adapt particularly post surgery.

4.6 Criteria for surgery

In the stakeholder report, it was suggested that the criteria for bariatric surgery of BMI 45 plus significant co-morbidities, restricted the numbers of patients who could be referred. One stakeholder commented that in order for a co-morbidity to be considered significant a patient would need to be *“on the full whack of medication that they can possibly take...and it's still out of control”*. Stakeholders argued that this was limiting and restrictive for patients who had a BMI of between 40 and 50 but whose co-morbidities were not considered severe enough to be considered for bariatric surgery. During the prospective and retrospective report, there were a number of patients who expressed regret at having undergone bariatric surgery and did not seem psychologically ready to experience the changes they were going through. Whilst BMI is an obvious criterion for bariatric surgery, emphasis should also be placed on potential improved quality of life, psychological readiness and patient compliance. A longitudinal study could be implemented to look at the long-term effects of bariatric surgery on individuals, for example are those with lower BMIs initially experiencing more weight loss and an improved quality of life than those in the higher BMI categories and what part does psychological readiness and motivation play. Furthermore, are patients still sticking to their lifestyle changes one, five and ten years on or will some of these patients who have undergone surgery be revisiting the bariatric services with further problems.

4.7 Surgery expectations

Most patients felt that they were adequately prepared for their surgery and were involved in the decisions about their surgery options. However, there were some instances when patients felt that they had no input into which specific procedure they would have, rather, it was decided for them. Furthermore, whilst patients pre surgery felt that they had been adequately prepared for the effects of the surgery, post surgery patients experienced regret regarding the operation. This suggests that they may not have been prepared for some of the effects of surgery, such as hair loss and excess skin. As patients did not feel supported post surgery, it is felt that these issues may be exacerbated.

4.8 Post surgery

There was a consensus throughout the different phases of the evaluation that more support was needed for patients post surgery. From all groups, there was an overwhelming agreement that patients were 'abandoned' post surgery. Once patients are referred for surgery and left the pathway, the bariatric team tended to lose contact with their patients. Although the private provider is contracted to follow up the patients and inform the bariatric team of whether the surgery had taken place this appeared not to have been the case. The patient follow up offered by the private provider tended to involve a medical check rather than psychological support. Before the surgery and whilst they are on the pathway, patients receive much in the way of support, both physically and psychologically and this support appeared to cease at the point of referral for surgery. Some patients seemed to regret having surgery in the first place and were left feeling unsure about how to deal with the changes they were experiencing. Linked in to this was the notion of patient support both for those patients who underwent bariatric surgery and those who did not. Patients felt that once they had left this highly managed service that they were on their own and the support of others may help them to keep motivated. Additionally this links in with exercise, as some patients felt that they would like to e.g. go swimming but did not feel confident enough. Going to a gym or swimming as part of a support group may help to alleviate some of these fears.

4.9 Peer support

It was evident that friends, partners, parents and children were a great source of support to patients. However, patients also reported that their significant others were not always supportive. It may benefit both patients and their significant others if patients were encouraged to bring their significant others along to specific sessions with the dietician and / or surgical team. This would help to increase understanding and also to allay any fears surrounding surgery that significant others may have.

5. Conclusions

The purpose of this evaluation was to explore the views of service providers and commissioners, patients and significant others with regard to the effectiveness and impact of the BCP. Those whose work involves them in the Wirral BCP are a strongly committed

and enthusiastic team who celebrate the successes of their patients and where there is disappointment endeavour to find innovative ways to address those issues. Furthermore, patients enjoyed their time on the BCP and it was apparent that patients had lost weight and improved in confidence throughout the evaluation. There were some concerns regarding support post BCP, and more specifically post surgery. In particular this was with regards to health and psychological issues post surgery.

