

The patient experience of bariatric surgery: a longitudinal qualitative study

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The Patient Experience of Bariatric Surgery: A Longitudinal Qualitative Study

Catherine Verity Homer

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Abstract

Morbid obesity is a major public health concern. It is associated with a range of physical and psychological comorbidities including cardiovascular disease, stroke, depression and experiences of psychological distress and stigma. In the UK, treatment for morbid obesity is provided through a tiered pathway of services including bariatric surgery. Outcomes of surgery are not universally positive, with some regaining weight following surgery or experiencing unintended outcomes.

This study explored what influences outcomes of bariatric surgery from the patients' perspective. It aimed to identify how patients measure the success of bariatric surgery, the support needs and mechanisms which influence success and the implications for clinicians, commissioners and policy makers. Using qualitative interviews and modified Photovoice methodology alongside validated quality of life (QoL) measures this longitudinal study explored the expectations and experiences of patients undergoing bariatric surgery. Data was collected in five cycles across the bariatric patients' journey: pre-surgery (n=18); three months post-surgery (n=16); nine months post-surgery (n=15); 18 months post-surgery (QoL measures only) (n=10); and, two years post-surgery (n=13).

This is the first study to investigate the experience of more than one service of a tiered obesity pathway. It found that the burdens of living with obesity and expectation of life post-surgery affected the way in which patients determined the success of bariatric surgery. Achieving normality was as important as the standard clinical measures of weight loss and reduced comorbidities. Psychological, physical and social support needs influence the potential for success in these terms. There was clear evidence of temporality, as the measures of success and support needs changed along participants' bariatric surgery journey. Mechanisms which could address or hinder these support needs included: what participants believed to be a successful outcome; the obesity service pathway; support networks; physical activity and exercise; and excess skin.

The findings inform the understanding of what influences the success of bariatric surgery. They are then used to develop practice and policy recommendations including: measures of success should be determined by individual patients and revisited across the journey; health care professionals supporting people living with morbid obesity to lose weight require training to understand the physiological and psychological impacts of bariatric surgery; specialist input from psychological and exercise specialists needs to be available and accessible across the pathway; and clinicians, commissioners and policy makers need to consider the levels of the socio ecological system and respond to the changing support needs in order to maximise chances of long-term successful outcomes for patients.

Candidate's statement

I declare that the work in this thesis was carried out in accordance with the regulations of the Sheffield Hallam University and is original except where indicated by specific reference in the text. No part of the thesis has been submitted as part of any other academic award. The thesis has not been presented to any other education institution in the United Kingdom or overseas. Any views expressed in the thesis are those of the author and in no way represent those of the University.

Funding Statement

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Papers

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C Homer, A Tod (2014). Social networking and bariatric surgery: support or sabotage. In *Obesity Facts* 2014;7(suppl 1):1-188

C Homer, A Tod. (2014). Seeking normality from bariatric surgery. *Social Networking and Bariatric Surgery: Support or Sabotage*. In *Obesity Facts* 2014;7(suppl 1):1-188

CV Homer, AM Tod. (2013). Expectations of Bariatric Surgery: Myths and Reality. *Obesity Facts, The European Journal of Obesity* 2013 ;6: S1

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Abbreviations and glossary

Abbreviations-

BAROS	Bariatric Analysis and Reporting Outcome System
BMI	Body Mass Index
CLAHRC- SY	Collaboration of Applied Health Research and Care - South Yorkshire
DBTH	Doncaster Bassetlaw Teaching Hospitals
DH	Department of Health
GP	General Practitioner
HCPs	Health Care Professionals
HRQOL	Health Related Quality of Life
HSCA	Health and Social Care Act
IWQOL-Lite	Impact of Weight on Quality of Life
MDT	Multi-Disciplinary Team
NHS	National Health Service
NICE	National Institute of Clinical Excellence
PHE	Public Health England
PHOF	Public Health Outcomes Framework
QOL	Quality of Life
SEF	Standard Evaluation Framework
SEM	Socio Ecological Model
SF36	Rand 36-Item Health Survey
STH	Sheffield Teaching Hospitals

Glossary

Upper tier authority	Generally county councils which provide services across the whole of a county, such as: education; transport; planning; social care and trading standards
Unitary authority	One level of local government responsible for all local services
Tiered model of obesity services	Different tiers of weight managements services covering different activities
Tier 1	Universal services
Tier 2	Lifestyle weight management interventions
Tier 3	Specialist weight management services
Tier 4	Bariatric surgery
Dumping syndrome	<p>Can occur soon after gastric surgery. The symptoms range from mild to severe and often subside with time. An early dumping phase may happen about 30 to 60 minutes after eating and symptoms can include:</p> <ul style="list-style-type: none">A feeling of fullness, even after eating just a small amountAbdominal cramping or painNausea or vomitingSevere diarrhoeaSweating, flushing, or light-headednessRapid heartbeat

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Chapter 1: Background

1.1 What was the question?

This study was initiated under the National Institute for Health funded Collaboration for Leadership in Applied Health Research and Care South Yorkshire (CLAHRC SY). The CLAHRC SY programme included an obesity theme in which actions were to coproduce research priorities with stakeholders from local organisations. I was employed to lead the obesity coproduction theme and organised a series of coproduction events which were aimed at prioritising research activity related to obesity. These events were attended by policy makers, commissioners, clinicians and academics from across South Yorkshire working with patients with obesity. The stakeholders expressed an interest in further understanding what influences post-surgical outcomes and how they could adapt their services to better support patients in their weight loss journey from pre- to post-surgery. An advisory group was established involving previous bariatric surgical patients, clinicians from primary and secondary care and commissioners to develop a study to explore this interest. The research question was thus established:

What influences whether bariatric surgery is successful for patients?

1.2 Why was the study needed?

1.2.1 Obesity - the problem and causes

Obesity is a major public health concern. Based on the classification shown in table 1 below worldwide obesity levels have doubled since the 1980s with over 650 million people classified as obese (World Health Organization, 2018). In the UK, recent statistics from 2016 indicate that 26% of men and 24% women live with obesity; these figures have risen from 13.2% and 16.4% respectively since 1993 (NHS Digital, 2018). The prevalence of severe obesity is also increasing; the Health Survey for England gives rates of 4% among women and 2% among men (NHS Digital, 2018). Obesity prevalence increases with age. Amongst all age groups between 45 to 84-year olds the prevalence of living with overweight and obesity is between 71% and 75%.

The consequences of obesity on physical and psychological health are severe. Life expectancy is reduced by obesity through its association with chronic diseases such as type 2 diabetes, cardiovascular disease, liver disease, reproductive dysfunction and some cancers (Department of Health, 2008; Guh et al, 2009; Wang, McPherson, Marsh, Gortmaker, & Brown, 2011; World Health Organization, 2018). The number of obesity related comorbidities increases with BMI. 40% of people with a BMI of less than 40kg/m² have three or more comorbidities. This increases to >50% for BMI 40-49.9kg/m², 70% for BMI 50-59.9kg/m² and finally to 89% for BMI > 59.9kg/m² (NHS England, 2016). Obesity is a cause of disability, osteoarthritis (Guh et al, 2009), obstructive sleep apnoea (Jehan et al, 2017) and poor quality of life (Twells et al, 2017). Psychological morbidity (Picot et al, 2009) and adverse social consequences linked to stigmatisation and social isolation are strongly associated (Da Silva & Da Costa Maia, 2012; Puhl & Brownell, 2001; Puhl & Heuer, 2009). Studies have also linked obesity to poor mood and anxiety (Simon et al, 2006) and suicide (Mather, Cox, Enns, & Sareen, 2009). There is also evidence to suggest that people from British Asian and Minority Ethnic (BAME) communities are a higher risk of morbidity at lower body mass index levels and NICE recommends using lower thresholds to trigger action to prevent diseases such as type 2 diabetes (NICE, 2013).

Obesity has major cost implications for the NHS and for society due to its association with reduced productivity and early retirement (Wang et al, 2011). Public Health England (2017) suggest direct costs of obesity to the NHS stand at £6.1bn per year, with wider societal costs of £27bn per year. A systematic review by Withrow & Alter (2011) suggest medical costs for individuals who are obese are 30% higher than those for normal weight people. As such, treating obesity to achieve long term weight loss and reduced comorbidities tackles a social and economic challenge.

Obesity is sometimes described as non-discerning: this means that it can affect anyone, for example from any social group. However, in reality it disproportionately affects the poorest in Western societies, perhaps as a result of social drivers and the obesogenic environment (French, Story, & Jeffery, 2002). As a result, the prevalence

of obesity in the UK (Marmot et al, 2010) and also worldwide (McLaren, 2007) is higher in more deprived areas. Thirty eight per cent of women living in the most deprived areas compared with 20% of women in the least deprived areas live with obesity (NHS Digital 2018). Lower socioeconomic groups are less likely to have access to healthy foods and participate in physical activity; both factors are associated with obesity (Booth, Charlton, & Gulliford, 2017). Moreover, living in poverty affects behaviour where priorities such as weight loss are less immediate to those of day-to-day challenges such as paying for housing and energy costs (The Centre for Social Justice, 2017).

In simple terms, obesity is caused by the imbalance of energy in (food consumed through diet) and energy out (energy used by the body to be physically active) (Department of Health, 2008). A worldwide decrease in levels of physical activity and an increase in the availability and consumption of energy-dense food have contributed to the increased global levels of obesity. However, obesity is not simply a result of overeating (Engström & Forsberg, 2011). Rather it is a multifaceted, systemic problem (Dobbs et al, 2014) with a number of complex roots, many of which are included in the Dahlgren and Whitehead model of the main determinants of health (Dahlgren & Whitehead, 1991) or represented in Socio Ecological Models. The Foresight Report *'Tackling Obesity Future Choices'* (Butland, Jebb, Kopelman, McPherson & Thomas, 2007) and *'Healthy Weight Healthy Lives: A Cross Government Strategy for England'* (Department of Health, 2008) showed how societal and environmental determinants influence decisions on lifestyle for example, the policy and community surrounding the individual, often making the healthy choice a hard choice for individuals.

1.2.2 Obesity policy

The most recent Department of Health (DH) national obesity strategy including a focus on adults *'Healthy Lives, Healthy People: A call to action on obesity in England'* was published in 2011. The strategy shifted focus from prioritising the idea of support and creating opportunities for people to be healthier proposed in the *'Healthy Weight Healthy Lives: A Cross Government Strategy for England'* (Department of Health, 2008)

and towards the ideology of individual behaviour and personal responsibility as a major factor in causing obesity. However, the strategy recognised how the current environment makes it hard to make a healthy choice and sets out the role of the state and partners, including the food and drink sector, in supporting individuals to make healthier choices. The Health and Social Care Act (HSCA) 2012 transferred responsibility for improving the health of the population from Primary Care Trusts to upper tier and unitary authorities (see explanation of key terms) from April 2013. This gave local authorities a leading role and the budget to work towards preventing obesity and meet the coalition Government's aim in their obesity strategy of reducing: *'the level of excess weight averaged across all adults by 2020'* (Department of Health, 2008, page. 23). The NHS Long Term Plan (Chapman & Middleton, 2019) also has a specific focus on reducing the burden of avoidable illness through upgrading prevention and tackling health inequalities.

Whilst there is a shift towards a systems wide integrated approach to prevent obesity, the rising prevalence of being overweight and obesity also signifies an increased demand for services to support and treat individuals who are already living with overweight or obesity. Publications from the National Institute for Clinical Excellence (NICE) (NICE, 2006, 2012, 2013, 2014b, 2014a, 2016) set out a range of recommendations for the clinical identification and assessment of obesity and to ensure there is an integrated approach to preventing and treating obesity. NICE recommends that weight management interventions should be multi-component and address dietary intake, physical activity levels and behaviour change. Across the UK, public, private and voluntary organisations are providing individual or group weight management services which are predominately funded by local authorities and the NHS. The commercial sector also provides options where people can self-refer and fund themselves.

1.2.3 Categorising obesity

An eligibility criterion to access funded obesity interventions is assessed by measuring an individual's Body Mass Index (BMI). BMI is used as a criterion for determining health risk and is calculated by measuring weight relative to height. BMI is also used

to determine population prevalence of overweight and obesity and is used as a measure of referral to interventions. Table 1 indicates the NICE classification for different levels of BMI.

Table 1: NICE classification of BMI

Classification	BMI (kg/m ²)
Underweight	<18.5
Healthy weight	18.5–24.9
Overweight	25–29.9
Obesity I	30–34.9
Obesity II	35–39.9
Obesity III (severe or morbid obesity)	40 or more

Weight management interventions should be targeted on clinical need using BMI and the assessed level of behavioural, psychological, pharmacotherapy or surgical support required by an individual (NICE, 2016).

1.3 The weight management pathway

The NHS England '*Clinical Commissioning Policy: Complex and Specialised Obesity Surgery*' developed in 2013 outlined eligibility criteria, funding arrangements and criteria for commissioning bariatric surgery (NHS Commissioning Board Clinical Reference Group for Severe and Complex Obesity, 2013). The guidance was developed in collaboration with the NHS England and Public Health England (PHE) Working Group (2013). The guidance recommended that the delivery of obesity services should be through a tiered model (figure 1). The four tiers set out interventions based on clinical need which are delivered in community, primary, secondary and tertiary care. The model was an example of a whole system approach as highlighted in the Foresight report (Government Office for Science 2007) and Government obesity policy (Department of Health, 2008, 2011) and is not replicated anywhere else in the world. The four tiers and eligibility criteria (for tiers three and four) are:

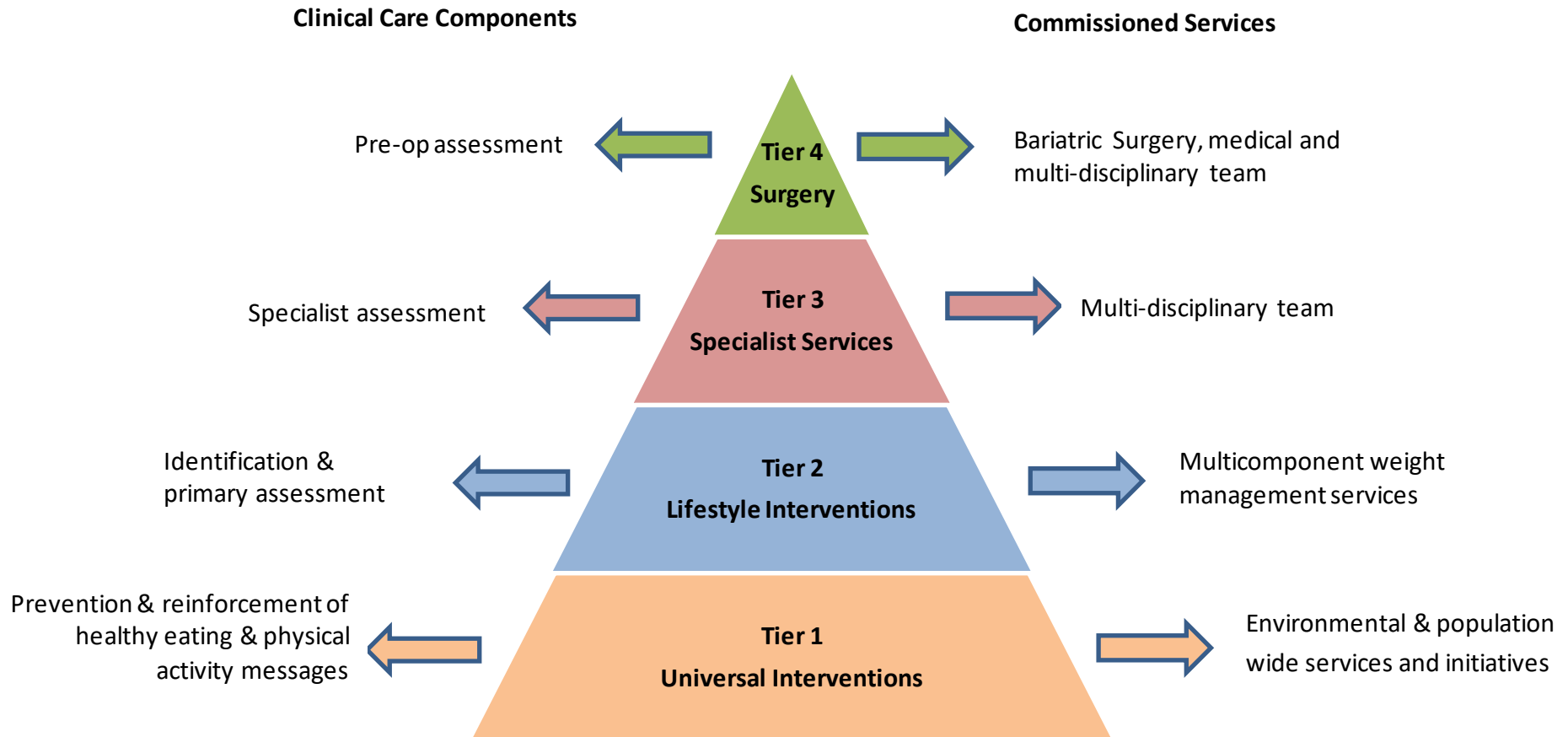
- Tier one: Universal prevention services such as environmental and population wide initiatives e.g. Change for Life (national public health programme and social

marketing campaign to reduce levels of childhood obesity) (Public Health England, 2019), brief interventions such as Making Every Contact Count (behaviour change approach directed through conversations and aims to improve health and wellbeing) (Health Education England, 2020).

- Tier two: Lifestyle and behaviour change weight management interventions aiming to increase activity levels and improve diet provided in the private, public or voluntary sector delivered in communities, primary care or workplaces.
- Tier three: Specialist obesity services for adults with a BMI $\geq 40 \text{ kg m}^2$ or $\geq 35 \text{ kg m}^2$ with co-morbidities or $\geq 30 \text{ kg m}^2$ with type 2 diabetes mellitus or who have been unsuccessful at losing weight with a tier two service. Tier three services are delivered by a surgical or non-surgical MDT led by a clinician including: a physician (consultant or GP with a special interest); specialist nurse; specialist dietitian; psychologist or psychiatrist; and physiotherapist/physical activity specialist/physiology. People seeking bariatric surgery must have attended tier three services for a minimum of six months and up to two years prior to referral. Tier three services also provide post-operative lifelong support to bariatric patients following surgery to manage post-operative lifestyle changes
- Tier four: Bariatric surgery delivered by a multi-disciplinary team (MDT) led by a consultant bariatric surgeon. Eligibility criteria is for adults with a BMI of $\geq 40 \text{ kg m}^2$ or more, or between $\geq 35 \text{ kg m}^2$ and $\geq 40 \text{ kg m}^2$ or greater in the presence of other comorbidities where all appropriate non-surgical measures have been tried but the person has not had or maintained adequate, clinically beneficial weight loss ([see appendix 1](#) outlining the NICE criteria for accessing tier four).

Sources: (NHS Commissioning Board Clinical Reference Group for Severe and Complex Obesity, 2013; NICE, 2013, 2016)

Figure 1: Tiered model for obesity treatment.



Source: Commissioning guide, British Obesity and Metabolic Surgery Society 2014 <http://www.bomss.org.uk/wp-content/uploads/2014/04/Commissioning-guide-weight-assessment-and-management-clinics-published.pdf>

This integrated approach to prevent and tackle obesity is recommended in national guidance (Department of Health, 2013; NICE, 2015b), yet the pathway is not a mandated service, neither is it fully evidenced (Welbourn, Le Roux, Owen-Smith, Wordsworth, & Blazeby, 2016). In the UK, implementation of the guidance is inconsistent, resulting in a postcode lottery of access to tier three and tier four services (Capehorn, 2014). Some areas have chosen not to provide any tier two or three weight management services, thus possibly restricting access to bariatric surgery (Welbourn et al, 2016). A mapping exercise conducted in 2015 (Public Health England, 2015) found that 61% (from a sample of 73%) of local authorities provided or commissioned a tier two weight management service. Tier three services were generally commissioned by local authorities and CCGs; however, the numbers of tier three services could not be determined due to the lower response rate. Evidence from focus groups conducted as part of the review highlighted a lack of clarity in the commissioning responsibilities for tier three services which in turn may affect the availability of access to bariatric surgery. Moreover, the guidance put in place to support people to be correctly supported prior to accessing tier four may be viewed as prolonging the treatment pathway and act as a barrier to surgical treatment (Welbourn et al, 2016). As such, evidence of the patient's journey and clinical effectiveness of the pathway is required to encourage policy makers and commissioners to ensure joined-up services are available in every area of England.

1.3.1 Evidence of the effectiveness of the obesity pathway in England

Whilst numerous weight management services are delivered across the UK, evidence is patchy (Butland, Jebb, Kopelman, McPherson, Thomas, 2007); without this evidence, the value and effect of services is not understood (Welbourn et al, 2016). Where evidence of weight management interventions does exist it is generally: conducted outside of the UK; poorly reported; short in duration and with little or no follow up (McCombie, Lean, & Haslam, 2012). The skills and capacity of practitioners to evaluate services outside of the research context and within their day to day clinical roles may be a contributing factor and explain the lack of evidence of NHS led provision (Nield & Kelly, 2016). Furthermore, in the UK, where the public health community are primarily based in local authorities, barriers to conducting evaluations

of weight management interventions include a lack of: knowledge and skills of public health professionals in relation to evaluations; time or budget; and a consensus of the approach and indicators to enable comparisons between interventions (Ells, Cavill, Roberts, & Rutter, 2013).