6. Recommendations

Recommendation	Stakeholder phase (Meaning units)	Retrospective / Significant other phase (Meaning units)	Prospective phase (Meaning units)
Psychological support is a key component of the Bariatric Care Pathway (BCP)	"...the enhancement of the intervention by applying psychological principles" See also 3.1.1c	"It was fine. Psychologist was really nice" See also 3.2.2	"Excellent, absolutely. She {CBT therapist} ...was a woman you could speak to" See 3.5.2b
Improvement of psychological support/ follow up care post surgery. Inclusion of patient support groups for added support post pathway	"...they shouldn't just be cut off...maybe to make the best use of surgery they might need one post surgical intervention" See also 3.1.1d	"...it's after the operations that the problems hit home...the operation has changed him, not the same happy person he was before..." See also 3.2.5b	"I feel more ugly and gross now than I ever felt when I was 34 stone" See also 3.4.5
Ensure all patients are adequately prepared for the risks of surgery, e.g. excess skin, hair loss. Additionally ensuring that all patients are involved in the decision about surgery and are considered suitable for surgery	"I could see the sense in that from two angles, one is the ability to withstand surgery, the risks attached psychologically – and the other one was their ability to benefit" See also stakeholder report	"...I was having the gastric band and then all of a sudden my GP and the specialist decided the band wouldn't be good enough, it's got to be the bypass. I wasn't even asked. I was told I was having it" See also 3.2.3a and 3.2.5a+b	"Surgery isn't a quick fix as most people think you still have to put the work in to get the results you want out and it does come with its own set of problems but hopefully problems I can overcome in time" See also 3.4.5 and 3.5.2c
Criteria for surgery to be reconsidered, i.e. not such a reliance on BMI. Of more importance is potential for improved quality of life, compliance and psychological readiness	"I think having a cut-off of 50 or significant morbidity is not seeing the whole process" See also 3.1.2b	"If you are asking me whether I would have it again, no I wouldn't...they don't tell you what can happen in the future" See also 3.2.5	None
Additional support for patients who are not considered suitable for surgery	"... it is a difficult sort of limbo, do you sit there and get fatter or do they actually try and do something?" See also 3.1.2c	"they basically said 'we can't give you this and we are not going to help you...that's what upsets you the most'" See also 3.2.6 and retrospective report	None

Recommendation	Stakeholder phase (Meaning units)	Retrospective / Significant other phase (Meaning units)	Prospective phase (Meaning units)
Clarification of surgery providers role post surgery	<p>"I think some of the people don't do well after surgery because...they go off to (private provider) and they get no follow up whatsoever after surgery"</p> <p>See also 3.1.3a</p>	<p>"I was glad to get home, I felt my after care was atrocious"</p> <p>See also 3.2.4</p>	<p>"I phoned the hospital and begged for help and was told to go to my local hospital if I wasn't feeling well"</p> <p>See also 3.4.4c</p>
Continuation of MDT meetings to encourage communication and smooth pathway	<p>"One of the issues we have is that we don't, (work together) it is quite fragmented"</p> <p>See also 3.1.3b</p>	None	None
Identification of different patient profiles particularly in group sessions	None	<p>"I've done all the stuff like going to slimming clubs"</p> <p>See also 3.2.1</p>	<p>"I was sick of looking the way I was, I wanted to be normal"</p> <p>See also 3.5.1a</p>
Ensure the process concerning who goes in group or one-to-one sessions is transparent particularly in highlighting those patients who have more complex needs	None	<p>"You can't ask me how fit I am or how do I get on in work in a room full of people... everyone could hear you"</p> <p>See also 3.2.2</p>	<p>"If I have 5 lots of fruit and vegetable a day I'd never be off the loo...but could I get her off this blasted place, could I heck"</p> <p>See also 3.5.2a</p>
Signpost patients to exercise classes or offer exercise classes as a group	None	<p>"(They) need exercise, and to do things and I'm struggling to keep up with that"</p> <p>See also retrospective report</p>	<p>"I'd feel very very self conscious going into a gym"</p> <p>See also 3.5.1d and prospective report</p>
Encourage patients to bring significant others along to specific sessions to help them to further assist the patient post pathway	None	None	<p>"Furthermore it doesn't help when your support system, that is your 'friends', advocate this momentary lapse in judgement, so wine it was, followed by copious amounts of shots. Not such a clever decision the morning after, my hangover was testament to that"</p> <p>See also 3.4.4a and 3.5.3c</p>

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Useful Resources

- The National Obesity Observatory www.noo.org.uk
- National Institute for Health and Clinical Excellence www.nice.org.uk including:
 - the Shared Learning Database www.nice.org.uk/sharedlearning
 - Costing tool
www.nice.org.uk/usingguidance/commissioningguides/bariatric/commissioningtool.jsp?domedia=1&mid=B382515B-19B9-E0B5-D476949E70BDA568
 - Commissioning guidance for bariatric surgery
www.nice.org.uk/usingguidance/commissioningguides/bariatric/BariatricSurgicalService.jsp?domedia=1&mid=87F5267C-19B9-E0B5-D47104E7147082E9
- The National Obesity Forum www.nationalobesityforum.org.uk/
- Department of Health – Obesity
www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/Obesity/fs/en
- International Association for the Study of Obesity www.iaso.org
- The International Obesity Taskforce www.iaso.org/iotf/
- UK Foresight Project www.foresight.gov.uk/Obesity/Obesity.htm

8. Appendix

Appendix 1

Full Reference	Main findings
<p>Weight and type 2 diabetes after Bariatric surgery: systematic review and meta-analysis (2009)</p> <p>http://www.sciencedirect.com/science/article/pii/S0002934308010644</p>	<p>The prevalence of obesity-induced type 2 diabetes mellitus is increasing worldwide. The dataset includes 621 studies with 888 treatments arms and 135,246 patients. The clinical and laboratory manifestations of type 2 diabetes are resolved or improved in the greater majority of patient after bariatric surgery.</p>
<p>The Effects of Low-Carbohydrate versus Conventional Weight Loss Diets in Severely Obese Adults: One-Year Follow-up of a Randomized Trial (2004)</p> <p>http://www.annals.org/content/140/10/778.short</p>	<p>132 obese adults with a body mass index of 35 kg/m² or greater; 83% had diabetes or the metabolic syndrome. Participants received counselling to either restrict carbohydrate intake to <30 g per day (low-carbohydrate diet) or to restrict caloric intake by 500 calories per day with <30% of calories from fat (conventional diet). Participants on a low-carbohydrate diet had more favourable overall outcomes at 1 year than did those on a conventional diet. Weight loss was similar between groups, but effects on atherogenic dyslipidemia and glycemic control were still more favourable with a low-carbohydrate diet after adjustment for differences in weight loss.</p>
<p>Effects of Diet and Physical Activity Interventions on Weight Loss and Cardio metabolic Risk Factors in Severely Obese Adults (2010)</p> <p>http://jama.ama-assn.org/content/304/16/1795.short</p>	<p>The prevalence of severe obesity is increasing markedly, as is prevalence of comorbid conditions such as hypertension and type 2 diabetes mellitus; however, apart from bariatric surgery and pharmacotherapy, few clinical trials have evaluated the treatment of severe obesity. Among patients with severe obesity, a lifestyle intervention involving diet combined with initial or delayed initiation of physical activity resulted in clinically significant weight loss and favorable changes in cardiometabolic risk factors.</p>

Full Reference	Main findings
<p>Interventions to achieve long-term weight loss in obese older people (2010) http://ageing.oxfordjournals.org/content/39/2/176.short</p>	<p>The prevalence of obesity is rapidly increasing in older adults. Nine eligible trials were included. Study interventions targeted diet, physical activity and mixed approaches. Populations included patients with coronary artery disease, diabetes mellitus and osteoarthritis. Six-minute walk test did not significantly change in one study. Health-related quality of life significantly improved in one study but did not improve in a second study. Although modest weight reductions were observed, there is a lack of high-quality evidence to support the efficacy of weight loss programmes in older people.</p>
<p>Appropriate Physical Activity Intervention Strategies for Weight Loss and Prevention of Weight Regain for Adults (2009) http://journals.lww.com/acsm-msse/Abstract/2009/02000/Appropriate_Physical_Activity_Intervention.26.aspx</p>	<p>Overweight and obesity affects more than 66% of the adult population and is associated with a variety of chronic diseases. Weight reduction reduces health risks associated with chronic diseases and is therefore encouraged by major health agencies. Guidelines of the National Heart, Lung, and Blood Institute (NHLBI) encourage a 10% reduction in weight, although considerable literature indicates reduction in health risk with 3% to 5% reduction in weight.</p>
<p>Comparison of Strategies for Sustaining Weight Loss http://jama.ama-assn.org/content/299/10/1139.short</p>	<p>The majority of individuals who successfully completed an initial behavioral weight loss program maintained a weight below their initial level. Monthly brief personal contact provided modest benefit in sustaining weight loss, whereas an interactive technology-based intervention provided early but transient benefit.</p>