The Standard Evaluation Framework (SEF) originally developed in 2009 by the National Obesity Observatory and recently updated (Public Health England, 2018b) aimed to support meeting this need for evidence. The SEF sets out guidance to evaluate weight management interventions and the measures that should be collected by individual and group interventions. This would mainly be tier two and three interventions and would not include medical interventions such as bariatric surgery. Adopting the SEF would strengthen the evidence base, enabling comparison of the outcome measures of different services and develop evidence on the effectiveness and impact on different population groups (Ells et al, 2013).

A systematic review by Brown et al (2017) is reported to be the only review of England's tier three weight management interventions. The review highlighted the role of these interventions in supporting people who are morbidly obese to achieve clinically significant weight loss, but could not confirm whether the loss is sustained longer term (Brown et al, 2017). Furthermore, the authors reported limitations in the quality of some of the studies that were included and stressed the requirement for further research to determine the effective interventions to support people with morbid obesity, and those referred to tier three services following bariatric surgery. Other UK evidence in a review by McCombie et al (2012) suggested that some interventions are effective in supporting people to lose and maintain weight loss for up to 12 months. Both papers refer to the findings of the Counterweight Programme (Ross et al, 2008) which demonstrated amounts of weight loss (5kg) for up to two years.

Evidence looking into the effectiveness of the obesity pathway in its entirety in supporting people to lose and maintain weight is also absent as the reviews and evaluations that are available only focus on one tier of the obesity pathway. A search

of the literature found no research that explores the experiences of people who have attended tier two and /or three services prior to accessing tier four - bariatric surgery. The patient experience of the entire pathway is of interest to clinicians, commissioners and policy makers in determining effectiveness of the pathway in respect of long-term outcomes.

1.4 Bariatric surgery to treat morbid obesity




Bariatric surgery is considered to be the gold-standard, cost-effective treatment for long-term sustained weight loss in people with morbid obesity (Chang et al, 2014; Gloy et al, 2013; NICE, 2014a; Picot et al, 2009). Maintenance of post-operative weight loss leads to significant and sustained reduction in comorbidities and premature mortality (Colquitt, Pickett, Loveman, & Frampton, 2014; Dobbs et al, 2014; NHS Commissioning Board Clinical Reference Group for Severe and Complex Obesity, 2013). The number of bariatric procedures performed in the UK has rapidly increased; 1465 procedures were conducted across England between 1996-2005 (Ells, MacKnight, & Wilkinson, 2007). In 2006/7 annual figures stood at 1951 and more than trebled to 6769 in 2016/17 (NHS Digital, 2018). Rates peaked at 8794 in 2011/12 but have started to fall more recently. Three quarters of procedures are carried out on females. Actual rates of performed surgical procedures are considerably lower than the numbers of people in the UK who could be eligible, with less than 1% of those who are eligible actually getting the treatment (Welbourn et al, 2016). The Guidance for Clinical Commissioning Groups document on Commissioning Obesity Surgery (NHS England, 2016) used Health Survey for England data to highlight the proportion of people with morbid obesity in England (mean 3% of English population, 1.63 million) and in a CCG with a population of 500,000 (24,000 eligible for surgery).

1.4.1 Types of bariatric surgery

Bariatric surgery offers hope to individuals that they can maintain weight loss, improve their health and reduce comorbidities, at the same time reducing the economic and societal impact of morbid obesity. Surgical procedures cause a physiological change which restricts intake and malabsorption of food. There are

different types of surgical procedures available which include gastric banding, gastric bypass, sleeve gastrectomy and duodenal switch. Each surgical procedure requires major and life-long dietary changes.

Table 2: NHS funded surgical procedures

Type of surgery	Description	Image
Gastric banding	The gastric band (or laparoscopic adjustable gastric band – LAGB) creates a small pouch around the top section of the stomach by acting like a belt. It is adjustable and reversible and aims to make people feel full after eating a small volume of food therefore reducing the amount of food eaten.	
Gastric bypass	The Roux-en-Y gastric bypass (RNY) creates a smaller stomach pouch from a line of staples across the stomach. The pouch is connected to a new exit and a 'Y' loop from the small intestine so that food bypasses the old stomach and about 100-150cm of the small intestine. This rerouting of the digestive system leads to less food being digested and less food required to reach a feeling of satiety.	
Sleeve gastrectomy	The stomach size is reduced by about 75%. The stomach is divided vertically from top to bottom leaving a banana shaped stomach. A valve regulates the emptying of the stomach into the small intestine, therefore functionally the digestive system remains the same, but less food is required to feel full.	

Pictures sourced from NHS <https://www.nhs.uk/conditions/weight-loss-surgery/types/>

In the UK, all the above surgical procedures are undertaken in both private and NHS funded care. Gastric banding, gastric bypass and sleeve gastrectomy are the most commonly performed (Welbourn et al, 2014). This was confirmed anecdotally by the clinicians involved with the advisory group for this study. Whilst patients state a preference for the type of surgery, the decision is made by the surgeon based on assessment of eating habits and discussions with the patient pre-surgery or, because of clinical consequences during the procedure itself. Access to NHS funded bariatric surgery is determined by commissioning guidance which sets out patient pathways, eligibility criteria and funding responsibilities. Since the implementation of the HSCA (2012) the guidance relating to bariatric surgery and obesity pathways has undergone considerable change. The responsibilities for commissioning services have shifted between organisations. This is important as it alters the context in which people access the surgery pathway. The planning, data collection and reporting of this study have taken place throughout these changes. [Appendix 2](#) highlights the changes in commissioning responsibilities and eligibility criteria that have taken place over the timeframe of this study.

1.4.2 Outcomes of bariatric surgery

The physical and psychological consequences of obesity reported at the beginning of this chapter are also known drivers for people with morbid obesity seeking bariatric surgery (Ballantyne, 2003; Kolotkin et al, 2003). Other physical consequences of obesity that may influence motivation for bariatric surgery are difficulty in everyday functioning, for example personal hygiene and mobility around the home. The desire for surgery is influenced by psychosocial consequences of obesity including experiences of bias and stigma in health, employment and education situations (Puhl & Heuer, 2010). People with obesity also report lower levels of quality of life (QoL) in relation to work life, sexual and physical functioning, self-esteem and public distress (Kolotkin, Crosby, & Williams, 2002; Wadden & Phelan, 2008). These daily burdens of obesity result in expectations that bariatric surgery will lead to significant weight loss and improve health and physical and emotional wellbeing (Engström, Wiklund, Olsén, Lönroth, & Forsberg, 2011; Ogden, Clementi, & Aylwin, 2006; Wysoker, 2005). As such, bariatric surgery is often considered to be the "last resort" for some people

living with obesity to lose weight and regain control of their lives (Ogden et al, 2006; Ogden, Clementi, Aylwin, & Patel, 2005; Wysoker, 2005).

The success of bariatric surgery is mainly reported using clinical outcomes such as weight loss and reductions in comorbidities. A reduction of 50% in excess body weight is considered a successful clinical outcome following surgery. Preoperative surgery candidates rate a 49% excess weight loss as 'disappointing' (Kaly, Orellana, Torrella, Takagishi, Saff-Koche, & Murr, 2007), thus highlighting a disparity between clinical and patient expectations. Coulman, MacKichan, Blazeby, & Owen-Smith (2017) suggests that clinicians should identify the expectations and goals patients have prior to surgery to support them in their care. Patients who are prepared for potential negative impacts of bariatric surgery will achieve better outcomes post-surgery. Therefore understanding the pre-surgery expectations and post-surgery experiences of bariatric surgery is important.

Much of the literature reporting outcomes of surgery is quantitative in nature, reporting: measures of weight loss; reduction in BMI; weight loss maintenance; and, a reduction in comorbidities to demonstrate effectiveness (Bocchieri, Meana, & Fisher, 2002; Picot et al, 2009; Wolfe & Terry, 2006). Long term data on excess body weight loss is unclear. Trials in a Cochrane review of quantitative studies provided follow up to ten years, with most following to 12, 24 and 36 months (Colquitt et al, 2014). In the UK, following discharge from the bariatric surgery team at two years post-surgery, care is delivered through General Practice and BMI data is not routinely collected; as such, long term weight loss data is not available (Gulliford et al, 2017). Two studies on long term weight loss (10 and 20 years) following surgery found losses of 29% and 18% respectively (Riaz, Wolden, Gelblum, & Eric, 2016; Sjöström, 2013); this falls below the 50% clinical measure of success. Magro et al (2008) found 20% of individuals were unlikely to achieve an excess body weight loss of more than 50% eight years after surgery and following surgery many patients regain some, if not all, of the weight they lose. Weight regain is associated with pre-operative expectations of the surgery enforcing physical changes and uncontrolled mental health issues such as depression and binge eating (Armstrong, Anderson, Le, & Nguyen, 2009; Karmali

et al, 2013); most commonly occurring when individuals struggle to maintain health behaviours relating to diet and activity. Whilst there is an emerging concern regarding the numbers and extent of people regaining weight in the long term post bariatric surgery (Jones, Cleator, & Yorke, 2016), bariatric surgery is still considered amongst the medical profession as the most successful and gold standard treatment for morbid obesity (Welbourn et al, 2016).

Bariatric surgery is also said to result in improved Quality of Life (QoL). QoL is a measure of success from the clinical perspective and include changes to health status. Often measured using standardised QoL tools such as: the Bariatric Analysis and Reporting Outcome System (BAROS); Impact of Weight on Quality of Life-Lite (IWQOL-Lite); the Rand 36-Item Health Survey (SF36); and, Gastrointestinal Index of QoL (Bocchieri et al, 2002; Dymek, Le Grange, Neven, & Alverdy, 2002). A recent systematic review of QoL and bariatric surgery highlighted a range of obesity and bariatric surgery specific and non-specific measures of QoL using tools including: SF36; BAROS; IW-QOL; Weight Related Symptom Measure; and, Nottingham Health Profile (Raaijmakers, Pouwels, Thomassen, & Nienhuijs, 2017). Kral (2006) looked at outcomes from the patient's perspective and suggested improvements to comorbidities and health related quality of life (HRQoL) are more significant outcomes than weight loss per se. A meta-analysis on the relationship between HRQoL before and after bariatric surgery conducted by Magallares & Schomerus (2015) found that there is a solid improvement in mental and physical HRQoL following surgery. Studies have also demonstrated improvements to physical (Rea, Yarbrough, Leeth, Leath, & Clements, 2007) and psychological functioning (Sanchez-Santos et al, 2006) and social interaction for up to five years post-surgery.

Improved QoL, weight loss and reductions of comorbidities can also be a measure of success from an individual perspective but do little in the way of highlighting the individual's experience of losing weight through bariatric surgery. There are limitations in using defined clinical indicators to evaluate the success of bariatric surgery Rydén & Torgerson (2006, p.559) comment:

one must not forget the patient's perspective. The professional focus is traditionally on measures of signs and symptoms, survival time, side effects, and so forth. Improvements in health-related quality of life, musculoskeletal pain, and effort-related calf pain might be as important to the afflicted individual as cardiovascular risk reduction.

In order to determine other methods of establishing whether bariatric surgery is successful from the individual's perspective it is helpful to understand what success looks like and means to an individual. The Concise Oxford English Dictionary defines success as "*the accomplishment of an aim or purpose*" (Waite & Stevenson, 2011). Put simply, whilst many patients are likely to share some or all the clinical measures of success, the reality of living with obesity and the impacts on day-to-day life may mean that the patient's view of success may be far more complicated.

The overall research question for the present study is, what influences whether bariatric surgery is successful for patients? In answering this, the study set out to understand what makes bariatric surgery successful according to patients' experience and perceptions. Developing an understanding of individual expectations of success pre-surgery and the extent to which they are realised post-surgery may be important with regards to meeting long term clinical success of weight loss. This study explored the journey pre- and post-bariatric surgery from the patients' perspective to identify what constitutes perceived success and how services can develop to better support individuals to achieve this success.

1.5 The research setting and local context

This section presents the obesity prevalence, context of commissioning arrangements and service provision in the localities that participants were recruited from in this study.

The most recent (2017/18) levels of excess weight (people classed as living with overweight or obesity) across Yorkshire and the Humber highlights some of the highest in the England (64.1%) (Public Health England, 2018a), archived data available from the National Obesity Observatory indicates this has fallen slightly since

(adjusted) levels recorded in 2012-14 of 67.1% (Public Health England, 2017). PHOF 2017/18 and 2012-14. The participants in this study lived in South Yorkshire and Bassetlaw. The most recent excess weight data (2017/18) and data from the time recruitment to the study was undertaken (2012-14) from each area are shown in table 3.

Table 3: Percentage levels of excess weight

Area	Percentage levels of excess weight (2012-14)	Percentage levels of excess weight (2017/18)
Bassetlaw (Nottinghamshire figure)	67.3%	67.5%
Barnsley	71.6%	69.7%
Doncaster	74.8%	71.4%
Rotherham	73.3%	62.7%
Sheffield	63.2%	62.5%

At the time of recruitment to the study, the obesity pathway in each area varied. The differences in the services, referral routes and inclusion criteria for each area are highlighted in table 4.

Individuals accessing bariatric surgery from the Bassetlaw and South Yorkshire areas were generally referred to either Doncaster and Bassetlaw Teaching Hospitals or Sheffield Teaching Hospitals. A MDT was in place at each site which comprised: bariatric surgeons; nurse specialist; specialist dietitians and a psychologist.

Table 4: Levels of service provision across the weight management pathway at the time of recruitment in each of the study areas

Area	Tier 2	Type of Tier 2 provision	Inclusion criteria for Tier 2	Tier 3	Type of Tier 3 provision	Inclusion criteria for Tier 3	Type of Tier 4 provision	Inclusion criteria for Tier 4
Bassetlaw	No provision	N/A	N/A	Direct referral to Tier 4 from GP / other consultant e.g. Diabetic Consultant	Limited specialist weight management support / Tier 1 provision	N/A	Bariatric surgery	Restricted NICE guidance
Barnsley	No provision	N/A	N/A	Direct referral from GP	Limited specialist weight management support / Tier 1 provision	N/A	Bariatric surgery	Restricted NICE guidance
Doncaster	Healthy Weight Solutions	12-week community based group support including interactive sessions on cooking, healthy eating and physical	BMI over 25kg/m ²	Healthy Weight Solutions	12 weeks (with contact up to 1 year) of 1:1 support led by a dietitian with access to a MDT including physiotherapists, exercise professionals and psychotherapists	BMI over 30kg/m ²	Bariatric surgery	Restricted NICE guidance

Rotherham		activity						
	Reshape Rotherham	10-week community based group education programme	BMI>25-40kg/m ² or or wc >80cm female or wc >94cm male	Rotherham Institute for Obesity	Up to 6 months of 1:1 support from an MDT including GPwSI obesity, nurse, talking therapist, physical activity specialist and dietitian	BMI>40kg/m ² or BMI>30kg/m ² or wc >88cm female or wc >102cm male with increased risk	Bariatric surgery	Restricted NICE guidance
Sheffield	No provision	N/A	N/A	Weigh Ahead	A specialist multidisciplinary service providing an intensive three-month intervention with dietitians, talking therapy and physical activity specialists	BMI over 40 (or of Asian origin with a BMI over 37.5) BMI over 35 (or of Asian origin with a BMI over 32.5) who has co-morbidities where excess weight increases risk	Bariatric surgery	Restricted NICE guidance

1.6 The Proposed Theoretical Framework

The theoretical framework used to underpin the study and develop the recommendations is based on the Socio Ecological Model (SEM) of health which is drawn from the works of Bronfenbrenner (1977). Other frameworks and theoretical models were also considered in the development of the work, including the Transtheoretical Model of Behaviour Change (Prochaska & DiClemente, 1982) and the Health Belief Model (Becker, 1974). However, these focus on the behaviours of the individuals and not the wider social and policy environments and it was the influences of these that were considered to be important areas to explore. The SEM incorporates policy and environmental levels of influence on behaviours and, as such differs from behavioural models which focus on the individual characteristics (Sallis, Fisher, & Owen, 1990). SEMs propose that changes in health behaviours are maintained through a blend of interactions between policy, the environment and individuals. The SEM is used in this study to provide a lens in which to develop programme theories (that is, theories about why certain outcomes, such as discontent with the surgery, come about) and to frame the associated recommendations for policy and practice.

The causes and effects of obesity can be linked to the SEM and reflect the notion of the 'obesogenic environment', a term widely used by those working in obesity policy. This refers to the role environmental factors may play in determining both consumption and access to nutrition and physical activity. The Foresight Report (Butland B, Jebb S, Kopelman P, McPherson K, Thomas S, 2007), for example, suggests that the environment makes it hard for people to make healthy choices. The SEM presents the individual at the centre of an "onion" of layers, such as the community they live in and the public policy environment. Each layer has the potential to influence an individual increasing their weight and how they respond to interventions to lose weight, such as surgery.

The use of SEM to guide public health practice has developed and increased over the last 20 years following the early grounding from Brofenbrenner in the 1950-1980's.

Bronfenbrenner articulated a multilevel ecological framework which emphasised influences of the micro, meso and macro systems (Bronfenbrenner, 1977). Richard, Gauvin, & Raine (2011) say that SEMs are rooted in the fields of sociology, public health, biology, education and psychology. Using these fields, the research has developed to consider contextual determinants of health such as gender, socioeconomic factors and other cultural and social influences. As such SEMs highlight the interaction of the individual and environmental determinants of behaviour, which McLaren & Hawe (2005) define as *'a conceptual framework designed to draw attention to individual and environmental determinants of behaviour. The visual metaphor is a series of concentric or nested circles which represents a level of influence on behaviour'* (page 9).

This visual metaphor was developed from the work of Bronfenbrenner by Mcleroy, Bibeau, Steckler, & Glanz (1988) who proposed five levels of influence that are specific to health behaviour which make up the circles: intrapersonal factors; interpersonal processes and primary groups; institutional factors; community factors; and, public policy. The figure below is an adapted version developed from (Mcleroy et al, 1988) and depicts the five levels.

Figure 2 Socio Ecological Model -



Figure adapted from (Mcleroy et al, (1988)

SEMs are used in relation to the treatment and prevention of obesity, as researchers, public health professionals and policy makers recognise the need to embrace the ecological perspective and target interventions at each layer which can influence behaviours.

Each layer of the model will now be briefly described insofar as they relate to interventions and the causes of obesity:

1.6.1 Individual

Interventions at this level aim to change knowledge, attitudes, beliefs and behaviours. In relation to bariatric surgery this could involve a one-to-one appointment with a dietitian regarding the post-operative diet. This level is predominantly linked to intervention by Health Care Professionals (HCP) to encourage and facilitate change in individual behaviours. As such the knowledge and skills of the HCP have the potential to influence outcomes. Individual readiness to change and self-efficacy are also important factors (Golden & Earp, 2012). In relation to the causes of obesity, the perceived physical competence of individuals may have implications for their ability and readiness to undertake physical activity.

1.6.2 Interpersonal

Interpersonal refers to groups of people who share a relationship such as family, friends and peers. In the context of obesity, the diet and physical activity behaviours within these groups could contribute to causing obesity as well as providing support to lose weight. Interpersonal support or social support may be informal and as such is not governed by rules or guidance. Interventions at the interpersonal level could include offering education and training to these wider groups or to changing their perceptions and attitudes about a condition or situation. Family based approaches to childhood obesity are well documented and recommended in guidance (NICE, 2015a); yet guidance for adults focuses on individual level or group based interventions and hardly mentions interpersonal networks beyond the support of peer groups (NICE, 2013). Social support through peer networks can have positive impacts on weight loss following bariatric surgery (Livhits et al, 2011).

1.6.3 Organisational

Organisational interventions are education and training beyond immediate groups and shared relationships, such as leaders of institutions or HCPs. Organisational also refers to modifying services, culture and environments to reinforce positive

behaviour. Commercial weight management interventions can provide organisational level support where clients are supported to modify their eating behaviours by purchasing resources and committing to attend weigh-ins in order to meet a goal weight and be eligible for lifetime membership status. Organisations also contribute to weight gain, such as workplaces which have a culture of encouraging sedentary behaviours for example; desk based working and unhealthy food choices.

1.6.4 Community

As with previous levels, education and training are a key aspect of community, yet here education and training would be focussed on community leaders in settings such as schools and workplaces. Examples include changes to the physical environment and access to services. The built environment of the community surrounding an individual can be both a limitation and a mechanism for change. The level of perceived safety, access to healthy food and parks (or not) are regularly cited in policy and research as affecting weight related behaviours.