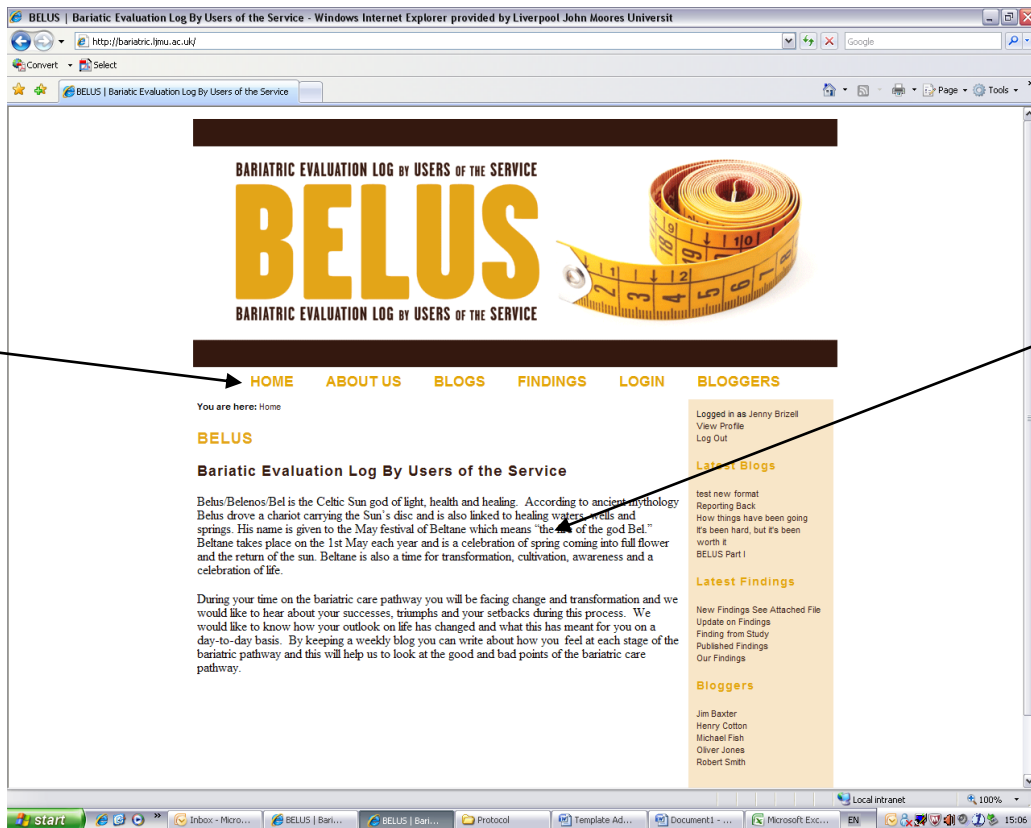
Full Reference	Main findings
<p>An exercise outpost in weight regain territory (2010) http://jap.physiology.org/content/109/1/1_short</p>	<p>Markers of cardiovascular and metabolic health are consistently improved with modest weight loss; yet, from a physiological perspective, weight loss is a very tough task to achieve. Changes during weight loss affect neural, endocrine, autocrine, and paracrine responses that orchestrate complex metabolic and physiological interactions predominantly favoring weight preservation. Most of the health parameters that were addressed in this investigation are commonly measured in the clinical setting. Thus the findings are both cutting-edge and relevant to the general practitioner.</p>
<p>Self-efficacy in weight management (1991) http://psycnet.apa.org/journals/ccp/59/5/739/</p>	<p>Self-efficacy is an important mediating mechanism in advancing understanding of the treatment of obesity. This study developed and validated the Weight Efficacy Life-Style Questionnaire improving on previous studies by the use of clinical populations, cross-validation of the initial factor analysis, exploration of the best fitting theoretical model of self-efficacy, and examination of change in treatment. The resulting 20-item WEL consists of 5 situational factors: negative emotions, availability, social pressure, physical discomfort, and positive activities.</p>
<p>Exercise in weight management and obesity (2005) http://www.sciencedirect.com/science/article/pii/S0733865105702290</p>	<p>Obesity is associated with reduced life expectancy, and it is now well recognised that increased body fat is associated with heart disease, stroke, hypertension, dyslipidemia, type 2 diabetes mellitus, gallbladder disease, osteoarthritis, sleep apnea and respiratory problems and numerous cancers (endometrial, breast, prostate and colon). The American Heart Association has stated that obesity is a major modifiable risk factor for heart disease.</p>

Full Reference	Main findings
<p>Lessons from obesity management programmes: greater initial weight loss improves long-term maintenance (2001) http://onlinelibrary.wiley.com/doi/10.1046/j.1467-789x.2000.00004.x/full</p>	<p>It is well established that treatment with anorectic and other weight loss producing agents enhances both the initial and maximal weight loss achieved by a hypocaloric diet. These agents may also increase the number of completing patients, probably by reducing the number of patients dropping out due to unsatisfactory weight loss. Anorectic compounds seem to produce the best long-term results when introduced following a major weight loss induced by a VLED.</p>
<p>What Can Intervention Studies Tell Us about the Relationship between Fruit and Vegetable Consumption and Weight Management? (2008) http://onlinelibrary.wiley.com/doi/10.1111/j.1753-4887.2004.tb00001.x/abstract</p>	<p>Given the recent surge in obesity, effective dietary strategies for weight management are required. Because fruits and vegetables are high in water and fibre, incorporating them in the diet can reduce energy density, promote satiety, and decrease energy intake. Although few interventions have specifically addressed fruit and vegetable consumption, evidence suggests that coupling advice to increase intake of these foods with advice to decrease energy intake is a particularly effective strategy for weight management. This approach may facilitate weight loss because it emphasises positive messages rather than negative, restrictive messages</p>