1.6.5 Public Policy

Public policy includes societal and macro-level interventions. Policy can influence social norms and values and the degree to which people can access healthy food and opportunities to be physically active. Positive influences on social norms can be through media campaigns such as Change4Life which aim to encourage mass behaviour change and prevent obesity. Other examples include the sugar tax (Public Health England, 2014) and Scotland's minimum pricing for alcohol (Scottish Government, 2018). The obesity services pathway discussed earlier on in this chapter is an example of policy which sets out the treatment services for adult obesity.

It is anticipated that each of these levels will be explored and interpreted in relation to the study findings and experiences of the participants' experiences of the journey pre- and post-surgery. Furthermore, other studies with bariatric surgery patients have explored issues using the SEM Beltrán-Carrillo et al (2019), Johnson et al (2018) and Lynch et al (2018), some of these using the layers of the model to frame the findings and recommendations.

1.7 Introduction to the methodology, methods and thesis structure

In order to explore the patient journey pre and post bariatric surgery the study took a realist-informed approach based on that set out by Pawson and Tilley (1997). A realist approach aims to understand “*what works for whom and in what circumstance. and why*” (Pawson, 2013, page. 15). Currently, weight-loss surgery is measured using clinical outcomes – amount of weight loss and reduction in comorbidities. This study examined whether this is an adequate account of success. In addition, the study sought to examine what influences whether success is achieved. This requires not just examining whether outcomes happen or not but also how they come about. In the language of realism, it sought the mechanisms leading to success or not following weight-loss surgery. In other words, a realist-informed approach is interested in causes. These are presented and examined as theories that suggest how the factor led to the outcome. This is sometimes described as opening the black box to reveal the mechanisms by which the outcome was achieved from the factor that was inputted (Pawson, 2013).

Opening this 'black box' is to understand what works and why some people, in some circumstances are successful in losing weight and maintaining weight loss following bariatric surgery and some are not. This study sought a deeper understanding of the contextual implications and other factors that have the potential to affect patient outcomes post bariatric surgery and consequently inform future policy and practice development.

This doctoral study comprises a longitudinal study of four cycles of data collection across the bariatric patients' journey. This empirical data has been analysed and used to inform literature reviews in order to place the findings in the context of previous work. The study will identify implications for clinicians, policy makers and commissioners and develop recommendations to inform care pathways that will support patients to maximise potential benefits of bariatric surgery.

Qualitative methods were adopted to explore the differences between a small cohort of patients who underwent bariatric surgery in South Yorkshire and Bassetlaw, between August 2012 and March 2013. This longitudinal study used interviews and modified Photovoice (see section 2.7.4) techniques pre-surgery to explore the experience of obesity and pre-surgery expectations. Participants were interviewed again at three months, nine months and two years post-surgery to establish the real impacts of the expectations and what factors influenced post-operative outcomes and behaviours.

The study generates insight and understanding to help inform the commissioning and delivery of services that provide the required preparation for patients prior to bariatric surgery and support post-surgery.

The structure of the thesis reflects the realist-informed approach. It is: background, methodology, presentation of findings, summary of findings, literature review, discussion, conclusion and recommendations. The realist-informed approach is seen most clearly in the placement of the literature review after the findings and discussion of findings. This is because the literature review is used here as a second testing and development of theory. More detail is given on this idea of “spirals of theory testing” in chapter 8.

Chapter 2: Methodology and methods

2.1 Introduction to the methodology and methods

Although the terms “methodology” and “method” are sometimes used interchangeably, in this thesis, as in most others, they are distinct. Methodology is concerned with the theoretical framework and philosophical underpinnings of the research; it is made up of the researcher's view of the world and its contents (the research ontology) and of how to seek answers to research questions about that world (the research epistemology). The study method, by contrast, consists of the tools and techniques used to collect information or data. The method chosen will be heavily influenced by the methodology. This chapter sets out the methodology and methods used in the present study. The structure of the chapter comprises the research question, aims and objectives and an explanation of the methodology and rationale for the approach taken. Presentation of the methods used covers the setting up of the study and recruitment of participants, details of the sample, data collection tools, data analysis and a summary of how the data will be presented in the finding's chapters.

2.2 Research question

What influences whether bariatric surgery is successful for patients?

2.3 Research aims

In order to answer the research question four aims were developed:

- Clarify what success after surgery means to a patient;
- Explore the support needs of bariatric surgery patients and their experiences of the care pathway pre- and post-surgery;
- Identify the mechanisms that determine whether success is achieved;
- Identify the implications of the findings for clinicians, policy makers and commissioners in order to enhance the chances of success of bariatric surgery.

2.4 Research objectives

Five objectives were determined to achieve the study aims:

- Explore patient quality of life before, during and after bariatric surgery using interviews, validated Quality of Life measures (EQ-5D-5L and IWQOL-Lite) and Photovoice methods up to 2 years post-surgical intervention;
- Use a longitudinal approach to interview patients pre- and post-surgery;
- Identify what information, lifestyle and psychosocial support patients require and access to maximise the benefits of bariatric surgery and manage changes to health behaviours;
- Develop recommendations to inform care pathways in order to support patients to maximise potential benefits of bariatric surgery;
- Contribute to new and emerging theory on patient experience of bariatric surgery and what counts as a 'success' for patients and commissioners.

2.5 Methodology

This project took an approach that was broadly realist in terms of the research paradigm. The next sections describe what this means and why it was considered appropriate for the study.

2.5.2 Ontological and epistemological framework

Ontology is concerned with the nature of things in the world (Hudson & Ozanne, 1988). In the context of empirical research, ontology concerns the nature of the things researched, such as molecules, animals or societies. Epistemology is concerned with the nature of knowledge, how you gain knowledge of the things in the world of interest to you as a researcher. Ontology and epistemology are interrelated; how the researcher views the nature of things (ontology) will affect how they view the possibility and types of knowledge of those things (epistemology); in turn, this will affect how the researcher goes about attempting to gather knowledge (method). The combination of ontology, epistemology and method can be termed the researcher's

philosophy of science. Broadly there are three categories of these philosophies of science, sometimes termed 'paradigms': positivism, realism and constructivism.

Positivist research is based in the ontological view that there is an external world to the researcher which the researcher can investigate and discover objective truth. Positivist researchers seek objectivity and remain detached from their participants, believing the researcher and participants should not influence each other (Ritchie & Lewis, 2003). Positivists seek an account of reality through observable facts and only report things that are observed as valid knowledge (Guba & Lincoln, 1994). As such, positivism is a data-led epistemology, one that views empirical, observed data as the starting point of investigation. Positivism also views empirical data as the checkpoint against which any hypotheses stand or fall. This is an epistemological view known as empiricism. Positivist research is generally quantitative in nature and uses structured research methods. Research reporting clinical outcomes of bariatric surgery could be said to be rooted in a positivist paradigm. Measures of weight loss and reduced comorbidities provide observed facts or correlations. However, this empiricist approach makes it difficult to find explanations of any context which may influence these measures. In other words, the approach shows you that an intervention such as weight-loss surgery has an outcome, on average it is successful, for example; but the approach does not show how it succeeded or why it succeeded in some contexts and not others.

Traditionally placed at the other end of the epistemological spectrum is constructivism. Like positivism, constructivism is also data-led; this means that it believes that data is the starting point for research, what empiricists might term "observable facts". However, constructivists would not use a term like this because they do not share the ontology of positivism (Guba & Lincoln, 1994). Constructivist researchers believe the world is individually and socially constructed. Constructivism, therefore, does not seek to find or prove truth in its investigations because it denies there is such a thing as objective truth. Instead it takes the differing explanations that people give to experiences and report these meanings as data (Patton, 2002). As such, where positivist methodology is associated with quantitative and supposedly

objective methods, constructivist methodology is associated with qualitative methods seeking out subjective views and experiences. And while the researcher using this approach aims for transparency, constructivism takes it that researchers' beliefs and values influence the research findings and, as such, no research can be objective and value-free (Patton, 2002).

This study took a realist informed approach. Realism is a research philosophy or paradigm that is usually taken to lie between constructivism and positivism. This approach combines a type of positivist ontology with a type of constructivist epistemology (Greenhalgh et al, 2013). The ontology of a realist approach is like that of positivism in that it accepts the existence of an external world about which it is possible to gain some knowledge. However, the epistemology of a realist approach is similar to that of constructivism in that it accepts that the theories we develop about the world are social constructions and either subjective or, at best, intersubjective; they cannot ever be unqualifiedly objective and true. Yet, in contrast to constructivism, realism does not believe that all theories are subjective and ultimately non-comparable; realism takes it that theories can be, in some way, better or worse representations of the world. There are many versions of this realist view (J. Maxwell, 2012). These are beyond the realm of this thesis: for the purposes of this thesis the point is that a realist view is one that allows for the idea that theories about how the world works can be constructed and tested: and this includes theories about how bariatric surgery works and fails to work for different individuals.

Realist evaluation was developed by Pawson & Tilley (1997). Realist (theory based) evaluations seek to clarify how interventions or programmes contribute to or cause outcomes. A realist researcher asks '*what works for whom and in what circumstances..... and why*' (Pawson, 2013, p.15) as such the theory aims to understand why something would work in a particular way for some people but not for others. For example, this study might seek to uncover why some people who undergo bariatric surgery lose weight, whilst others do not. A theoretical account of why a programme works (for some and not others) is called the programme theory; it aims to distinguish between different contexts and mechanisms that may affect the

intended outcome. The term 'outcome' is used in realist evaluation to highlight any changes, be they short, medium or long term, intended or unintended. Outcomes of bariatric surgery could include weight loss, improved QoL or reduced comorbidities. Pawson and Tilley developed a model for realist theories of interventions which is often used: Context + Mechanism = Outcome (CMO). In other words, a realist theory will show how in certain contexts, certain mechanisms lead to certain outcomes. For example, in the context of bariatric surgery the patient experiences reduced appetite with the consequence that they eat less and lose weight. This study will draw on the notions of context, mechanism and outcome. However, it will not formally present theories using the CMO structure because the range of contexts is too wide to make this practical. Nonetheless, the three domains will be considered throughout the analysis. This is a chief reason that the approach used is termed realist-informed rather than straightforwardly realist.

The difference between the approaches and the reason for the selection of a realist informed approach can be illustrated in a practical way. The purpose of this thesis is to provide research-informed theories for policy and practice regarding why some people have 'successful' outcomes following bariatric surgery and others do not. Policy makers generally use a data led approach to advise and commission evidence based services; for example, empiricist data suggesting that bariatric surgery is the gold standard treatment for morbid obesity. As explained above, this approach does not explore why surgery may not be successful for some people. Policy makers and commissioners may also be interested in other data led approaches such as constructivist data of patient experience (possibly derived from service audits of patient experience / satisfaction); but this data alone is unlikely to inform or challenge policy and commissioning decisions being viewed, rather, as a type of audit. As I have noted, the realist approach is theory led. A benefit of this is that it develops theories which illustrate what works, for whom, in what circumstances, and why. Policy makers, commissioners and clinicians can use this to inform their decision making, for example, by targeting those who for whom the intervention works or by putting in place mechanisms to increase success for those where it might otherwise fail.

The following examples illustrate the realist approach in relation to bariatric surgery. Interventions, whether clinical or social, are based on a hypothesis which postulates 'if a programme is delivered in X way, it will result in improved outcomes to Y': for example, a routine gastric bypass procedure will result in weight loss. However, this hypothesis is crude and typifies a data-led approach in which two observed variables, gastric bypass and weight loss are correlated. By contrast, the realist approach claims that interventions are also based on theories: that, for example, gastric bypass will result in weight loss in certain contexts through a certain mechanism. This means that it is unlikely that any intervention would work at all times for all people; the context will affect whether the mechanism is triggered leading to the outcome. Interventions are delivered in the context of a complex social system, for example, the obesogenic environment, a patient's history of weight problems, the health care pathway or, the staff delivering the pathway. Some, such as the obesogenic environment, may well have contributed towards the cause of the obesity in the first place through various mechanism, such as social or psychological drivers that initiate change in individual behaviours. It is these contexts and mechanisms that contribute to the complexity of the intervention (bariatric surgery) and its outcome. Some of the factors in the context may enable or prevent mechanisms being triggered, thus affecting the outcome. To take a simple example, a programme to increase walking might be inhibited by an environment which is unpleasant or dangerous to walk in.

The policy and evidence around any weight loss intervention including bariatric surgery highlights the requirement for individual behaviour change. Long term modifications to diet and activity levels are required to work with the physiological changes resulting from bariatric surgery in order to reduce and sustain weight loss long term. This fits with the realist argument that interventions only work if they trigger mechanisms, such as changes in behaviour that make them work. Evidence shows that some people struggle to maintain changes to behaviour and that, following surgery, QoL does not improve, and weight is regained, negating the physiological outcomes of the procedure. It is important to understand why this is so for policy makers, commissioners and clinicians to be better equipped to adapt the programmes to suit the needs of their patients.

Understanding why programmes succeed or fail through examination of mechanisms is also referred in realist research as 'unlocking the black box'. The black-box metaphor is applied to the positivist data-led approach which, it is argued, goes from one observable intervention (such as gastric bypass) to one observable outcome (such as weight loss) without looking for what goes on in between (the black box). By contrast, the realist research aims to: a) understand what could be going on in a particular situation, intervention or policy that has a given effect; b) develop theories of why this might be the case; and, c) test them in the creation of new data and existing empirical literature. As such a realist informed approach was adopted in this study to understand some of the underlying mechanisms of what works for whom in what circumstances, which have the potential to shape the outcomes of bariatric surgery and open the black box.

Because the realist approach is not data-led, it is less concerned with the purity of data than is the positivist approach. What matters for the realist is not whether the data is 'contaminated' by uncontrolled variables but rather whether it is useful in some way in developing or testing theory about what happens when an intervention is undertaken. Using this approach allows the inclusion of a range of other sources of data, such as anecdotal information and themes from existing research, advisory groups and knowledge developed through my role as a public health commissioner of weight management services. Undertaking qualitative interviews with people who have sought and accessed bariatric surgery to lose weight provides this thesis with an understanding of the subjective experiences of people living with morbid obesity. In doing so it would explain the measures of success that the patients themselves use and expose factors that may improve the clinical support and policy surrounding weight management services.

2.6 Method

2.6.1 Introduction

This section describes the methods of data collection and analysis. The research methods and timeframe of data collection are presented. The description of data collection also includes: settings; ethical implications and participant characteristics. An explanation and justification of the analytic method used is provided.

2.6.2 Coproduction and advisory group

Coproduced research knowledge does not privilege one type of knowledge over another. The principles of coproduction include the sharing of power and responsibility throughout the research project with practitioners, academics and expert patients and were used to develop this study. A project advisory group was set up from the outset which included: bariatric nurse specialists; bariatric dietitians; clinical psychologists; previous bariatric patients; tier three nurse specialist; academics; and service commissioners. Members were recruited from the two hospital trusts that were involved in the study. The advisory group was involved in the early stages of the project with the development of the data collection methods and recruitment strategy. The advisory group was also engaged in preliminary discussions of the themes from the pre-surgery and three months post-surgery interviews and throughout the early stages they gave general feedback on practical implications of the emerging findings. In line with coproduced research, valuing the support and maintaining the relationship with the advisory group helped to ensure that the research was grounded and relevant to policy and practice and reflected the experiences of patients undergoing bariatric surgery.

The final stage of the study was to coproduce the recommendations from the findings (see chapter 9). This was undertaken by engaging some of the members of the original study advisory group and some additional known colleagues. This was an important part of the knowledge mobilisation to ensure that the findings were relevant to current policy and practice.

2.6.3 Setting

Participants were registered for surgery at Sheffield Teaching Hospitals (STH) and Doncaster Bassetlaw Teaching Hospitals (DBTH). Both hospitals are situated in South Yorkshire, located in northern England. Each site performs approximately 200 bariatric procedures per annum accepting patients from outside of their geographical boundary. Clinical input is led by a MDT at each hospital which comprises: bariatric surgeons; bariatric nurse specialist; dietitians; and, a psychologist as well as other specialist clinicians as required.

2.6.4 Ethical Approval

The study went through various stages of review including an independent scientific review process by CLAHRC-SY. A presentation and feedback was gained from the Barnsley Consumer Research Advisory Group, who review projects and provide a report of patient and public involvement in the implementation of research findings. NHS Governance was acquired from STH and DBHFT. Ethical approvals were obtained by the National Research Ethics Service Leeds East ethics committee and Sheffield Hallam University Ethics Committee. See [Appendix 3](#) for approval letters. Data was stored on the University secure network. All paper copies of consent forms were stored in a locked filing cabinet in my locked office in the research centre.

2.6.5 Eligibility criteria

Participants were registered for surgery at STH or DBHT; over 18 years of age and under 75 years (it was unlikely patients over this age group would have had this type of surgery); English speaking; and undergoing a gastric bypass, gastric band or gastric sleeve for the first time. In order to be eligible for referral for bariatric surgery patients met NICE criteria ([appendix 1](#)).

2.6.6 Participant identification

Letters were sent to patients who met the project inclusion criteria from the bariatric nurse specialist at the two recruiting hospitals. Once I had received the target number of responses (originally targeted to receive 15 but received 18), the bariatric nurse specialists stopped sending letters to new patients. As I did not have contact details

for any of the patients prior to them getting in touch with me I am unsure how many recruitment letters were sent out; however, the recruitment period was completed in approximately four weeks from the first letter being sent out. Eighteen participants responded to the recruitment letter and all were included, resulting in a convenience sample (Marshall & Martin, 1996) and a self-selected group. Patients were interviewed prior to confirmation that they were listed for surgery; not all referred patients go on to have surgery and therefore it was proposed that the additional numbers would mitigate for potential drop out. Longitudinal research also has the potential for drop out and the aim was to retain at least ten patients to the two-year follow-up. Finally, the demographics of the patients who responded were representative of the surgical population in terms of age, sex, ethnicity and socio-economic status (using postcode and index of multiple deprivations).

2.6.7 Sample

The sample includes participants living across South Yorkshire and Bassetlaw. This has enabled the study to gain insight into the different tier three and primary care referral pathways across South Yorkshire and Bassetlaw. Patients from the Bassetlaw area did not have access to a tier three service and were referred to surgery via their GP. The other areas all accessed tier three services prior to referral for surgery (see chapter 1, table 4 service provision).

A sample of eighteen was chosen as a result of: my capacity to collect and analyse the data (Clarke, 2013) and because previous qualitative studies with bariatric surgery patients have used similar numbers of participants (Johnson et al, 2018; Ogden et al, 2006; Ogden et al, 2005; Wysoker, 2005). The longitudinal element of the study provided in depth rich data and this was considered as more imperative than a large number of participants (Patton, 2015). Other International longitudinal studies on bariatric surgery have used similar numbers (n=9-30) (Engström & Forsberg, 2011; Faccio, Nardin, & Cipolletta, 2016; Johnson et al, 2018; Knutsen, Terragni, & Foss, 2013; Zabatiero et al, 2018).

The characteristics of the participants are in table 5. The majority of the sample were female (n=14) and 50% were over 50 years old (average age n=49 years); this is representative of the characteristics of the UK National Bariatric Surgery Registry (Welbourn et al, 2014) and of the gender split undergoing bariatric surgery at STH and DBHT (according to the members of the study advisory group). 7/18 were employed, and of those unemployed or retired (n=11/18) five attributed their obesity as a contributing factor. All were white British and from the lowest three quartiles of deprivation.

The sample represented the geographical areas of Bassetlaw, Doncaster, Rotherham and Sheffield. At the time of recruitment numbers applying for surgical intervention from Barnsley were low as a result in changes to the provision of tier three services and therefore it was not surprising to receive no responses from patients living in the Barnsley area. The types of procedure the participants received reflected the actual ratios of surgery conducted at each site and nationally. In the UK, 10% of procedures are gastric bands; 60% bypass and 25% sleeve (Buchwald and Oien 2013, Welbourn et al 2011). In this sample, twelve patients had the gastric bypass (one partial bypass due to medical conditions), three the gastric sleeve and one patient had the gastric band. Two patients (one male, one female) did not undergo any procedure and therefore were only interviewed pre-surgery.

Table 5 - Participant characteristics

Participant	Age (at start)	Gender	Marital Status	Employment Status	Deprivation quintile	Area	Referral Route	Hospital MDT	Type of Surgery
1	35	F	Divorced	Unemployed	5 th	Sheffield	Tier 3	STH	N/A
2	54	F	Married	Unemployed	5 th	Sheffield	Tier 3	STH	Sleeve
3	46	F	Divorced	Unemployed	5 th	Doncaster	Tier 3	DBTH	Bypass
4	61	M	Married	Retired	5 th	Doncaster	Tier 3	DBTH	Band
5	57	F	Divorced	Full Time Employed	5 th	Sheffield	Tier 3	STH	Sleeve
6	36	F	Married	Employed	5 th	Doncaster	Tier 3	DBTH	Bypass
7	53	F	Married	Retired - Ill Health	3 rd	Rotherham	Tier 3	STH	Bypass
8	34	F	Cohabiting	Unemployed	5 th	Doncaster	Tier 3	DBTH	Bypass
9	61	F	Cohabiting	Retired	4 th	Bassetlaw	Diabetic Consultant	SBHT	Bypass
10	59	M	Single	FT Employed	3 rd	Bassetlaw	GP	DBTH	Partial Bypass
11	53	F	Married	Retired - Ill Health	4 th	Sheffield	Tier 3	STH	Sleeve
12	33	F	Married	Unemployed	5 th	Doncaster	Tier 3	DBTH	Bypass
13	30	F	Married	Unemployed	5 th	Sheffield	Tier 3	STH	Sleeve
14	50	M	Single	Unemployed	5 th	Doncaster	Diabetic Consultant & Tier 3	DBTH	N/A
15	48	M	Married	FT Employed	5 th	Doncaster	Diabetic Consultant and Tier 3	DBTH	Bypass
16	49	F	Cohabiting	FT Employed	4 th	Rotherham	Tier 3	STH	Bypass
17	30	F	Married	FT Employed	3 rd	Sheffield	Tier 3	STH	Bypass
18	52	F	Married	FT Employed	4 th	Sheffield	Tier 3	STH	Bypass

2.7 Data Collection

2.7.1 Identification and recruitment

Referrals to the MDT at either STH or DBTH were made via different routes depending on the weight management service commissioned in the area (see table 4, Chapter 1). This study aims to develop insight into the entire pathway from tier two / three through to tier four and post-surgery follow up. Where possible participants for this study were recruited by the tier four MDT, at the point of referral, before they had contact from any member of the MDT or attended any information sessions at the hospital. This allowed the study to gather data to determine the knowledge and expectations patients had before they met the MDT and what information community weight management / primary care services provided about the surgery.

A covering letter and patient information sheet (see appendices 4 & 5) were sent from the bariatric nurse specialist to patients by post. Patients who were interested in taking part contacted me via a reply slip returned in a pre-paid envelope. A response was made via a telephone call and arranged a recruitment appointment with each patient. During the telephone call and recruitment visit it was stressed that the research was external to the bariatric surgery pathway and MDT. The reason for this was two-fold; first, to ensure that the patients knew that their participation in the study would not affect their outcome of being approved for bariatric surgery or not and, second, to gain trust in my role as an independent researcher and encourage free and open dialogue about their experiences of obesity and the bariatric surgery pathway (Johnson et al, 2018).

The recruitment appointment allowed participants the opportunity to ask any questions about the study process. Informed consent was obtained and recorded (see [appendix 6](#)). Some participants requested that a family member / carer be present at the interviews; where this occurred, consent was obtained from the additional person so that their responses could be included and used as study data. At the recruitment interview the first Photovoice assignment and QoL measurements were given to the participant and a date for the first interview arranged.

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Figure 3 demonstrates the recruitment process and time points when participants were contacted and informed about the stages of the research and the methods involved.

Figure 3 - Patient recruitment and study contact flow chart



Data was collected between August 2012 and December 2015. The study has taken a longitudinal approach which is suited to a realist informed approach (J. A. Maxwell & Mittapalli, 2010). Patients participated in individual in-depth interviews, Photovoice and QoL questionnaires. The final sample comprised of data collection at the following time points:

- Pre-surgery interviews n=18
- 3 Months post-surgery interviews n=16
- 9 Months post-surgery interviews n=15
- 18 Months post-surgery quality of life measures n=9
- 2 Years post-surgery interviews n=13

Table 6 shows the data collection time points for each participant.

Table 6 - Data collection points

Participant	Pre surgery			3 Months			9 Months			18 Months			2 Years		
	I	PV	QoL	I	PV	QoL	I	PV	QoL	I	PV	QoL	I	PV	QoL
1	Y	Y	Y	Did not have surgery											
2	Y	N	Y	Y	Y	Y	Y	Y	Y	N/A	N/A	Y	Y	N	Y
3	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A	N/A	N	Y	Y	Y
4	Y	Y	Y	Y	Y	Y	Y	N	Y	N/A	N/A	Y	Y	N	Y
5	Y	Y	Y	Y	N	N	Y	N	Y	N/A	N/A	N	Y	Y	Y
6	Y	Y	Y	Y	Y	Y	Y	N	Y	N/A	N/A	Lost at follow up			
7	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A	N/A	Y	Y	N	Y
8	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A	N/A	Lost at follow up			
9	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A	N/A	Y	Y	Y	Y
10	Y	N	Y	Y	N	Y	Y	N	Y	N/A	N/A	Y	Y	N	Y
11	Y	Y	Y	Y	N	Y	Y	N	Y	N/A	N/A	Y	Y	N	Y
12	Y	Y	Y	Y	Y	Y	Y	N	Y	N/A	N/A	N	Y	Y	Y
13	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A	N/A	Y	Y	Y	Y
14	Y	Y	Y	Did not have surgery											
15	Y	N	Y	Y	N	Y	Y	N	Y	N/A	N/A	Y	Y	N	Y
16	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A	N/A	Y	Y	Y	Y
17	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A	N/A	Y	Y	Y	Y
18	Y	N	Y	Y	Y	Y	Lost at follow up								

Key: I= Interview; PV=Photovoice; QoL=Quality of Life Measures; Y=Participated in research method; N=Did not participate in research method

2.7.2 Semi-structured interviews

The study primarily used qualitative methods of data collection. Generating qualitative data provides in depth descriptions and quotes from people who are experiencing a particular phenomenon of interest on their circumstances, behaviours, thoughts, attitudes and beliefs (Patton, 2002). Semi-structured qualitative interviews were used with the purpose of developing an environment to facilitate open communication between the participant and myself (Holstein & Gubrium, 2012).

Semi-structured interviews strike a balance between a structured interview and unstructured interview, and use open ended questions so as not to limit the choice of answers (Holstein & Gubrium, 2012; McCracken, 1988). Semi-structured interviews are used to provide a setting/atmosphere where the interviewer and interviewee can discuss the topic in detail. In this study the semi-structured interviews were

conducted using topic guides ([appendix 7](#)). This ensured consistency across the interviews whilst allowing the researcher the opportunity to follow up on emerging themes raised by the participants (Ritchie, Lewis, McNaughton Nicholls, & Ormston, 2014). Topic guides also provide prompts for the interviewer to ensure the interview stays on track with the topic area whilst generating depth and detail in the participants' responses (Creswell, 2003; Patton, 2002).

The topic guides were coproduced with the project advisory group, the MDT at each site, community weight management services and commissioners. They also incorporated themes identified in previous studies on bariatric surgery (Bocchieri et al, 2002; Engström & Forsberg, 2011; Ogden J et al, 2005; Wysoker, 2005); a feature of a realist informed approach which posits that researchers engage with the existing theory in the development of studies (Barnett-Page & Thomas, 2009). The pre-surgery interviews aimed to explore: history of weight; decision to have surgery; expectations of surgery; support and personal goals. Post-surgery interviews included: experience of surgery; experience of changes to life so far; support and personal goals.

Interviews were conducted face-to-face, at times and places convenient for the participant. In all but two cases, interviews were conducted in the participants' homes; other participants were interviewed in their workplace and in an office at the University. Interviews lasted between 24 minutes and 2 hours 23 minutes. The interviews were digitally recorded and transcribed verbatim by a professional transcribing company. Following the interview, field notes were made to record additional information regarding the environment, context and immediate considerations about the interview. These field notes were included in the data analysis.

2.7.3 Quality of Life Measures

Quality of Life was measured using the EQ-5D-5L (EuroQol Group, 1990) and Impact of Weight on Quality of Life (IWQOL-Lite) (Kolotkin & Crosby, 2002) (see [appendix 8](#) & [9](#)). The EQ-5D-5L is a two part standardised instrument to measure generic health

status and is frequently used to measure health related quality of life (Herdman et al, 2011). The EQ-5D-5L has been validated for use with bariatric surgery patients (Fermont, Blazeby, Rogers, & Wordsworth, 2017). The first part of the EQ-5D-5L includes questions on five domains: mobility; self-care; usual activities; pain or discomfort; anxiety or depression and uses five levels of responsiveness to measure problems ranging from none to extreme. The second part uses a visual analogue scale (VAS) to gauge an overall impression of wellbeing today with respondents rating their health from 0 (worst health imaginable) to 100 (best health) on the scale. The EuroQOL Group Foundation granted permission for the EQ-5D-5L to be used in the study and did not charge for the use of the tool.

The IWQOL-Lite is a validated, 31-item, self-report measure of obesity-specific quality of life measures (Kolotkin, Crosby, Kosloski, & Williams, 2001). The IWQOL-Lite generates scores of 0-100 (0 signifying low QoL and 100 high) over five areas including: physical functioning, self-esteem, sexual life, public distress and work. The IWQOL-Lite was developed by Kolotkin et al (2001), and designed specifically for use with populations who are obese. Previous studies (Dymek et al, 2002) indicate the IWQOL-Lite is more sensitive than other health related QoL questionnaires in conveying the changes to QoL that bariatric surgery patients report and has high test retest reliability. Permissions to use the IWQOL-Lite were granted and confirmed by Duke University, United States.

The QoL measures are included in the study to provide an objective measure in two ways; the first, was to track the longitudinal changes in each individual, and the second was to compare the qualitative and Photovoice data (for example, that the individual says they feel well) with the QoL measures (for example, that the individual gives a low score to feeling well on the visual analogue scale). Participants were asked to complete the questionnaires in their own time prior to each interview and were handed to me at the beginning of the interview. Participants were given the opportunity to discuss the scores on the questionnaires, but most did not want to take the opportunity.

2.7.4 Photovoice

The English language adage by Arthur Brisbane in 1911 states that a picture is "worth a thousand words" (Doyle, Mieder, & Shapiro, 2012). This study used visual methods in the form of photographs to provide richness to the qualitative data collected through the semi structured interviews (Glaw, Inder, Kable, & Hazelton, 2017). Visual methods are being increasingly used in qualitative research to create knowledge and provide valuable insight into the participants' everyday world (Barbour, 2014). Photographs are used as a stimuli to discussion during interviews (Amanda Jane Edmondson & Pini, 2019) and can help to build a connection with participants (Smith, Gidlow, & Steel, 2012). During the research process, participants take pictures which are important to them and provide explanations of their images (Hurworth, Clark, Martin, & Thomsen, 2005); using photography in this way has the potential to improve self-efficacy in the research process and reduce the sense of helplessness sometimes experienced by participants (Woolford et al, 2012). Authors report that visual methods can address the balance of power between the researcher and the research participants providing participants with a voice in which to illustrate their points. Warren, (2005, p872) states she is:

Convinced that this approach to research reduces the authority of the researcher at least to some degree and raises the voices of the research participants through the process of conducting photo-based research..... [photography] has the potential to "punctuate" the viewer in a way that is far more immediate, perhaps, than words.

There are various visual methods with different names, subtly different philosophical underpinnings and techniques of generating the visual outputs. The interpretation of the different methods varies between research studies but the principles of providing a voice to the participant remains the same. This study used modified Photovoice techniques. In its original form Photovoice is based on participatory action research methods. The Photovoice technique is defined as "*a process by which people can identify, represent, and enhance their community through a specific photographic technique*" (Wang, Cash, & Powers, (2000, p.82). Using photographs to document their lives, participants come together as a group and focus on a variety of their assets and needs at an individual, family and community level. They are invited to

create and discuss photographs as a vehicle to explore their: health; illness; behaviour change; and service experiences, all in the context of their everyday lives. It allows participants the opportunity to provide a visual representation of experiences not always understood by others, helping others understand the experiences through the participants' eyes. The dialogue generated through the pictures has been used in research to identify problems with interventions and public health programmes (Wang & Burris, 1997) and to inform health policy (Wang, Yi, Tao, & Carovano, 1998).

Catalani & Minkler (2009) reviewed literature relating to Photovoice studies and concluded that the method contributes to empowerment of individuals and its use in studies has been adapted by a number of researchers. Some studies use the methods to enable people to record communities, discuss the issues in groups and reach policymakers (Wang & Burris, 1997). Others use a modified version of Photovoice aiming to elicit information from individual participants during interviews about their everyday lives but not seeking to generate changes in policy (Johnson et al, 2018). All methods allow photographs to provide rich descriptive data that can be triangulated with data in interview transcripts. A few studies (Emmison, Smith, & Mayall, 2012; Wang et al, 2000) have acknowledged limitations with the methods in that researchers need to be aware of not dominating the research process by selecting the photographs that are discussed during the interviews.

Visual methods are becoming increasingly used in health research (Balmer, Griffiths, & Dunn, 2015) in particular as they allow exploration of sensitive areas such as self-harm (Edmondson, Brennan, & House, 2018) and cancer (Pini, Hugh-Jones, & Gardner, 2015). Visual methods have also been used with adolescents who are obese to aid weight loss (Woolford et al, 2012) and with people living with obesity who are accessing bariatric surgery (Johnson et al, 2018). Johnson et al (2018) used Photovoice techniques to explore the patient experience of bariatric patients pre through to hospitalisation post-surgery. Baker and Wang (2006) used modified Photovoice methods with adults to explore their experience of pain. The cohort included two groups, a non-clinic-based sample and a clinic-based sample. The health and mobility conditions of the clinic-based sample were such that they could not

attend a group session to discuss the research or their images. Therefore, the participation for this group was purely as individuals and not as group-based community action research as used in the traditional method of Photovoice. The project was a three-stage project and whilst they had some problems with attrition, the authors found that the method provides an opportunity for patients to assess their own needs and use visual aids to describe their situation to researchers and health care providers. Johnson et al (2018) also adopted the approach, using Photovoice with individual bariatric patients.

A version of the modified technique used by Baker & Wang (2006) and Johnson et al. (2018) was taken in this study. The Photovoice techniques aimed to promote participants' thinking about: the root causes of their obesity; the challenges these cause; their experience of daily life; and experience of changing their behaviours pre- and post-surgery. Using the method enabled me to elicit some of the pathways, changes and mechanisms that exist between the input of surgery and the output of success (or its absence). The Photovoice assignment fits with a realist-informed approach because it results in photographs and discussion that is centred on theories of, for example, what constitutes success and what helps or hinders its achievement. By contrast, a straight empiricist approach would not concern itself with what is going on in the 'black box' between input and output, and a constructivist approach would not be as directive to the participant in its data collection.

2.7.5 How the modified Photovoice technique was used in this study

All participants were given 'assignments' which contain instructions on how to use the camera, safety guidance (for example obtaining consent from others prior to taking their picture, protecting personal safety by not going into unsafe areas to take pictures), and prompts of things to take photographs of (see [appendix 10](#)). The assignments were coproduced with the advisory group members to ensure they were: reflective of the interview schedules; provided enough guidance to generate valuable discussion whilst remaining true to the principles of Photovoice methods (Johnson et al, 2018). The use of Photovoice methods was discussed during the ethics process in regards to taking pictures of minors and the ownership of the photographs.

Procedures were put in place to ensure that the participants were careful about the photographs they took and their photographs were stored, used and managed correctly.

At the start of the interview the photographs were loaded onto my laptop and following the interview were saved onto a secure drive. Participants described the meaning and context to each photograph they had taken at the start of the interviews. By discussing each photograph that the participants shared with me I was attempting to ensure the participants felt they were in control of the interview (Packard, 2008). Areas of the topic guide not covered by the photograph narratives, or where participants had chosen not to take photographs were covered through supplementary questions. In the final two-year post-surgery interview the images from the Photovoice methods and results from the QoL questionnaires from all of the interviews are used as a tool to further explore the participants' reflections of their journey from pre to two years post-surgery.

2.8 Data analysis

2.8.1 Analysis of qualitative data

The study is comprised of four types of data: interviews, field notes, Photovoice and QoL measures. Data from the semi-structured interviews, field notes and Photovoice were entered onto the data analysis software NVivo v10 and analysed using framework analysis techniques (Ritchie & Lewis, 2003; Ritchie & Spencer, 1994). Framework analysis was developed at the National Centre for Social Research (Ritchie & Spencer, 1994) but is often used in health research (Gale, Heath, Cameron, Rashid, & Redwood, 2013). Framework analysis is a pragmatic approach to qualitative data analysis which allows the researcher to be immersed in the data and understand the experiences of the participants (Hackett & Strickland, 2019). Framework analysis is similar to other thematic and content analysis approaches, all of which aim to develop themes from relationships in the similarities and differences in data (Gale et al, 2013). The tool does not favour a specific philosophical, epistemological or

theoretical approach and can be used with various qualitative approaches aiming to generate themes (Gale et al, 2013), including realist approaches.

The framework was developed inductively from the literature, anecdotal evidence and the data. The analysis also generates themes and issues that capture the perceptions, views, and experiences of the sample. Framework analysis allows the integration of pre-existing themes into the emerging data analysis which provides a defined and clear analytical structure that contributes to the validity and transparency of the results (Ritchie & Lewis, 2003).

The five stages of framework analysis are highlighted in table 7.

Table 7 - The five stages of framework analysis

Stage of analysis	Features of the phase
Familiarisation with the data	Reading and re-reading the transcripts, field notes and photographs
Developing a thematic framework	Key themes placed within a thematic framework and sorted hierarchically into main and sub themes
Indexing and charting the material	Thematic framework is systematically applied to interview transcripts
Mapping the data into key issues and themes	Chart displays laid out on thematic basis.
Interpreting the data.	Look for patterns and associations to search for explanation and meaning

The framework approach is regarded as a transparent approach to data analysis, providing links between the different stages (Pope & Mays, 2006; Ritchie & Lewis, 2003) shown in table 7 above. Within these stages the researcher is encouraged to move back and forth over the data to refine the themes until a logical format is reached. This is reflected in the information below which demonstrates the iterative process of refining the coding framework that was taken in this thesis. The process is illustrated using worked examples from the pre-surgery data.

1. A coding framework using words and phrases was developed by reading the field notes and interviews (including the narrative relating to the photograph participants shared) and highlighting passages of the transcript. These codes were used to develop an initial framework.

Process and stage	Example
1. Initial coding framework	Illness Childhood Behaviours Interventions

2. In this framework a series of questions acted as a framework in which to place the preliminary theories through which to explore the data.

Process and stage	Example
2. Second coding framework using questions as the first theoretical framework to re-analyse the data	What was the patient's journey to the point of needing bariatric surgery?

3. These questions then linked the codes to the overall research question and aims of the study.

Process and stage	Example
3. Ensuring the coding and theoretical framework link to the overall research question and study aims	Explore the support needs of bariatric surgery patients and their experiences of the care pathway pre- and post-surgery

4. Transcripts were revisited to check for any additional codes and the first analytical framework was revised. Where some of the codes were conceptually related, they were revised into the organisational themes and subthemes.

Process and stage	Example
4. Additional organisational and sub themes (codes)	Causes of obesity (<i>organisational theme</i>) Childhood (<i>sub theme</i>) Behaviours Life course Environment Management of obesity Interventions

5. Following discussion with the supervisory team, the analytical framework was further refined and the final theoretical framework was developed.

Process and stage	Example
5. Refined and final analytical framework using questions as theories in which to analyse the data.	Why I live with obesity How I've tried to lose weight

6. The framework used questions to employ a personalised approach to the analysis which reflected the patient's journey. This approach was used across the whole study (pre-surgery, 3 months, 9 months and 2 years post-surgery). Using this framework of organisation and sub themes a coding index was developed ([appendix 11](#)). This index was entered in NVivo v10 and all transcripts were revisited and data coded against the indexed codes.

Process and stage	Example
6. Coding index	<ol style="list-style-type: none"> 1. Why I live with obesity? <ol style="list-style-type: none"> 1.1 Childhood 1.2 Life course 1.3 Environment 1.4 Behaviours 1.5 Physiological makeup 2. How I've tried to lose weight <ol style="list-style-type: none"> 2.1 Medication 2.2 Diets 2.3 Physical activity 2.4 Commissioned weight management services 2.5 Technology 2.6 Previous attempts to access bariatric Surgery

7. A framework matrix was used to chart the data by summarising the codes and linked text. The matrix included one line per participant for each code and included interesting quotes and illustrations of the themes.

Process and stage	Example
(7) Framework matrix	Messy divorce - fighting back following it, not allowing weight to be an issue - but it clearly is Blaming body for increase in weight as detached from self

8. The final interpretation stage of the framework approach was conducted. This stage aimed to develop conceptual ideas and explain any interrelation and differences between the themes and cases. Memos and organisational notes of any emerging conceptual ideas were added to the framework using the data in the transcripts, photographs and field notes.

Process and stage	Example
(8) Interpreting the data and analytic memos	Macro, meso and micro level of influence on the themes from a historical perspective and one of their current lives. Micro - influences on obesity at the individual level for example their support networks (interpersonal) physiological makeup, childhood (individual) such as the communication between health care providers Meso - influences on obesity at the organisational and community level Macro - influences of obesity at the environmental level in which a person lives, works, socialises and operates (policy)

2.8.2 Analysis of quantitative data

The measures were analysed using mean values, detail of how this was done is provided below for each QoL measure.

2.8.2.1 IW-QOL

The IW-QOL was measured by calculating the scores on five scales – physical function (11 items), self-esteem (seven items), sexual life (four items), public distress (five items), and work (four items) – and a total score (sum of scale scores). Each subscale

was calculated on a score out of 100 using the IW-QOL-Lite scoring sheet (see [appendix 12](#)). The higher scores indicate poorer QoL. For analysis purposes in this study the subscales were reported on separately for each participant and results were considered from the view of changes within the different scales throughout the journey.