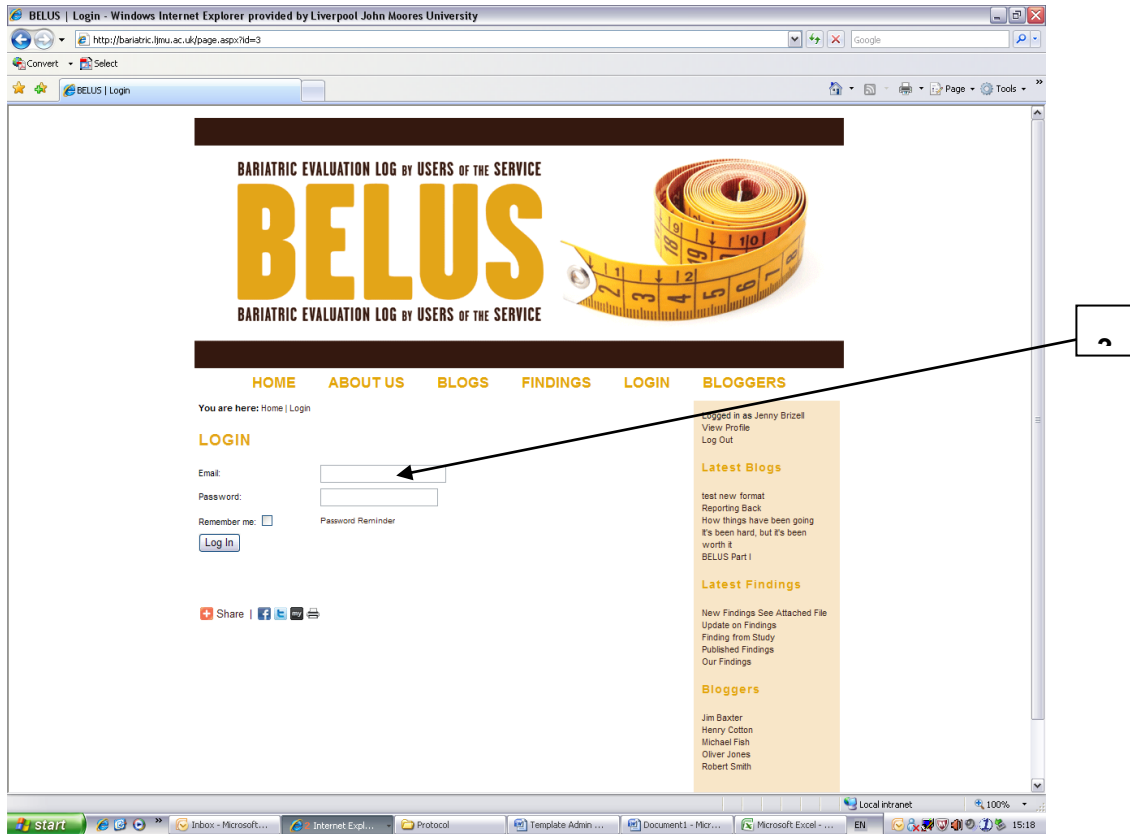
Appendix 2

BLOGGERS USER GUIDE

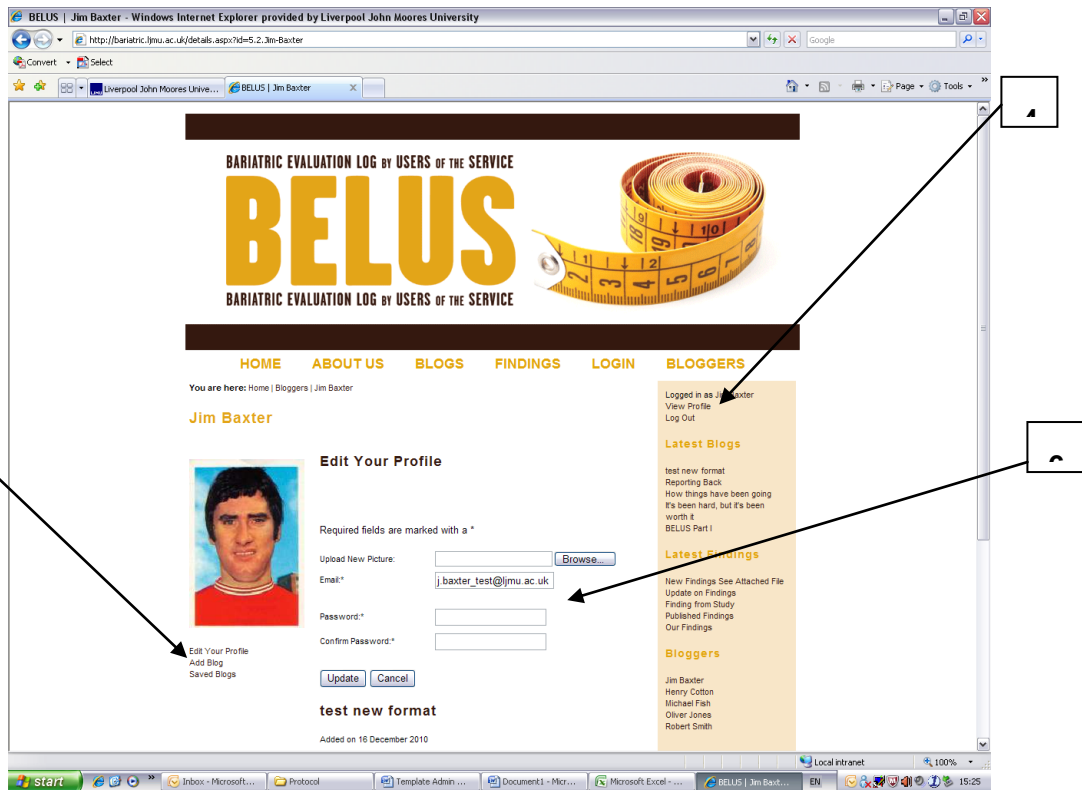
1. **HOME PAGE:** Go to the website <http://bariatric.ljmu.ac.uk>. The home page will tell you a little bit about BELUS and also about keeping your weekly blog.
2. Along the middle of the **BELUS HOME PAGE** there is a list of different pages you can click on
 - The first page is **HOME** which will take you back to the **BELUS HOME PAGE**
 - The second page is **ABOUT US** which will tell you about the researchers who are carrying out the Bariatric Care Pathway evaluation
 - The third page is **BLOGS**. This is where you can see your blogs and also other people's blogs unless they have marked them as private
 - The fourth page is **FINDINGS**. This is where the researchers will put up-to-date findings from the research
 - The fifth page is **LOGIN**. This is where you can login to your blog account and write new blogs, upload pictures etc
 - The sixth page is **BLOGGERS**. This is where can view the profiles of other Bloggers who are using the website.