2.8.2.2 EQ-5D-5L

The EQ-5D-5L is split into two parts. The first part is a descriptive system which produces a health state profile representing problems on five dimensions of health. The scores can be changed into a single index value which can then be linked back to the general population. This was not undertaken in this study; the measures were there to demonstrate change over time and provide a subjective health profile for each participant. Therefore, the data was categorised into 'problems' (levels two-five) and 'no problems' (level one) in order to present the frequency of reported problems in each domain and report the changes to the numbers of reported problems over the timeframe of the study.

The visual analogue scale in which the person reports their health today using a score of 0-100 was analysed by comparing the results of individual patient's pre through to two years post-surgery.

The QoL data was used to show the changes to QoL over the study period (pre- to post-surgery) for each participant and for a cohort of participants who completed all of the questionnaires (n=6 see chapter 5.4). The intention of the QoL data collection and analysis was never to make statistical comparisons between the study participants and the general population or indeed the wider literature; the number of participants completing the QoL data varied at each interview stage and the total participant was too small to draw any statistical conclusions.

2.8.3 Trustworthiness in the data

Establishing the level of trustworthiness in qualitative research is commonly undertaken using criteria identified by Lincoln & Guba, 1985). They highlight five

definitions that need to be considered including: credibility, transferability, dependability, confirmability, and reflexivity. In this study, two of these criteria were explicitly considered: i) Transferability of study findings to other contexts and settings in the sample who are representative of other areas of lower socioeconomic status and patient demographics and ii) Reflexivity as a quality assessment of the project which is further reported in chapter 8.5. In addition, the other criteria, dependability, credibility, and confirmability were covered through the theory testing involved in the realist approach (see chapter 8 for the spirals of theory testing).

2.8.4 Presentation of the findings - how the qualitative and quantitative data are combined

Triangulation is an attempt to increase the confidence in the findings of research studies by using more than one independent measure (Heale & Forbes, 2003). In this study the qualitative interview data from field notes, photovoice and interviews were triangulated. However, the quantitative and qualitative data were not triangulated against each other. This is because triangulation assumes that data collected in a study is of equal weight (Heale & Forbes, 2003). By contrast, in this study, priority was given to qualitative data with the QoL measures solely collected as an objective representation of how QoL changes throughout a person's bariatric surgery journey.

The analysis of the data and study findings are presented in the following three chapters (3, 4 & 5). Chapter 3 (pre-surgery) and Chapter 4 (three- and nine-months post-surgery) include the qualitative data from the interviews, field-notes and Photovoice. Chapter 5 (two years post-surgery) includes all the qualitative data and the analysis of the quantitative data from across the study. This is presented in the final section 'Bariatric surgery: successful or not' which aims to summarise changes to QoL over the study period rather than make comparisons between the patients at each stage of the study.

Chapter 3: Pre-surgery findings

This chapter presents the findings from the pre-surgery interviews with participants. The findings are presented in a framework generated from the interviews and Photovoice data. The framework is made up of seven statements which are used to explore what might influence the outcomes of bariatric surgery and the perceptions of what success following surgery means to participants. The seven statements are:

1. Why I live with obesity
2. How I have tried to lose weight
3. How I accessed bariatric surgery
4. Why I need bariatric surgery
5. How my life will change after bariatric surgery
6. Things that will help me achieve success
7. Things that will prevent me from achieving success

This framework is based on the theoretical idea that the differences between individuals undergoing bariatric surgery can be mapped along the lines of the seven statements; it is hypothesised that some of these differences may be important in individual's outcomes of the surgery. For example, where people have different reasons for becoming obese (illness or pressure of work, perhaps) then this may influence their success or failure.

Each of the important items picked out under the seven statements can also be mapped on to the layers of the Socio Ecological Model (SEM) (see chapter 1, figure 2); this shows how the interaction of elements within the social system might influence obesity. The model features the individual (micro) level through to public policy (macro) level. Taking the statement 'how I have tried to lose weight' the outcomes may be at the individual level (such as motivation to stick to diet), interpersonal level (influence of family and friends on diet) and community (access to healthy food). The first four statements above have a predominant focus at the individual level where participants report the causes and impacts of obesity and their desire to change their

lives. Yet within this the individual, organisational, community and policy levels are also represented. The last three statements, which encouraged participants to think about their life post-surgery, tend to have a greater focus on interpersonal relationships, organisational, community and policy and how these levels affect their experience. Each statement will be explored from a historical view and from the position of current life. Outcomes of bariatric surgery may well be affected by these historical and current experiences.

Where relevant, the photographs and related quotes are drawn upon throughout the chapter and in the following results chapters (4&5). The photographs provide an engaging visual insight into the lives and experience of the participants that may not be gathered from narrative alone.

3.1 Why I live with obesity

This statement reflects the idea that the reasons people attribute to the cause of their own obesity may significantly influence surgery outcomes. When asked what had caused their obesity, some participants reported influences from their childhood, stating, for example, they had always been big. Others felt their weight had increased over their life and that they could identify key times (such as illness or relationships) which had greater impacts. Individual behaviours and choices linked to food, physical activity and stopping smoking were also reported. However, some participants felt their physiological and psychological makeup were somehow programmed differently to other normal weight people, which influenced the behavioural decisions they made and how their bodies responded.

3.1.1 Why I live with obesity: Childhood

Many participants recalled how they have been overweight since their childhood and had no recollection of ever being thin.

"I've always been big, I don't know anything thin, I don't know any different. So it's not like I can say when I was a size 12 and I used to do, I don't know that."(P17)

Experiences from participant's childhood were cited as shaping their current behaviours and habits which contributed to their level of obesity. The historical events that may have taken place during childhood were influenced at the individual and interpersonal levels. Participants spoke about the influence of their parents' food and dietary behaviours during childhood and how it continues to shape their own current habits. These behaviours were not always positive, particularly in cases where participants referred to their mums who struggled with their weight and were always on diets. Experiences in childhood influenced the decisions of what to eat when they left home and had control over diet.

"I remember my mum always going to Slimming World and trying to help us, because both me and my sister are both big girls.... when we're at home we weren't allowed no biscuits or crisps or anything in the house whatsoever, so when I left home you haven't got your mum there then to tell you you can't have them, so I think that made it worse." (P12)

This same person also discussed how, despite the avoidance of biscuits and crisps, she was always made to clear her plate as a child. This contradicted the messages given to her about dieting.

"Or when I was younger I had to finish and clear my plate, and even if you're full to bursting I still have to clear my plate, which I've now I think over the years realised I don't have to. I don't make my kids do it" (P12)

Another participant talked about the era in which she grew up, where being overweight was socially unacceptable and resulted in ridicule and pressure at school as well as at home.

"I had a horrendous childhood. Horrendous, bullying, name calling, had to cross the road to avoid a gang of people." "All weight related?" "Oh god yeah" (P18)

Two participants described disturbing stories of being sexually abused as a child. The psychological impact being such that they have lived with the belief that being overweight would protect them from future sexual predators.

"And then got sexually abused at seven, so I use weight as a 'if I'm fat then nobody will look at me, nobody will.'" (P16)

" that [sexual abuse] happened to me numerous times when I was younger." (P14)

3.1.2 Why I live with obesity: Life course

Participants also referred to weight gain across the life course. Older participants, (50 years +) were more likely to refer to their weight as 'creeping' on over the years, thus providing a historical rather than current cause.

"I've noticed it for the last ten, fifteen years now. But it's gradually got worse over the last five, five or six years." (P11)

"I should have may be have took things into hand years ago, but as I say, it crept up on me." (P4)

Reasons for sudden weight gain included accidents, physical or psychological illnesses and treatment such as surgery.

"I went from being able to do my normal daily routine to noticing that I was wincing when I was getting up and down out of my chair and not being able to bend down to get the files and things like that. And within three weeks I couldn't walk, I was like completely bed ridden." (P3)

Weight gain was attributed to side effects of medication which was taken for pre-existing physical and mental health conditions.

"My contraception injection, that was a side effect. I tried two different types of tablets, antidepressants, that was a side effect. I had iron deficiency, side effect from that was putting weight on. Everything had a side effect of putting weight on." (P13)

The interaction between poor physical and mental health alongside feelings of social disapproval resulted in a vicious cycle of depression and weight gain for one participant.

"It seemed to have got a pattern that every year this depression just come over me, it's been happening for the last few years now. And last year at this time I was so low I just, because my knees, because that's my problem, my knees, I was in that much pain and I felt that rotten about myself, you just start thinking, that emotional because you don't talk about your problems, because who wants to know. You're fat, it's your own fault, do something about it, get on with your life. But when you feel that low it's not easy. See and then you don't talk about it because it makes you cry and then you feel like a silly cow because you're crying. And it's only because you know it's your weight and it's your own fault, and that's what I do, I blame myself all the time. And it is my fault and I know it's my fault, and I hate crying because it makes me look so weak and pathetic." (P5)

Major life events which caused change to daily routines, health and networks were linked to weight gain. Descriptions of leaving home at a young age and having to take on responsibility for sourcing and preparing food were given. This, combined with pressures of working, reinforced poor food habits.

"I left my family home, set up myself and I think that's when my weight started going on. I don't know if it was comfort eating or what it was at the time. I weren't making regular meals then; it was more takeaways and things like that, so I think that's how the weight gradually went on."(P3)

The interaction of the organisational and individual levels was highlighted in reference to employment which was thought to limit opportunities to exercise; sedentary office jobs were described by one participant as *"the worst jobs you can possibly have."* (P18).

"I was driving 30,000 miles a year as well on top of what job I was doing, so you were sedentary in that you were sat down driving as well so that wasn't good for me." (P10)

Managing to fit in work, time for exercise and preparing healthy food into daily life took its toll and could feel like a chore.

"I've gone to work early, done a full day, finished work late, gone to gym, because I've got to go to gym, so that's like a chore, then come home and then I've got to try and cook something and you just feel like oh what's point? Then all you want to do is just go in fridge and eat, because you can't be bothered, so I'll just go and eat." (P17)

Female participants who had children talked about the impact of pregnancy on their weight. Struggling to lose weight postnatally was further increased with subsequent pregnancies or illnesses developed following pregnancy such as post-natal depression. Not all participants recalled that they kept the weight that they put on during pregnancy but all mothers recalled pregnancy as another time in their lives they were conscious of weight gain.

Female but not male participants spoke about interpersonal relationships being a factor in weight gain. From getting into relationships...

"you get into a relationship and you start to feel comfortable, and you're cooking for two and you tend to eat more. You get out of that relationship,

you're on your own, so you're not so interested in food and you eat totally different." (P9)

...to complex separations which affected weight loss attempts:

"I did really, really well, felt really confident, then my divorce happened, well it got to a major part of the divorce and it got really complex and horrible and that all fell by the wayside, because life happened." (P1)

As with sexual abuse in childhood, in one case weight was used as an attempt to control relationships.

"I got in a bad relationship and I got it into my head that if I put my weight back on he'd go away because nothing seemed to work to make him go. So I put my weight back on and [i.e. but] he didn't go." (P9)

Retirement was said to bring about changes to eating habits and increased boredom. During a dyadic interview with a male participant and his wife, the participant's wife mentioned that her husband had put five stones on since he had retired. Bereavement also affected psychological health and comfort eating.

"And then we had a lot of deaths, one after the other, in about a year we had about four or five deaths, you know, all close, and that gave me depression, so I sort of comfort eated." (P2)

3.1.3 Why I live with obesity: Behaviours

The knowledge and attitudes of participants' physical activity and diet were drivers of behaviours regarding obesity. Lack of physical activity was commonplace with participants admitting they were too sedentary, using laptops, mobile phones and televisions regularly. These items doubled up as links to the outside world and provided most of their social interaction. Photographs were provided showing people surrounded by these items (picture 1&2 [appendix 13](#)).

Weight cycling (losing and then regaining the weight lost) was commonplace in the lives of all participants. All had been on diets at some point if not continuously over their lives. At the start of a new regime, weight loss motivated the continued change to behaviour. Once weight loss slowed down, participants recalled how they would gradually start to revert to their normal diet and often put on the weight they had lost and more over time, further adding to their obesity.

"It's always been a yo-yo situation. I've always gone on diets and taken weight off, like two stone off, three stone back on again." (P10)

Food behaviours were driven by habits that had built up over several years. These habits related to timing of normal mealtimes and eating regardless of hunger.

"I think when it's lunchtime, when it's dinnertime, even if you're not hungry you have to eat, and that's what I've had in my head." (P12)

Replacing food normally eaten at meals with high calorie snacks or not eating regular meals and snacking was considered a contributing factor to weight gain.

"I mean my problem is I snack, I don't tend to eat a full meal some days, and I'll snack throughout the afternoon instead of sitting down to eat a meal which probably would be better." (P1)

Lack of control was evident across the interviews and emerged under various pretexts including the desire and need to eat, portion control and speed of eating. Binge eating and inability to stop eating were commonplace.

"I can be reading and just dunking, you know, biscuits, and then when I look I think well you've eaten nearly all that packet, but there's only three left, you might as well eat them now. You know I mean like some normal person would think oh you've eaten all them, put them away. No, I'll finish them off and throw the packet away." (P2)

Portion sizes were regularly discussed. Even where participants felt they adopted a healthy diet their portion sizes let them down:

"it's me with portions. We do eat the right food but we eat too much of it." (P11)

Food waste was a factor across all ages for a variety of reasons. Older participants linked their dislike for waste due to their closeness in age to the post-war era when rationing was present.

"I come from the era of just after the war where you didn't waste anything, so if it was cooked you ate it." (P10)

Stopping smoking was identified as a key trigger for weight gain. Replacing smoking with food was common.

"I'll have been stopped smoking two years in May. I never thought I'd stop because I loved a fag. Every time I felt hungry I'd have a fag, do you know

what I mean? I can't now! I sit there and I think chocolate, fag, chocolate, fag, can't have any, what do I do?" (P7)

Some participants considered stopping smoking to be easier than dieting.

"It's easy to stop smoking; you don't have another fag do you? That's it, done, not going to have another fag. Dieting, you've still got to eat, that's the big difference. You can cut cigarettes out altogether because you've not got to fetch them into your daily routine, but you've still got to fetch food in." (P15)

3.1.4 Why I live with obesity: Physiological / psychological makeup

Participants talked about their physiological makeup as a driver of their obesity; they seemed to view their body as an external force, blaming their body for being unable to stop eating rather than lack of self-control.

"But it's all about your body as well that won't let you stop eating..... Mine doesn't switch off, I could eat all day, it's weird" (P18)

Others felt driven by a need to feel full.

"I can't deal with [feeling hungry], I hate it. I like, you see I go to the fullness of bursting where I can't move sometimes, and I don't know why." (P12)

Participants who came from overweight families associated their obesity with genetics. The excess weight may have spanned over generations in their family, and participants worried about what this would mean for the health of their own children.

"people say oh it's just because you're unhealthy, but sometimes I do think it is down to your genetics". (P6)

"So there's something in my family I think that we're definitely big people." (P18)

This idea that genetics or physiology play a part in obesity was backed up for some participants by the observation of others seeming to eat anything and not gain weight.

"kids eat completely different to what I would eat, and sometimes I think well why can't I eat what they eat? And [P8's partner] slim but why can't I eat what he eats, but I can't." (P8)

3.2 How I've tried to lose weight

All participants discussed a long history and variety of weight loss methods including diets, increasing exercise and pharmacology. The attempts didn't result in sustained weight loss and more often resulted in gaining more weight.

3.2.1 How I've tried to lose weight: Medication

Weight loss medication was prescribed by GPs or consultants, sometimes more than once to participants. The medications had mixed results, working very well at first but as with other attempts the weight loss eventually ceased. One participant continued to blame her physiological makeup for preventing continued weight loss whilst on medication.

"I were under the doctor they put me on orlistat, and that didn't work. I lost the same as I normally do between two and two and a half stone, and then it just comes, you know as though my body says that's it, you're not losing no more, and that slowly creeps back on." (P2)

The same participant discussed the contraindication with other newly diagnosed health problems. The clinical approach here being to address the comorbidity itself rather than the underlying cause being obesity.

"I started with diabetes, and I had to go on metformin, and the doctor says you can't have metformin and orlistat together because it sort of works together with one another." (P2)

Negative side effects from medications were also described which may have been caused by the participant not following the required dietary guidance whilst taking the medications.

"Well, all they did for me really was giving me diarrhoea a lot of the time." (P10)

3.2.2 How I've tried to lose weight: Diets

All participants had been on a diet at some point in their lives with varying levels of success. Some had been dieting since childhood, whereas others tried dieting as a method of weight control as they got older and their weight increased. The range of diets discussed was vast. Commercial diets such as Slimming World and Weight

Watchers were extremely common.

"I've done Slimming World, I've done Weight Watchers in the past, I've done Slim Fast, and nothing, they give me a short term but then I seem to get to a plateau and completely stop and not lose anymore." (P3)

Weight regain also undoubtedly affected motivation: *"I just gave up in the end. I just decided it's not working, it's just, I ended up losing it and then putting it back on again" (P8)*. The perceived pressure and judgement from session leaders of commercial organisations may affect engagement in the long term at commercial group sessions.

"I've put weight on, I know what she's going to say so you don't go back." (P9)

However, group sessions were considered positive from the perspective of others being in the same situation to offer support and company:

"it is support but I think the camaraderie's the thing there, you know what I mean." (P11)

Whilst this support was valuable to motivation the high cost associated with commercial diets was a barrier to continued engagement.

"And it's like I'm paying £5 to go in and get weighed, I'll do it myself." (P5)

Other diet strategies and attempts to change behaviours of cooking methods and controlling the types of food participants brought into their home included:

"We've bought Actifry and we've bought another machine you don't need oil in that." (P7)

"It's easier just to not have it at home, rather than just have a bit, just don't have any." (P15)

Where participants perceived their efforts at dieting to have failed, they became increasingly frustrated.

"I have all this low-fat stuff and I'm still not losing weight. I've lost two stone I know, but you'd think I'd be thin now wouldn't you?" (P7)

This frustration made them 'tired of dieting'. Counting calories, restricting certain foods, always being aware of what they can and can't eat takes its toll, especially when they have been doing it all their lives.

"I just think sometimes you get fed up of dieting, I seriously get fed up of looking at food." (P18)

3.2.3 How I've tried to lose weight: Physical Activity

Physical activity and exercise were not as commonly used weight loss methods as changes to diet. However, where participants undertook exercise, they reported effective results.

"I went down from [over 30 stone] to 18½ stone in six months by swimming every day, sometimes for two hours or more." (P1)

This participant also used exercise as a tool to allow for the consumption of less healthy food.

"I knew, I'd got in my head that if I had fish and chips, I had to do an extra half an hour's swimming, and that's the way I balanced it out." (P1)

Interpersonal peer support was a key factor in encouraging participation in exercise. However, the fear and reality of losing this support may have a detrimental impact on long term weight loss.

"I had a gym buddy, and I used to say to her..... What happens when I'm not with you or you're not around anymore or you find another job and go somewhere else, and I'm, I said I'm back to square one, I know it's going to creep back on." (P11)

A number of the participants had attended GP exercise referral schemes either as a result of their weight or other comorbidities. The participants interviewed in this study did not have positive experiences, with their weight and comorbidities greatly affecting their ability to take part. In some cases, they reported that they were stopped by consultants they were seeing for their comorbidities, highlighting problems with the interaction at community levels of the SEM whereby different parts of the system were at odds with each other.

"Then I went to hospital for a check-up for my heart and the doctor says you're on iron tablets, you can't do no more gym, exercise or anything like that until you lose your weight." (P2)

Participation in exercise was met by fear of triggering a new or worsening an existing injury or health problem by some participants. Swimming was identified as the most appropriate exercise, but that also brought about some negative physical side effects.

"it's not as easy as going on a strict diet, putting trainers on and running because I can't for the sake of falling." (P16)

"I got out and I couldn't move for three weeks, all my back seized up, my legs seized up, so mainly because of my knee. And that was it, that was the last of my swimming." (P9)

The stigma of obesity was a deterrent for exercise particularly going to the gym. Older female participants spoke of feeling out of place in gyms as a result of their body size and shape.

"I felt so ashamed. I felt as though I shouldn't have been there. I was in their [thin people] space, and I thought no." (P7)

The most success was seemingly with participants who attempted to incrementally build more physical activity into their daily lives.

"I started walking more to get, for the school run instead of taxis, and just trying to do as much as I could myself." (P13)

3.2.4 How I've tried to lose weight: Commissioned Weight Management Services

16 of the participants had attended a commissioned tier three service in their local area. Tier three services offer a multi-disciplinary team (MDT) style approach with access to GPs, dietitians, physios, physical activity therapists, talking therapists / Cognitive Behavioural Therapy (CBT) and psychologists (The Royal College of Surgeons of England, 2014). The levels and types of support reported varied between individuals, meaning experiences were positive and negative.

Group exercise and tailored gym sessions held specifically for clients of tier three services were popular. Participants felt able to take part in exercise despite their obesity.

"marvellous place, marvellous.... even when you go and do your exercise and that, if you're having problems with owt, you tell them and they work round you so you can still manage to do little bits." (P7)

In describing how tier three had helped, participant 3 had taken a picture of the path from the front door (picture 3 [appendix 13](#)). The classes not only helped with physical fitness but also had an impact on the feeling of wellness and psychological health.

"Since all this has started, I have felt a lot better. I haven't felt depressed at all since, and I've found exercise really good." (P5)

Tier three services were delivered one-to-one, offering the opportunity to address individual fears and queries about how weight affected their self-esteem and daily life.

"He helped me realise how to exercise and how to look at life differently.... he helped me understand that when people start saying fat cow, just to ignore them, it's their problem and not mine." (P8)

The nutritional advice given during the consultations dispelled many confusing myths about low fat foods.

"I were having ordinary cereal, you know that low fat, low sugar cereal, but they said really it says it's lower on the front but it's not, so you've got to look, you know, at ingredients really well." (P2)

Additional weekly telephone support was provided by some services. This was perceived to be useful in providing motivation and a continued opportunity to ask for tips and advice when things weren't working.

The non-judgemental nature of the service and staff was very welcome. For some it was the first time they felt they had not been judged by their weight by a health care professional (HCP).

"but it's with [dietitian] has been, she's probably one of the first ones that has not been talking down to me because of my weight." (P13)

On the other hand, frustration with tier three services was evident, especially in relation to accessing bariatric surgery. Participants felt some elements of the service were a tick box or gatekeeping exercise and that decision for them to be referred for surgery was made too slowly.

"It's the only way you can get surgery, you can't do it without [tier three] I've had to go through the stage, I haven't always found it easy." (P16)

There was a strong sense of needing to show commitment at tier three to be considered for referral for surgery which added pressure to participants who were already in a desperate place and seeking change.

"because you have to show commitment once you get to Weigh Ahead, if you don't show that you're committed to doing what they're asking you to do they're not going to refer you for the surgery." (P13)

Clients of tier three services were told they only had one chance to attend.

"And she said that, you only get one chance at this, do you want to stop and come back when you're feeling better?" (P5)

3.2.5 How I've tried to lose weight: Technology

Using technology to help with weight loss was only reported by a younger female participant. This participant found it useful to monitor food consumption and it also helped to learn about the number of calories in foods she routinely ate.

"MyFitnessPal, that's my app on my phone what's calorie counting app and sort of monitors my weight and well you put your weight in and you can monitor it up and down, so that's sort of part of my life now." (P17)

3.2.6 How I've tried to lose weight: Previous attempts to access bariatric surgery

Participants have been desperate for additional help to lose weight and had considered bariatric surgery in the years before being referred for an NHS funded operation. Many had looked into private funded surgery, but their financial situation made it unobtainable.

"I thought only way I'd get it is to have it done private because I had looked into it, but I could never raise that kind of money to have it done."(P5)

Others who had spoken to their GP about surgery were told they didn't meet the criteria for NHS funding, highlighting the impact of public policy and organisational layers of the SEM on the individual.

"because I tried to get it a few years ago and they said that I didn't qualify for it.... I didn't weigh enough."(P8)

3.3 How I accessed bariatric surgery

Guidance in national policy sets out clear referral pathways for bariatric surgery which includes attending a tier three service prior to referral. 16/18 of the participants in this study had attended a tier three service. The routes to accessing tier three and surgery referral varied greatly. Some participants had repeatedly been refused access to bariatric surgery by their HCP before finally being referred to tier three. Others (fifty per cent) were asked about their interest in surgery during consultations for non-weight related health problems. Knowledge of bariatric surgery as a treatment for obesity was high. Most participants knew someone who had undergone the procedure, all be it with varied outcomes.

Table 8 Referral route and knowledge of bariatric surgery

Participant Number	Contact with GP	Tier 3 service attended	Referral for bariatric surgery initiated by GP/HCP	Referral for bariatric surgery initiated by participant	Knows others who had Bariatric Surgery
1	Yes	Weigh Ahead	No	Yes	Friends wanting to watch and follow P1
2	Yes	Weigh Ahead	GP	No	Yes, mixed experiences of band and bypass
3	Yes	Healthy Weight Solutions	No	Yes (lots of own research)	Yes, lots living locally
4	Yes	Healthy Weight Solutions	GP	No	Not mentioned
5	Yes	Weigh Ahead	GP to Tier 3	Yes (following information at Weight Ahead)	Encouraged by neighbour who has had surgery to think about referral
6	Yes	Healthy Weight Solutions	Hospital consultant for back pain wrote to GP with request for help with weight	No	No
7	Yes	Rotherham Institute for Obesity	Practice nurse at a routine appointment	No	Friend privately funded
8	Yes	Healthy Weight Solutions	GP	No	Partners dad had band removed following problems
9	No	N/A Bassetlaw	Diabetic consultant	No	Yes, influenced decision on type of BS
10	Yes	N/A Bassetlaw	No	Yes	No
11	Yes	Weigh Ahead	No	Yes (following	Not mentioned

				information at Weight Ahead)	
12	No	Healthy Weight Solutions	Healthy Weight Solutions	No	Not mentioned
13	Yes	Weigh Ahead	GP - following pressure from patient	Yes	Not mentioned
14	Yes	Healthy Weight Solutions	GP	Yes (encouraged by friend)	Friend going through process encouraged
15	Unknown	Healthy Weight Solutions	Diabetic consultant	No	Friends / work colleagues not successful
16	Yes	Rotherham Institute for Obesity	No	Yes	Not mentioned
17	Unknown	Weigh Ahead	No	Unclear in data	Yes, friends and family
18	Unknown	Weigh Ahead	No	Unclear in data	Not mentioned

Table 8 shows the referral source for each participant. 13/18 (with 2 being unclear) had contact with their GP prior to attending the tier three service in their local area or were referred direct to tier four. In 9/18 cases the patients GP or HCP raised the possibility of bariatric surgery.

3.3.1 How I accessed bariatric surgery: Experience of others

Half of the participants mentioned knowing other people who had undergone bariatric surgery. This had some impact on their decision to question their HCP about accessing surgery or to accept the opportunity for referral highlighting the impact of interpersonal relationships on individual decision making. The experiences of other people they knew were mixed, often with negative outcomes and experience. Weight-regain and post-operative complications were commonly reported.

"Yeah, I asked a friend of a friend, she'd had a bypass, and she said if she'd have known, she wouldn't have had the bypass because she were really poorly. Now she were in intensive care, when she first had it, and now, how long will it be, it'll be about 12 months, because since she'd had it she's in a wheelchair, because she hasn't got the energy, you know, and complications from it to walk right." (P2)

However, these negative experiences did not deter the participants in this study from continuing to seek surgery. They cited many behavioural factors that contributed to negative outcomes such as weight regain. Participants were clear that they would not enact similar behaviours and the surgery would work for them.

"Well her sister has lost loads, but she doesn't take her multivitamins that she should be doing, she'll sit in bed eating crisps, but her excuse is I don't [i.e. she doesn't] eat a lot. " (P17)

"when I spoke to the lady with sleeve and then she'd put like over two stone back on, and I thought you've gone through all that, had 50% of your stomach lasered off to put two or three stone back on, I thought no." (P9)

Even when the experience of others was perceived as positive, such as drastic reductions in clothes size, there were still concerns of how weight loss affected body shape.

"This is [P7's friend]. And she were a 22, 24, and she actually got up after these photographs and showed me her stomach how it just hangs, but she puts it in like, and her arm, she was showing me that and the tops of her legs but she

says but it's worth it.....And she stood up, she showed me these jeans, size 10, and when she held her stomach in like that, she said I'd get an 8 on." (P7)

The experience of others, whether positive or negative, was valued; it seemed to help shape decisions over the type of surgery to access and provided opportunities for a peer support network.

"I've met other people in shops and on trips that's had different things done. A couple have had the band, a couple have had the sleeve, one I know has had the bypass, and then going to seminar, to meetings, support groups and seeing all the people that's had different procedures. And that played a massive part in deciding which procedure I wanted". (P9)

3.3.2 How I accessed bariatric surgery: Own doing

Eight patients had initiated discussions about surgery with their GP or tier three service. One participant recalled how they had been trying to access surgery for a number of years but had continually been refused or put off with requests to try other methods of weight loss. This took its toll and led to them demanding support when their quality of life finally became unbearable.

"I'd been asking doctors for a couple of years now what do I have to do to be able to get referred for surgery, what is the way that I need to go about it? And they kept saying well you need to call the dietitian first, you need to try this, you need to try that. So I kept saying okay, but no referrals were sent through for anything. So I kept agreeing to what they were asking me to do, but it stopped there. So I didn't know if I had to do it myself or if I had to go through doctors, because obviously I assumed it had to be the doctors because they have to see them doing it, but nobody ever told me anything. When it got to the stage that I just couldn't even put my socks on properly myself, I went back to the doctors going a couple of things, I want my back sorted, get me a referral to physio, I want my weight sorted, whatever you need to refer me to that's going to end up me getting the surgery just do it. And I wouldn't leave the surgery until they'd done it. So yeah, it was literally as bad as that." (P13)

Prior to asking about the referral, participants had conducted their own research.

"I asked my doctor, because I'd done a lot of research for bariatric surgery, I'd done it all myself." (P3).

3.3.3 How I accessed bariatric surgery: Health care professionals (HCPs)

A variety of HCPs triggered the referral process to surgery. Tier three staff, GPs and hospital consultants were mentioned. Existing comorbidities were cited as a reason

that HCPs first mentioned surgery, some comorbidities were so severe they required further surgery following weight loss.

"the nurse was, she was concerned, wasn't she? Because like my liver and my kidneys were like yoyos; one minute they'd be alright and the next minute they'd be bad with ulcers and that like. So anyway, what do you call it, he referred us, me, you know". (P4)

"he says, but I would suggest you going for your bariatric surgery, he says and then when you've lost your weight come back and we'll reassess it all again". (P7)

For some participants they had visited their GP for a completely unrelated issue and their GP had raised the prospect of surgery.

"I went in and asked for a coil, and she said we can put that in, that's not a problem, and then we got on about weight and stuff and how you feel generally after having [P8's son]. And it just occurred from there." (P8)

Participants reported instances where HCPs had previously put barriers in the way of accessing bariatric surgery and it was only through changing their GP practice or contact with a different HCP that triggered the referral.

"I'd been asking my doctor's where I went, the last what, seven, eight year, and they kept saying no, no, you don't meet this one, you haven't got this, you haven't got that. Whereas this doctor was a new doctor, she'd only been there a couple of months and straight away she says to me well would you like to, have you thought about gastric bypass." (P2)

In areas with tier three services, HCPs understanding of the surgery referral pathway varied. When participants were referred straight to tier four, they were sent back to attend the tier three service first.

"My GP, she sent a letter off and they sent back saying that it was only Weigh Ahead that could put my name forward, so she contacted Weigh Ahead for me, then they contacted me and said would I go down, sign a form. They had a talk to me, this woman, and then that were it, the ball started rolling." (P2)

Even once participants were referred to tier three, they were not guaranteed onward referral to surgery. Participant 15 felt the decision for onward referral by tier three was made rashly.

"[tier 3 dietitian] says oh right, measures you, does this and that, talks to you for half an hour, and then he says yeah what's your thought on surgery? Well if I can have it yeah. I think it might be good for you yes, boom. So that's the

decision then made after half an hour, you're having surgery or you're not, then you're either put down the pipeline for surgery or you're sent the other way. They did the same with my missus when she went. Spoke to her for half an hour, then he said well I'm not going to recommend you for surgery, you need to stick to your diet". (P15)

3.4 Why I need bariatric surgery

Participants referred to their interpersonal relationships and discussed how they felt judged by friends, family, strangers and HCP because of their obesity and how this impacted their psychological health. Self-esteem and confidence were so low that participants described hiding away from the world. The risks associated with surgery were balanced against the consequences on their health of not losing weight. Surgery was commonly referred to as the last resort.

3.4.1 Why I need bariatric surgery: Feeling judged

Participants described being judged by strangers about their weight. They felt that strangers didn't consider any of the multifaceted reasons that may have contributed to obesity (described in section 3.1). Participants reported that society viewed greed and laziness as the causes of obesity.

"It's not like I sit and eat and eat, I'm not lazy, I'm not you know, because that's what people think you are." (P5)

This led participants being uncomfortable when eating in public.

"Do you know one of the biggest things that I feel embarrassed over, if I go out for a meal with my friend, I put very little on my plate, because I feel that everybody is watching me. And I can look round and I can see people watching, because they think because you're big you're going to like come back with this ginormous plateful." (P9)

Being the focus of verbal abuse by strangers caused upset for participants and their families. They described how they had learnt to manage these situations and their response to refrain from getting too angry (picture 4, [appendix 13](#)).

"I got it last weekend when I was shopping with my dad, and I'm not, I don't get offended as such anymore but I feel like turning round and punching them now, which obviously I don't want to be in that type of situation, not for mine or their sake." (P13)

Participant 6 used an image of some boots to explain how she would like others to know how it felt to feel judged by weight (picture 5, [appendix 13](#)).

Participants also reported feeling judged by HCPs. Obesity was blamed as a cause of what participants perceived to be unrelated illnesses such as a common cold. Participant 13 described an extreme example of a hurtful experience with a HCP.

"I am refusing to see the weight loss nurse or GP, because of the way she was with me, she got angry with me that she couldn't weigh me, because normal scales didn't go high enough. ...I didn't go there for you to get angry with me, I went there to get some help." (P13)

3.4.2 Why I need bariatric surgery: Psychological health

The shame that participants felt about their appearance had extremely negative impacts on their psychological health and acted as a key driver to them pursuing surgery. Photographs of themselves provided a useful method for participants to reflect on their appearance and to share their feelings of shame and low self-esteem (picture 6 & 7 [appendix 13](#)). Photographs were taken of themselves and their clothes with furniture and structures in the home as a method of highlighting their size (pictures 8, 9 & 10 [appendix 13](#)).

Participants explained how taking photographs for the study was challenging. They gave real life examples of avoiding having their picture taken, hiding on them or disposing of pictures where they could be seen.

"Having them photos took for that's been the hardest thing I've ever done, it has, it really has." (P11)

"I don't go on picture. I'm always the one to take the pictures. Do you know what I mean, I get out of it that way - oh I'll take them! Because if I look at myself, in my mind I'm saying to myself oh my God, I need to get shot of that, I need to burn it." (P7)

This shame linked to their appearance also affected daily life. Participants used strategies to hide their bodies from others, even their partners.

"Well getting up in a morning I think if [P16's partner]'s at home I never get changed in front of him ever. I can go and get showered and I'll wrap a towel

round me, I'll go in and I'll dry my hair, but then to put my bra and knickers on I'll go in the bathroom, got to be crazy that hasn't it." (P16)

The shame participants associated with their appearance affected their confidence and led them to avoid social situations with significant others and strangers.

"I've distanced from a lot of people. I used to go to the pub with my husband when he went and socialised, but I don't go at all now. And if I do, he makes me go, and I tend to don't talk to people, we sit away from them now. I've got no confidence to talk to people anymore." (P12)

Participants adapted their way of life to manage the feelings they have about themselves. Using the home as a place to feel comfortable and hide away from the world was common.

"My home's my lifeline, it's my haven; it's where I hide..... I can lock that door, take the key out and nobody can get to me, nobody can see me, because I'm here, I've got my dogs, I've got my husband, my son now and again, and people who I want to see like my grandchildren are allowed into my little world." (P7)

However, at times when family members and friends visited the same participant described hiding upstairs so not to be seen.

"If I don't want to see somebody I'll go and sit in the bedroom. Shut the door, lock myself in the bedroom. I'm not well, I can't come down. And I won't come down and I'm sat up there nearly heart broke thinking it's awful but I just don't want to see anybody." (P7)

Participants' psychological health was extremely low. The examples given above demonstrate the shame, low confidence and self-esteem that nearly all the participants discussed. Depression and anxiety were common and in extreme cases suicide was eluded too.

"I could crawl in a hole and I've come home and cried, you know, and I've thought shall I do something silly, take tablets or go for a walk and don't come back, you know, stupid things." (P7)

3.4.3 Why I need bariatric surgery: Risk

All participants were aware of the risks and could recite death rates associated with the surgery. However, these risks were deemed less than the risks of comorbidities on reducing life expectancy.

"They've said that there's like one in I think it's 1000, or two in a million [deaths during operations], to me, if I carry on eating like I am, I'll not have much longer anyway, you know with my heart and being heavy." (P2)

Complications associated with the procedure were discussed but were outweighed by existing poor quality of life.

"I think deep down I wanted the bypass but I was a bit scared with the complications. But then my life at the moment, I struggle with it." (P12)

One male participant provided a pragmatic response to the questions about risk and complications of the procedure.

"It happens, everybody's trying to do the best and if it goes wrong it goes wrong, that's life isn't it? I think I'd sooner get 10 stone off and have a few extra weeks of discomfort than that's going to be better than humping this around for another 10 years or so." (P15)

Participants whose family members had died from obesity related comorbidities or who currently suffered from them described the surgery in the context of reducing their own future risk of developing diseases (picture 11, [appendix 13](#)).

3.4.4 Why I need bariatric surgery: Last resort

Bariatric surgery was considered to be the last resort to change lives, improve mobility and health and to increase life expectancy. Older participants discussed the prospect of imminent mortality without drastic improvements to their health.

"let's say I've got to do it because I know that I'd be dead if I didn't." (P10)

The effects of weight ruled participants' day-to-day life making current life so uncomfortable and mundane that change was a necessity and participants gave examples of what it meant to them.

"So then when it got to the stage that I couldn't even get off the sofa myself, oh no this is enough." (P13)

The constant battle to manage daily life has driven the decision to access the surgery:

"I think what happens is, you're fighting on so many fronts, I mean I work full time, I'm in pain all the time, I can't sleep, I'm frustrated, I can't walk, and trying to diet on top of that it's just, I thought no, even as strong as I am it's just too much." (P18)

Periods of time for self-reflection of their current situation reinforced the requisite for surgery to have a better future.

"I think being here for this time since being poorly and not working, it gives you a lot more time to think about different things, about your lifestyle and about how you'd like to change it. And for me I think that's the only option is the surgery, to give me a better quality of life than what I've got at the moment." (P3)

3.4.5 Why I need bariatric surgery: Improve health

All participants reported improved health as a crucial factor in their decision to seek bariatric surgery. Participants either currently suffered from poor health or were fearful of developing comorbidities in the future. Poor mobility was an issue for many participants, limiting activities of daily living such as housework and in extreme cases the ability to attend to their own personal hygiene (pictures 12 & 13, [appendix 13](#)).

"I got so bad I couldn't move and the doctor had to recommend that I'd got nurses coming to look after us because I couldn't wash myself properly. And I still can't." (P14)

"Getting up the stairs to the toilet I have to have a lay down after, I have to go and have a sit down on the bed, I'm, I can't breathe and I can't bend over and put my shoes on, so I'm having to wear slip on shoes, slip on slippers so I don't have to bend down because I bend over I have to hold my breath, so I can't breathe, then I'm going dizzy and oh my God!" (P7)

Walking and going out of the home were challenging, requiring considerable effort and planning which could lead to social isolation.

"You're thinking, I'll get there but I'll take the mobile with me and I ought to be on a road where I can get a taxi, you're thinking just in case I feel I can't get back. So you feel a little bit imprisoned but you've just got to get out and do some exercise anyway" (P10)

Where weight may not have been the cause of other illnesses, it was described as having a substantial impact and often worsening of the symptoms, especially where reduced mobility and inability to exercise were added factors.

Stopping or reducing the amount of medication taken was a significant health related factor for participants deciding to access the surgery. Medications were often

discussed and three participants had taken photographs of the medication they took on a daily basis (pictures 14 & 15, [appendix 13](#)).

3.5 How my life will change after bariatric surgery

Across all ages, participants had come to a decision that bariatric surgery was the only hope for a future. This future was described in many ways such as “*being alive*”; “*being healthier*”; “*having a life*”; “*seeing family and friends*”; and “*being happier*”. Improved quality of life was sought by all. Physical consequences of weight loss would allow participants the choice to take part in more activity. Currently even undertaking activities of daily living such as climbing stairs, playing with children or going for a short walk were restricted. Psychologically, increases in confidence would stem from improved appearance. Happiness and feeling normal were also anticipated benefits of losing weight. Socially, participants felt they would get out more with friends and family, possibly returning to work and meeting people rather than being connected through electronic devices such as TVs and social media. Finding pleasure in things other than food such as shopping were hopes that participants looked forward to as a result of their weight loss.

3.5.1 How my life will change after bariatric surgery: Future

The realisation of needing to change to have any kind of future life was a reason many of the participants gave for needing surgery. “*Vegetating*” (P7) and “*life passing by*” (P1) were typical. The complications of living with obesity affected aspirations. Hopes following surgery were to be able to fulfil what participants wanted to achieve and who they wanted to be.