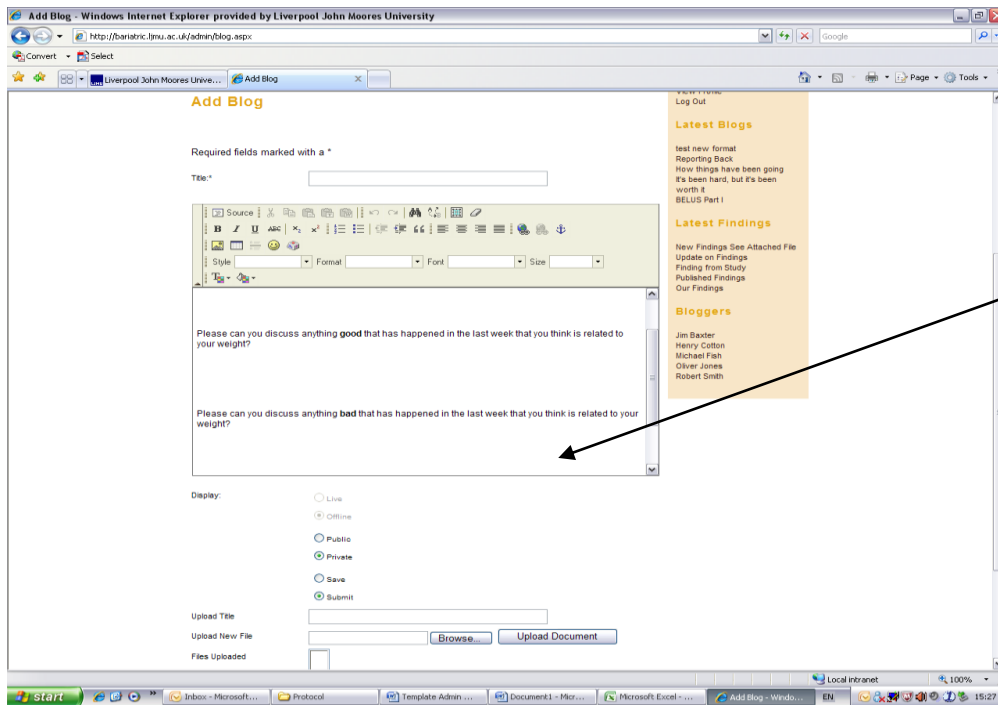
3. **LOGIN.** After clicking on the login icon you will be asked to provide your **EMAIL ADDRESS** and **PASSWORD**. Your email address is the address you provided to researchers and the password will be bariatricljmu. You can change this password after the first time you log in. If you don't want to have to remember your password every time you login you can tick the **REMEMBER ME** box.



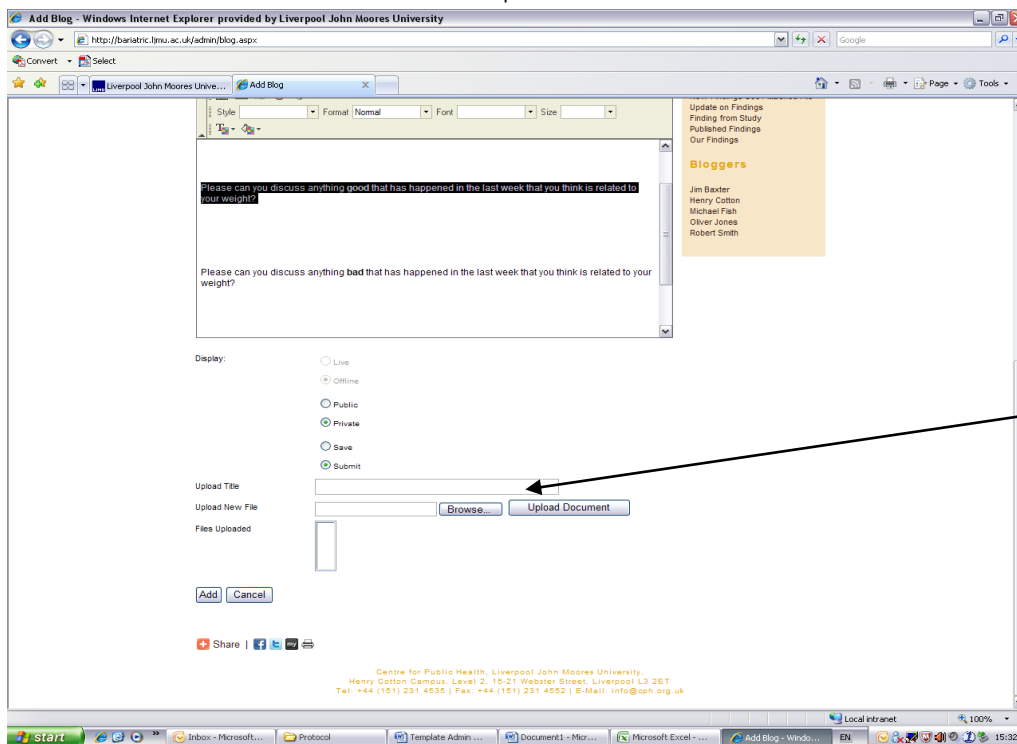
4. Once you are logged in you can **ADD NEW BLOGS**, **EDIT YOUR PROFILE** and **VIEW OLD BLOGS** etc. To **ADD A BLOG** click on **VIEW PROFILE** from the right hand list on the website.
5. From the **VIEW PROFILE** page you can **EDIT YOUR PROFILE**, **ADD BLOGS** and look at **SAVED BLOGS** that you are currently writing.
6. **EDIT YOUR PROFILE.** Once you have clicked on edit your profile you can upload a picture of yourself, update your email address and change your password. Click **UPDATE** to make any changes.



7. **ADD BLOGS.** Once you have clicked on the add blogs you are able to write your weekly blog on the website. You can give it a title and then fill in the answers to the questions listed, e.g. *please can you discuss anything **good** that has happened in the last week that you think is related to your weight?* Here you will also be asked for your current weight. You can mark your blog as **PUBLIC** or **PRIVATE** depending on whether you want other people to see your blog or not and you can **SAVE** or **SUBMIT** your blog. If you are not finished writing you blog you can save it and comeback to it later. If it is finished you can submit it. Once you have finished then click **ADD**.



8. You can also **UPLOAD** any pictures, photographs, poems or anything you like relating to your feelings and experiences during the bariatric pathway. Just click **BROWSE**, find where you have saved your picture etc and then click **UPLOAD DOCUMENT**. Once the document is uploaded then click **ADD**



You can also look at **SAVED BLOGS**, These are blogs that you haven't finished writing but you can go back, finish writing and then **SUBMIT** them.