"I want to be more active than what I am. I'm only 60 this year and I think I've got another 20 years hopefully... There's still a lot of things I want to do. One of the things is fitting in aircraft and things like that." (P10)

"A life, because at the moment I don't have a life, so yes, this I think is a thing I need to get my life going, to help me to be the person I want to be". (P12)

Participant 18 described *"weight's defining me, not me defining myself"* and without doing something about it felt her future as it stands as being a *"dependent old person...waiting to die"*.

Hopes that the surgery will provide the opportunity to *"leading a normal life"* (P2) and be happy *"I want some of that [being happy], I want that back."* (P7) were common. The prospect of surgery was seen as a route to have a future to be able to spend time with family and friends (picture 16 [appendix 13](#))

"If, luckily enough if I get any grandkids I want to be able to play with them, I want to be able to do things with them. Because as my life is at the moment there's no chance, I couldn't even lift a baby up, a little toddler up." (P3)

The impact on spouses was cited: participant 18 considers the impact of her weight on her marriage and her husband's life as a reason to have bariatric surgery:

"he's my life, and the impact of the disability on his life has been massive. It's not just me, it's him as well. So in a way I feel like it's not just a decision for me, it's a decision for us." (P18)

3.5.2 How my life will change after bariatric surgery: Physical consequences of losing weight

The expected weight loss following surgery was viewed as having a positive significance for improved mobility and other comorbidities.

"losing the weight. That would be able to get me more mobile, so that I can keep my joints and everything moving. It'll help my osteoporosis if I lose weight; it'll help my hyper mobility syndrome because it won't be putting as much pressure onto all my joints." (P3)

"The diabetes will go, hopefully, the [sleep] apnoea will go, hopefully, a lot of these things will correct themselves." (P10)

Expectations of reduced pain and a lesser reliance on medication for pain management were common across the interviews and photographs (see picture 17, [appendix 13](#)). Excess weight made routine tasks and navigating the home more difficult. Participants hoped weight loss would reduce lethargy and increase their energy levels.

"having more energy and being able to do things what slimmer people can do, you know like go upstairs and not get out of breath, or go to the gym and think

god I'm absolutely shattered. They might be shattered, yeah, but not in the way that heavy people feel shattered, you know what I mean, they might be tired because they've done a lot more, whereas a heavier person will do as much as they can and like ten minutes into it they just think I'm shattered, I can't do no more. And it's not because they've done, it's not because of the exercises they're doing, it's because movement, you know what I mean, it's not that the exercise it's hard, but it is if you're heavy." (P2)

The physical consequences of weight loss were considered to have a potential impact on relationships with young children providing opportunities for play. Increasing exercise and walking were also a common anticipated consequence of the weight loss.

"It would be nice just to get up and be able, oh I'll go for a walk or I'll go and play tennis for an hour tonight, so I would be able to do that." (P10)

Having the choice of whether to undertake exercise or go for a walk was important to improving quality of life post-surgery. Whilst some participants looked forward to not having to solely rely on the car to get out and about, another saw their reduction in size as imperative to being able to learn to drive and enable them and their family to have more freedom.

"And it's just being able to do more anyway, like being able to learn to drive better, because when I did my lessons my belly was in the way, so obviously once I lose that I'm going to be able to do that better, just take [P13 oldest son] swimming, just do more things, not being as limited in what I can do and instead being able to choose what I want to do." (P13)

Freedom of choice and simple activities like gardening or going shopping, were all things either taken away or impeded by obesity. The physical consequence of weight loss would allow participants to take more control over their lives and also enjoy aspects within the home that should provide an element of relaxation such as lying in bed or having a bath were often depicted through photographs (pictures 18 & 19, [appendix 13](#)).

Other consequences discussed were being able to cross your legs when sitting down and an improved sex life.

3.5.3 How my life will change after bariatric surgery: Psychological consequences of losing weight

Increased confidence related to appearance was a major consequence of weight loss for all participants. For some female participants they desired to feel sexy and attractive to others whereas for others it was simply being more confident to get on with their life.

"Just to feel, sorry to say the word, sexy. It would be lovely, it would be really, really nice, just to feel sexy and wanted." (P6)

"I think it'll have a major impact on my life, I think it will have a major impact on my confidence, my ability to deal with life." (P1)

As well as being attractive to others, feeling attractive to one's self was also important and a driver to happiness. Losing weight was expected to facilitate this return to happiness.

"I want my happiness back as well because it's as though the sparkle's gone. Everything, the blinkers have gone down now and that's it." (P7)

Overwhelmingly a feeling of normality was sought by participants. This desire for normality was more important to participants than being slim. They viewed slimness as a miracle but normality as blending in with the crowds and not being judged by their weight.

"I don't want to be slim, I want to be normal, I want to be healthy and that's all I want to be. I don't want no miracles....just to think that nobody is judging me or, I just want to look normal." (P5)

3.5.4 How my life will change after bariatric surgery: Social consequences of losing weight

The physical and psychological consequences of weight loss were also expected to have social impacts. Meeting friends, family and old colleagues was important to the future lives of participants.

"I think my lifestyle will completely change, I don't think I'll be stuck in this house every day of the week. I'll be out and about trying to do things." (P3)

Working age unemployed participants felt losing weight would enable them to return to work and manage the physical and mental demands of a job. Employment was

viewed as providing links to the outside world and personal enrichment.

"Well it's like, it's getting you out again, it's getting you back into a workforce, back with your colleagues, and it gives you something else to occupy your mind as well. Because at the moment, like I say I use my computer or read a book or do a quiz book or something like that, but it's not like, I don't think it stimulates you as much as what working does." (P3)

The ability to go out and seek opportunities and information would reduce the reliance participants have on social media to communicate and socialise.

"Well that's my link and my entertainment to the outside world, you know, the television like, yeah.... The computer, what do you call it, that's another link to the outside world." (P4)

3.5.5 How my life will change after bariatric surgery: Other consequences of losing weight

Weight loss would enable participants to wear different clothes and shoes to the ones they had come accustomed too and *"shop from normal shops"* (P13). Shopping for clothes was an issue for participants of all ages and genders. It was common to keep clothes that were too small, with the surgery providing renewed hope that they would wear them again one day (picture 20, [appendix 13](#)).

Participant 17 took a range of pictures of clothes to depict how she currently felt about life and how she hoped this would change in relation to the clothes she would be able to wear. (pictures 21, 22 & 23, [appendix 13](#))

Food provides a constant source of anxiety for people living with obesity who are trying to battle with their need to eat and the types of foods they consume. However, for many, food has long been a source of comfort and pleasurable experiences. The predicted weight loss was linked to identifying other things to take pleasure from that obesity may deprive someone of.

"it's just sometimes I think with me not having many pleasures in life sometimes the pleasures in life that I've had are a good meal. And I think to myself well I'll miss out on that, but I'm not realising that there'll be other pleasures as well that I've not yet experienced because of the size I am." (P14)

3.6 Things that will help me achieve success

The community and environment in which participants lived was considered important to support improvements to behaviour change post-surgery. Participants also focussed on their interpersonal relationships and the support they needed from their families and friends in their decision to have surgery and will require in the immediate months post-surgery. However, they did not elaborate on the support they would need in the long term, following surgery. New networks of peer support (those who had had bariatric surgery) were valued in helping with the decision for surgery and as role models for successful outcomes. Weight management interventions and the bariatric seminar were considered useful in the preparation for surgery and instilling new behaviours. The surgery provides a physical tool to facilitate change, however personal motivation was considered vital to achieve successful outcomes. The need to change is reinforced by current life and perceived appearance.

3.6.1 Things that will help me achieve success: Environment

The physical environment in which participants lived was considered to be conducive to post-surgery lives. 11/18 lived in areas in the top quintile of deprivation with all living in the 3rd - 5th quintiles, however no one felt that their local environment would have any detriment on post-surgery outcomes. There was good access to gyms and fresh food.

"Yeah, we've got a lot of things nearby, to be honest...I mean we've got supermarkets what I can go to, you know, for fresh fruit and veg and things like that" (P2)

Whilst participants reported aspirations to walk more and be able to get out they also discussed how access to a car was an important part of their recovery (picture 24, [appendix 13](#)).

3.6.2 Things that will help me achieve success: Networks

Networks of family and friends are important sources of support in current life, the decision to have surgery and the future life of participants. Some people within these

networks initially struggled with the risks associated with surgery but came to realise the potential for an improved quality of life.

"I think they're worried that it's a major operation. But then a lot of them have known me probably seven stone lighter than I am now, they've obviously seen the highs and the lows of the weight I lose, so they see it as a good thing." (P16)

The openness about the surgery to all family, friends and colleagues varied. Some were concerned about what people would think of them having surgery but were hopeful they would be supportive.

"My dad doesn't know yet, but my friends have been really supportive, really, really supportive....I do think he [dad] will be supportive. I think it'll be a shock, but I think he'll be supportive." (P1)

One male participant discussed his wife's desire to lose weight and how the changes to his diet would have a positive effect for her enabling them both to lose weight.

"So I think she thinks it could be good for her as well, because if she reduces to what I'm having as well, and eats similar to me it could have a knock on effect for her." (P15)

Recognition of the support needs regarding the changes they would need to make, and experience post-surgery was evident. Participants discussed making additional effort to involve their close family in their journey.

"I think it's that point in the journey where everybody needs to know, everybody needs to be there to support me, people need to know that my social life and my eating patterns are going to change, but, and I need the support, I need everybody's support don't I" (P16)

Support required immediately after the surgery was discussed in more detail than the long-term support participants felt they might need in maintaining their weight loss. The side effects of the surgery and physical capabilities were often seen as more important than the lifelong behaviour changes that would need to take place. These lifelong changes were viewed as individual tasks. However, the physical pain and immobility that would occur immediately post-surgery demanded a network of support to be able to manage.

"I've got quite a lot, obviously with [P13 husband] not working he can work around, with his studying he can work around what we need to do. Hopefully

by September [P13 youngest son]'s going to be at school anyway. I've got my mum works from home, so she can schedule her work around what we need. My dad said he'll take a couple of weeks off when we first start, you know, when the surgery happens so he can do the school runs with [P13 oldest son] and stuff. My brother, if it comes to it, he teaches a lot but he doesn't, he only works at weekends, so he goes there one or two days a week. So he's got a couple of days a week that he can help out." (P13)

In the immediate weeks post-surgery some participants felt their networks would provide support in relation to increased physical activity and changes to food behaviours.

New peer networks such as bariatric surgery support groups were discussed in a positive light. Meetings, the bariatric seminar and social media were all mentioned as formats for accessing others who have had surgery to gain insight and help.

"everybody's in the same situation. Everybody's either been there or going to be there, and they know what you're going through." (P12)

" I'm going back to support group again next Thursday, because obviously I want to mingle and mix with these people and know if there's anything I don't know, I want to know about it." (P9)

Participants identified support from health care services as a key support network and a precursor for success following surgery. This support would include changes to medications; follow up appointments and discussing problems with diet.

"I'll need support from my doctor with my medications and things like that because I'm on tablet form at the moment. Before my surgery I'll need it to go to liquid form because I won't be able to digest them. So my doctor will be doing that. The dietitians and things will help me with different foods that I'll need to eat and things like that, and I think they'll check my progress of how I'm doing. So I think yeah, I think they will be there and I think they'll support me with what I'm doing." (P3)

3.6.3 Things that will help me achieve success: Commissioned weight management services

Where participants had to wait to access the tier three interventions or had problems attending appointments, some services provided email and telephone support. This helped with motivation and basic tips to change behaviours that could be used whilst they were waiting for the appointment. These skills and techniques were thought to

be helpful in preparing for the surgery and with behaviour change required following surgery.

"a lot of support, mainly by email, because I've had problems getting to the appointments. But I've always had the support by email or by phone" (P1)

Tier three services are a precursor to bariatric surgery but were considered to be a useful part of the journey by most but not all participants. Information on the types of procedures available and signposting to certified websites was appreciated.

"[dietitian] was very good and he gave me some good safe sites to go to and have a look at, and read other people's stories and about the different procedures and things like that." (P12)

On referral to the hospital, all patients seeking bariatric surgery are required to attend a seminar. The information provided at the seminar was viewed as vital to inform decisions about consenting to the surgery and what type of procedure best suited them as individuals.

"That were brilliant. If I'd had that information before, I'd have known exactly what I were going to go for. I went in thinking right, I'm having gastric, I'm going to go for the gastric band, I come out thinking right, I've put my name down for a gastric sleeve, which is completely opposite." (P2)

Patients who had already undergone bariatric surgery spoke at the seminar. This was invaluable to the participants and for some was the first time they had heard personal accounts of procedure and post-surgery life.

"what he'd had done, what it was like, and what he'd had done and what he's like now. He told you how he felt, you know, and it weren't a picnic to have, but it's well worth it in the long run. He answered any questions you've got, if he could." (P2)

3.6.4 Things that will help me achieve success: Personal motivation

Personal motivation and commitment to change behaviours was considered crucial to achieving successful outcomes of surgery. The surgery provided a level of hope for change that participants had never experienced before during weight loss attempts. During the referral process and once participants were accepted for the surgery their level of commitment to behaviour change amplified. Participants that were physically able, accessed a gym, exercise classes or attempted to be more active (picture 25,

[appendix 13](#)).

"doing more exercise, doing them two classes a week and may be trying to get up to the park and walk round that little bit, fingers crossed. I try and push myself as much as I can." (P3)

Changes to diets and preparation for food immediately after surgery was common. Participants had taken on board suggestions from the bariatric seminar and had begun to practically prepare themselves for the types of food they were expected to need (pictures 26 & 27, [appendix 13](#)).

Signs of psychological preparation were evident in the interviews. Participants discussed the need to reprogramme themselves. Consideration was given to the changes expected to be made and how these would impact on daily lives. Examples included eating out with friends and family, how this was expected to change and the strategies they had begun to consider putting in place so participants could maintain their normal routines and social events.

*"Chew loads of times instead of just a few and swallow it, like a dog don't chew its food, it just swallows it straightaway. Human beings do that as well. Chew it 20 times instead of once. **It's like what it says you've got to re-programme yourself (P7 husband).** Have a drink half an hour before you have something to eat. I've got to get that into my brain." (P7)*

It was clear that all participants had high hopes on the surgery to change their lives, yet this required a massive amount of commitment and motivation on their part. They all described how the surgery would act as a facilitator to weight loss and behaviour change but relied on great efforts on their behalf.

"It's not something that I've walked into thinking yeah, fix everything, because it won't fix everything. It's still me that's got to put the work in to fix it.....It'll have to change radically, because the whole point of having the procedure done is to change your diet and your exercise or lack of exercise. There's no point in having it done and then trying to eat what you were going to eat before, it won't work. You have to scale down what you were going to eat and scale up your exercise." (P1)

Bariatric surgery was viewed as a tool they would have to help them control the excessive volumes of food they consumed.

"I know what I've got to do and I know how to do it, it's doing it, that's the big thing for me. But if I'm sort of controlled by how much I can eat, if I can only eat a small amount then it's going to be a lot better for me to start with." (P15)

Unlike on previous attempts to change their diets, where they would revert to old behaviours, they expected the surgery to offer a permanent physical restriction to stop them consuming food to the levels of excess that they often did previously. The message of the surgery being a tool and the level of commitment required from the individual was reinforced by the surgical MDT.

"Mr [surgeon] says, he says it's not, he says you have to work, I said I know I've got to do the work, I said, you're giving me the tools to do the job, and I'm thanking you for doing that." (P11)

This fear of complications and weight gain from reverting to old habits was strong. However, the surgery was considered to not only provide a physical change but to also bring about a change psychologically that had not occurred before.

"I know when I have that sleeve in the back of my mind it'll be well if you have any sweet stuff, it's going to ruin it" (P2)

The aspiration for a better future, improved appearance and health were motivators to keep them on track to lose weight following the procedure. Participants discussed how the photographs they had taken for the study would help them to be successful in their weight loss journey. For example, pictures of smaller sized clothes and hangers taken by some participants (picture 28, [appendix 13](#)) whereas other described how photographs of themselves at their biggest size and the disappointment and sadness they felt when looking at these would be key to help them stay on track following surgery (pictures 29 & 30, [appendix 13](#)).

3.7 Things that will prevent me from achieving success

Participants did not define areas that would prevent them from achieving success per se. They described their concerns, fears and aspects of their lives that may impact on the potential for achieving positive outcomes following surgery. For analysis purposes these themes have been used to develop theories about things that may prevent

post-operative success. Whilst the participant's environment and networks were viewed as crucial to successful outcomes of surgery, they were also areas that were raised as potential areas of concern. Fear of the procedure itself and the changes that may arise as a result of the surgery were highly prevalent. Limited expectations to change may prove problematic further along the post-surgery journey. Participants were fixed on the hope that the surgery would provide such an element of physical and psychological change, that control would somehow be enforced by the body. Hope was a strong word commonly used throughout the discussions; participants had a great deal of hope for a new life, hope for change, and hope for support. If this hope is not conveyed into reality, participants felt that problems may arise.

3.7.1 Things that will prevent me from achieving success: Environment

The close family environment and interpersonal relationships clearly affected efforts to change behaviour, particularly in relation to diet. Pre-surgery attempts at a healthier diet were sabotaged by family members who refused to change their own eating behaviours. This reinforced participants' feelings of being different in other ways than physical size.

"I'll have a salad where he [P8 partner] won't even, he'll just look at it and say I'm not a rabbit."(P8)

Diet choices were made more difficult by limited finance.

"So many a time if I've got nothing in my purse to buy things I won't go and buy my veg as the first thing for me, because I'm thinking well it's only for me." (P12)

For many of the participants overweight and obesity within their family and social environment was normal. Historically this has reinforced poor behaviours around diet and exercise. Constant dieting was common amongst families along with lack of motivation to change.

The physical environment and community in which some participants lived and worked presented barriers to exercise. Activity was limited by the geography of the environment (hilly) and fear of crime. As this environment would not change post-surgery, it may be an issue until a great deal of weight loss improved mobility to an

extent that participants did not consider these to be substantial barriers.

“Well it’s impacted me in a way because we’re quite high up, hills and things around here, so that’s one thing that I can’t do, I can’t climb. With my walking I’m not very good at walking anyway, so I can’t get round and about here.” (P3)

“Because you can’t walk round, I live near [name of area] not going to walk round the streets on your own.” (P5)

3.7.2 Things that will prevent me from achieving success: Networks

Whilst social networks were a source of great support they also brought about areas of concern. The decision to have surgery was not an easy one for participants and often followed years of deliberation. Even after participants had made the decision to access the surgery, some experienced negativity and judgement from their close family and friends and spent time reasoning with them about the decision and need for the surgery.

“There’s been a couple of people that have been like why, why would you want to do that, taking the easy way out.” (P13)

The outcomes of surgery were a source of contention as significant others reinforced participants negative thoughts and perceptions about how life and relationships will change following the surgery.

“this is one of the things my partner used to say, well if you have it done we’re never going to be able to go out for a drink again, we’re not going to be able to go out for a meal....And he’s like you’re going to get oh you’ll finish up all, I think he thinks I’m going to get that skinny and haggard looking.” (P5)

The reactions from others extended to levels of jealousy about the surgery and associated weight loss. This was exacerbated between mother and daughter relationships where it was the mother who was about to access the surgery. An apparent anxiety of the participants changing so much that their family and friend would be left behind was also evident.

“I think they’re worried that I might have too much confidence and leave them because I’ve got other things to do.” (P14)6

“She’s [daughter] not massive but she can’t get her weight off. She’s about a 22, 20 isn’t she, 22, and she’d love the surgery and I saw her face when I said they’d offered it me, it were, I’d love it like, but she says oh you go for it mum, but she hasn’t been visiting as much since.” (P7)

Loneliness may act as a barrier to success long term. Participants who lived alone discussed the lack of support they had at home and referred to the difficulty in cooking properly for themselves with a tendency to rely on convenience food rather than cook for one. This may well have contributed to their obesity in the first place and would be a difficult behaviour to change.

“But living on my own also I don’t eat properly because I don’t cook, there’s no point popping three sprouts in a pan of hot water and a carrot, because it’s just not economical. So I use quick meals and quick meals aren’t always the best meals.” (P14)

However, even where participants were socially connected, those closest to them were not always a great source of support. This was most prevalent with younger female participants. This perceived lack of support appeared to alter the responses participants made to the situation, blaming themselves for their obesity and encouraged them to want to face the implications of surgery and anticipated weight loss alone without seeking the support from others.

“So yeah, that’s very much for me and regardless of what happens then there’s only me that did this, no-one came to me for group meeting, no-one’s coming for doctor’s thing, it’s all me and my choice and I know it sounds daft, but I don’t like myself at end, it’s me that did that nobody else, so that it’s my journey....but I don’t want to burden anyone or put anything on anybody else. So if I go myself then it’s mine isn’t it? It’s my ownership.” (P17)

3.7.3 Things that will prevent me from achieving success: Fear

Expectations of body size and shape provided some degree of anxiety. Participants were unsure of what their thinner self will look like and were fearful of feeling psychologically worse than they currently did. This fear was generally linked to how they perceived others would think of them. These fears were more prevalent in younger aged participants.

“I’m very scared, because what if my expectation is too high; what if my body shape is something that I don’t like anymore because of the skin and various other things. I’m worried that I won’t be attractive anymore to my husband..... I’m also very worried about what I’m going to look like and how the people will look at me in that sense, which I’ve never really bothered about before, and what implications that could have.” (P17)

Participant 6 described concern over how she will feel about her appearance when she loses weight:

"I can't envisage what I'm going to look like. Because I've been big for that long, I can't envisage myself being smaller".

And the reactions of others and the impact on relationships with her close networks:

"I'm scared that I'm going to lose the people around me because I'm going to look so different and they're not going to like me."

Fear of regaining weight after surgery was an issue for all participants and they expected to continue living by their scales.

"I just think that once I've lost the weight, I'm going to be so scared of putting it back on that I'm going to be constantly weighing just in case." (P17)

3.7.4 Things that will prevent me from achieving success: Practicalities of the weight management service

The tiered service model presented some problems for participants in terms of navigating the healthcare system and who is responsible for supporting them at different times. Participants referred to *"being stuck between services"* (P17) because of long waiting times to have the surgery. Tier three services were reported on favourably, however there were some issues that may affect the outcomes post-surgery. Non-attendance at tier three sessions was described as problematic. Even genuine reasons for cancelling appointments led to patients having to wait a long time between appointments; being dismissed from the service or having to wait months for a new appointment. The length of time with the tier three services was 12 weeks, this was perceived to be too short for having a real impact on behaviours.

"Well you're supposed to go every week, every fortnight, but if you cancel one, say like you can't make it, to get back in you've got to wait so long....They rearrange it but they rearrange it for like 13 weeks' time when they've got a slot. And that really does, it does knock you back because a couple of times it's happened to me now and I've lost weight and then when I've gone back, they've gone oh you've only lost a pound. But I'm doing the same as I was doing first time and obviously something's not worked, but because it's been that long you're not putting it right early enough." (P15)

"It's not long enough. People who've got a smoking or a drinking problem or a drug problem get longer than that, and you know, and weight is an issue. And

it is an illness. It's more of an issue and an illness now than the other three put together." (P11)

Barriers to attendance at appointments and sessions included accessibility and cost. Some participants had problems with mobility or transport. One participant had their driving licence revoked after a diagnosis of obstructive sleep apnoea during the referral process.

"I've got to go there, and a lot of the time I can't get out because of my ankles and my legs swell up, and they don't lay on facilities to take me to these places. In fact, even to get to the hospital now they don't always lay on an ambulance for me, so I have to get taxis which is very difficult. I've got limited income as well, so that makes it very difficult as well." (P14)

Those on low incomes struggled to afford to pay for transport to get to sessions. Once the intervention had finished and exercise was not free or subsidised, cost was an additional barrier. Employment also limited attendance at exercise sessions.

"I've found exercise really good, going swimming, but it's time to go, it's like when it's, when baths is open for adults only it's, like I'm working because they've changed my shifts since then, and it's expensive as well. When it was £1.50 it was all right, and then once that finished it's expensive." (P5)

Furthermore, at the end of the intervention when clients were signposted to local community activity, they felt it to be physically too hard and not appropriate for people who are obese.

3.7.5 Things that will prevent me from achieving success: Expectations of change

It is well documented that patients can lose 50% of their body weight in the first two years following bariatric surgery. Participants in this study were aware of the levels of weight loss they could achieve, however the extent to which their expectations met this varied. Expected levels of weight loss were quantified by BMI change and weight loss using stones, kilograms, percentage of body weight. The variation in this perceived change was huge.

"I want to lose ten stone at least, that'll take me down to about 16 stone." (P10)

"they say you lose 75% within two years or in one year with some of them don't they, that's my expectation." (P16)

"Well I think that I've got to be a BMI of about 25 minimum." (P18)

Although in some cases these expected changes to weight may be potentially unrealistic, the changes were viewed positively by all participants. However, weight loss brought about the issue of excess skin. Two of the eighteen participants, one male, one female admitted to having a real concern about excess skin and how it would affect them psychologically.

"I might go through it all and then I'll be looking even more uglier because of all the loose skin that comes with rapid weight loss. And that's now making me think about should I really have it done, is it better to look fat than look ragged afterwards with all skin hanging from every part of your body and looking even more gross....it's just the terrible thought of looking so bad. I mean people say it doesn't matter because nobody will really see, you've got your clothes, but I'll see me, you know what I mean." (P14)

Generally older participants were more apathetic towards the issue of skin, stating that no one would see them other than their partners and they would 'tuck it in' so they looked presentable to family, friends and strangers. All pinned their hopes on exercise to reduce the extent of the excess skin and tone up but felt that the extent of their problem would not be known until they began to lose weight following the surgery.

Whilst skin was an issue, participants rationalised the prospect of excess skin in the context of their current poor health and problems caused by their excess weight.

"I had thought about it [excess skin] yeah, I think it will be a problem, but I don't think it's, health-wise it's not going to be a bigger problem as my weight is." (P16)

A pragmatic response was given by a male participant

"It is what it is isn't it, you can either, we're never going to be perfect are we, you can either be a fat git and fit your skin or have a few extra wrinkles and do the best with it." (P15)

The potential problems with excess skin were not all linked to appearance, physical problems and health issues were discussed.

"I'm hoping it's, you know, overhang's not, still going to affect as much my lichen sclerosis, but if it does, we can always, what you call, put that forward at a later time and just see what's what, whether it is proving to be medical grounds. Because if that's still overhanging, I've still got that, what you call,

thrush and crap going down there, which does irritate the lichen sclerosis quite a lot, but you don't know." (P11)

Addressing any problems as and when they arise was a common response to managing excess skin. As participants were unaware of how it would affect them, they didn't dwell on it too much, highlighting potential options that may be available to them if they have issues later in their journey.

"I don't know, may be a year, two years down the line, whether or not if all that excess skin will get me down and then may have to go back and have more surgery, I don't know, but that would depend on what my doctors said and how much of it there is. So that's another issue for later on. But I'll try and do everything I possibly can to minimise that." (P3)

Whilst participants were keen to point out the effort they were required to put in post-surgery, narrative also veered towards the surgery being the physical solution *"then that's it for the rest of my life" (P12)*. This attitude is at odds with a commitment to behaviour change. Participants did not want to discuss or give any thought to long term problems that may arise along the journey. The severity of the operation was played down and compared to other medical treatments which required minimal change post-surgery.

"I'm not focusing on this big weight surgery thing; I'm just not seeing it that way. I'm seeing it as a solution to a problem. I'm seeing it as a solution to a health problem, like you go and have your tonsils out." (P18)

This resistance to thinking long term may have been an element of protection on the participant's part but also indicates an element of denial. The anticipation, and belief, was that the physiological changes from the surgery would alter their tastes, mechanisms of control and internal messages and feelings of fullness.

"they said that your taste buds might alter when you've had your surgery. So I'm hoping my taste buds change to not wanting sweet stuff." (P2)

"there's a message isn't there? Yeah, so obviously the portion sizes are going to be smaller because your stomach can't take it, and if you try and eat you'll be vomiting or going to the toilet the other way. And I need the messages. I'm quietly confident that I can eat healthily because I can, but I just, I need to have that message that you've had enough." (P18)

P18 elaborated on her expectation of internal messages suggesting her obesity has been a lifelong physiological problem caused by her body that has never been able to

distinguish between fullness. This position may reinforce the emphasis on the surgery making the change rather than the individual themselves and negatively impact on outcomes.

"After my surgery my expectation I think really is that I will at least get some messages at some point, I will not soak as many calories up, for some reason my body likes calories. I think the mere fact that I've done it I think sends a message to me as well. The outcome that I want is the driver, so I think for me, I think the surgery may be it's something that I ought to have done when I was younger." (P18)

Knowledge and expectations of the differences between the procedures (band, bypass and sleeve) reinforced expectations of surgery results. Participants put a lot of focus on which procedures suited them physically and psychologically. The permanency of the sleeve or bypass was viewed as more favourable than the gastric band. As surgery was the last resort, participants sought a solution that would offer them the most hope to change their situation.

*"And hopefully they'll do the bypass, that's what I would prefer, rather than the staples or the gastric band, you know what I mean. **Yeah and why would you prefer a bypass do you think?** I'm an all or nothing person. I always have been." (P4)*

"So I've looked at it as a more permanent reaction to something that was quite drastic, you don't want to go through something drastic for a waste of time do you, it's got to be something permanent if you're going through all that." (P9)

3.8 Summary of pre-surgery findings

The findings presented in chapters 3-5 will be formally summarised in chapter 6, using the framework of the seven statements. Here is simply a brief summary of the main points from the pre-surgical data. Participants felt that the experiences, behaviours, habits and lack of control they have developed from childhood and over the course of their lives has caused their obesity. All participants discussed a constant failure to lose weight and maintain weight loss despite using a variety of methods. Bariatric surgery is considered the last resort to lose weight, improve health and quality of life. Participants aspired to living a normal life with the ability to make choices and be happy. Crucial to successful outcomes of surgery was supportive networks, yet some participants reported limited support from significant others and

HCPs. Bariatric surgery was considered a tool to facilitate weight loss which requires motivation to change behaviours and lifestyle post-surgery. Whilst excess skin was viewed as a potential problem, fears were outweighed by the benefits that surgery will have on health and overall quality of life. Pre-surgery patients waiting for bariatric surgery focus on the short term up to the point of surgery and have limited consideration for the long-term changes required for successful outcomes post-surgery.

Chapter 4: Three- and Nine-Months Post-surgery findings

Chapter 3 presented findings from the pre-surgery period using a theoretical framework made up of seven statements. In chapter 3 the first four statements reflected the lives and experiences of participants pre-surgery, while the latter three focus on the expectations of the post-operative period. Chapter 4 focuses on the final three statements which were used to analyse the post-surgery experience.

- How my life has changed after bariatric surgery
- Things that are helping me to achieve success
- Things that are preventing me from achieving success

Analysis of all (n=16) of the three and nine (n=15) months post-surgery interviews and Photovoice data was undertaken. In this chapter data from all the three-month interviews and a selection of the nine-month (n=4) interviews and Photovoice data is presented. The decision to present the findings of only four nine-month interviews was made due to the high volume of data that was already included in the pre-surgery and three months post-surgery interviews and the need to include the two-year data to complete the analysis of the patients journey. Purposive sampling was used to identify interviews with four participants which provided variations in: gender; Tier three and MDT services; perceived successful outcomes at three months; and, compliance with behaviour change. The four participants whose data was included were participants 13, 15, 16 and 17. The individual characteristics of these participants can be viewed in table 5. This sample of four interviews also aimed to explore in more detail any interesting points that were derived from the three months data and that may be significant through to two years post-surgery (chapter 5).

The analysis of the additional four transcripts is combined and presented with the three-month data under the relevant statements of the theoretical framework. Throughout the chapter the interactions between the layers of the SEM are drawn upon. The next three sections present the findings from the post-operative period

(4.1-4.3). There is then a short section (4.4) detailing additional findings that are relevant to the first four statements of the theoretical framework.

4.1 How my life has changed after bariatric surgery

Participants reported more interactions with their local community and environment and changes to interpersonal relationships. Despite this, many of the changes were linked to them primarily as individuals. Changes to life in the immediate days and weeks following surgery were discussed and a positive surprise in feelings of wellness was evident. Participants also described in detail positive consequences they had experienced physically, psychologically and psychosocially, with some being similar to the themes discussed in the narrative pre-surgery. However, for some, these immediate highs were not as prominent; physical, psychological, social and other consequences of weight loss expected pre-surgery (see chapter 3.5) had not yet been realised, with the weight loss bringing about new challenges. These challenges often differed to the expectation's participants discussed pre-surgery.

4.1.1 How my life has changed after bariatric surgery: Experience immediately post-surgery

Participants reported positive experiences of their care whilst in hospital. This was welcomed after the anxiety they felt in the lead up to the procedure. All spoke highly of the levels of aftercare and support they received. Participants who had their procedure as an NHS patient in a private hospital felt experienced one-to-one care and felt this had allowed them additional time to ask questions of health staff which in turn had a positive impact on the speed of their recovery.

"I think I got more positivity and understood it more because of where I had the op....Whereas I think if it'd been in a main hospital, because of all the other things going on in the ward and they're busy, and you start to take bits in and you think ooh I forgot that bit, I'll ask them. And because of that you think oh I'll not disturb them, because they're going to see so and so." (P11)

Information given pre-surgery reinforced messages of the severity, recovery time and risks associated with the procedure; as a result, expectations were of pain and a long recovery. However, all participants reported their surprise at the low level of pain

they experienced and the speed of their recovery in regaining activity and returning to normal. The surgery was likened to other procedures which were perceived to be much less severe which had caused more physical pain in the recovery period.

"Do you know they say it's a really hard operation, possibly life threatening, and I found it the easiest operation I've ever had. I got up the same day, I was walking about.... I felt quite normal, even though I had this leaky drain put in and it leaked after they removed it. To me it was still, I had no pain from it, no pain at all." (P9)

The speed of recovery led patients to feel like they had not been through major surgery. Surprisingly, for some, this may negatively affect acceptance of the changes in behaviour that are required.

4.1.2 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight

Positive physical consequences

A key finding was the sense of positivity following the surgery and the overall impact on people's lives.

"I mean for me the surgery itself, even though there were complications, it's just been a positive experience because there's like, as corny as it sounds, the first day of the rest of your life. " (P5)

Participants gave many examples of the positive physical consequences associated with the weight lost in the three months following surgery. These examples included having more energy and undertaking activities of daily living which they wouldn't have done pre-surgery.

"I want to do things before my surgery and I think oh no I'm going to be too exhausted for that. Whereas now I think oh yeah I'll have a go at that." (P2)

Participants reported how they were able to and wanted to walk further. Examples included choosing to walk to and from work, with family to school, the dog or to get to places such as the bus stop or local pub and even taking part in charity walks. This brought about a sense of pride and achievement and confirmed the realisation of how closed down their life had become prior to the surgery. In turn, this highlighted the positive interaction between themselves and their community. Prior to surgery

nearly all of the photographs participants had taken were indoors or around the boundary of the home. This new ability to walk and enjoy the outdoors was reflected through the photographs participants had taken in the three months following their surgery (see picture 1, [appendix 14](#)). At nine months post-surgery activity levels had continued to improve. Participant 16 reporting how her physical ability had overtaken that of her partners (see picture 2 [appendix 14](#)).

Some participants were enjoying their garden, either as a new pastime, returning to previous interests, or through being able to play with their children. An additional benefit to this physical activity was improving relationships (see picture 3, [appendix 14](#)). DVDs and Wii games consoles were also used by participants to exercise with their children and to aid weight loss. This was more common with young mums who were restricted on time to allow them to exercise independently.

Regular exercise outside of the home had increased. Participants reported how they had joined the gym which was having a positive effect on their physical and mental health as well as helping with weight loss. Pictures 4 and 5 ([appendix 14](#)) and related quotes demonstrate the exercise now being undertaken.

Activities of daily living such as getting dressed, seeing to own personal hygiene, crossing legs, being comfortable in bed, having a bath, shopping were described as easier and enjoyable (see picture 6 in [appendix 14](#)).

"The main thing is being able to get washed and dressed. I think that is one of the biggest things that I used to struggle with. And now being able to just move about freely as well, I think that's one of the main things. I think because having to rely on everybody to do everything for me and I think it just, I think it grinds you down a bit. I think when it's gone on for like three and four years, I think it just gives you a new lease of life and I don't know, I can't explain it, it's just amazing. Not having to rely on somebody to wash you and dress you and being able to do it yourself." (P3)

Improved health

Improvements to health and comorbidities (particularly diabetes) were a key factor that had driven participants to seek bariatric surgery. Some participants reported reduced pain, and reductions in the number and dosage of medications.

"My own health particularly itself, that's improved. I don't get as much pain in my joints, I don't get as breathless, I don't have as many pains all over my body" (P2)

Where medications had not yet ceased, they were under review by other specialists with the hope of being reduced in the future.

"My cholesterol was really high before I had operation, and they're just wondering whether or not my thyroid glands have gone back to normal, if they've levelled out." (P2)

The improvements to sleep apnoea were having a positive effect on work life:

"I don't feel tired at work, so that's fine. Of course, that might have been part of the sleep apnoea as well, but I'm a lot more active at work." (P10)

Improvements relating to diet and eating habits

Immediately following surgery, patients must eat different consistencies of food. This staged process includes pureed, soft and mushy, and soft and crispy before moving back to normal textured food. The speed at which individuals managed to progress through the stages and the types of food that could be tolerated varied. Some progressed onto solid foods rapidly whereas others had to return to the previous stage to stop illness before progressing again.

"Food stages fine, no problem." (P10)

"I've struggled with food and things like that, I wouldn't ever say it's not worth it. Because if you persevere, I had to go back onto the pureed diet after six weeks because my stomach weren't tolerating any food. So I went onto liquid and then puree, and I finally got up to now I think I'm 14 weeks post op now and I can start and have little bits of ham with tomatoes and cucumbers, and I'm fine with that, I can tolerate it now." (P3)

Participants felt their relationship with food had changed as a result of the physiological changes to their digestive system from the surgery. The major surprise was lack of hunger and the feeling of fullness and nausea after a tiny amount of food. These feelings were welcomed, especially as pre-surgery participants described a constant feeling of hunger and an inability to stop themselves from overeating (chapter 3.3). Participants reported that it was these changes that would contribute to their long-term weight loss.

"the hunger's not there, your hunger just goes away. So you're not feeling hungry although you think oh I've got a hunger I've got to fight that; you don't have it with this op. I don't know if other people have said it, but the hunger disappears." (P10)

*"I think what's different about dieting to this surgery is that you've got, you can break it, you can break the diet. **Right yeah.** This you really can't! **Or you'll get poorly.** Or you'll get poorly and I don't like being sick and I don't like feeling horrible, so that's a very different approach to it." (P18)*

Other unexpected positive physical consequences of the surgery included changes to taste. Several participants reported how they now liked healthier foods such as vegetables, fruit and salad which were helping them to improve their diets.

"Teatime I had a salad, which now I'm really enjoying salads, especially if I slice tomato up thin. I've never ate tomatoes in my life, I don't like them, but now suddenly I do." (P9)

Whilst many of these changes were attributed to the physical consequences of the surgery, there was also an awareness of the requirement for personal commitment to behaviour changes.

"I would say the tools there 60% of the time, the motivation is 40%, but the tool's there, because he says your tummy's only that big, he says and if you eat too much it might rupture it, it could thingy or it like blows out, you know what I mean?" (P11)

Negative physical consequences

The physical consequences of losing weight were not entirely positive for everyone. Whilst the expectation was that health, comorbidities and mobility would improve, the reality was different for some participants. Reliance on existing and an increased number of medications was reported (see picture 7 in [appendix 14](#)) and painful back and knee joints, aggravated by weight loss were common.

"Yeah I've got diverticulitis. Yeah my irritable bowel syndrome has been horrendous. It's been worse now than it ever has been." (P17)

Pain and ill health had continued at nine months post-surgery for participant 17 (see picture 8 [appendix 14](#)).

Hair loss is a common side effect of bariatric surgery. Whilst participants were aware they may lose their hair, it upset them as it happened. Diarrhoea, constipation and

vomiting were also common. All participants reported being sick at some point; for some it was a regular occurrence, even daily, with a range of metaphors used to describe the sickness. The sickness was unpredictable, food tolerated one day caused illness the next so the first few months was thought of as a period of experimentation. However, participants were clear that overeating was an undoubtable cause. A few had experienced 'dumping' (see glossary of terms), a common side effect of surgery. Those that had described how terrible it made them feel, and where they identified a cause would go to all lengths to prevent it happening again.

*"It's just every now and again you just eat something that just don't go down properly, and then it's a nightmare to get it back up. **Right, what do you mean, as in being sick?** Well it does eventually, you are sick eventually, there's just no control with it, but you can't get any fluids down to like try and force it out, because it's blocked. Because you can't get out underneath it. So you've just got to wait for it, bit like a volcano. Just wait for it to go off on its own.....it's painful, oh it is painful." (P15)*

Negative impacts of the changes to food tolerance

Another challenge was the inability to eat and drink at the same time and drinking a large volume of fluid at once. This is a physical consequence of the surgery that many participants found hard to manage as it required a complete change in lifelong habits. Furthermore, not drinking enough presented additional problems with dehydration and constipation (see picture 9 in [appendix 14](#)).

"I tell you what's one of the hardest things if you're thirsty you can't quench that thirst because we can't gulp. Can you imagine if you can't quench that thirst? It's like a vampire for blood you can't quench it." (P18)

Participants were routinely eating solid foods and having to be more aware and controlled over their eating habits at nine months post-surgery. Three out of the four participants whose data was analysed were managing their food intake and portion control. However, one participant reported a minimal change to the volume of food he had over the course of the day from that he had pre-surgery. This participant had not lost any additional weight from that he had lost in the lead up to having the surgery and concluded that the surgery had not worked for him.

"It's just I can yeah, probably can eat more now than I could before.....in one go no, but it's like if I have something to eat, if I have my tea I'll probably have just like chicken, a small piece of chicken, two or three small potatoes and some veg. And I'll eat that and I'm like that's it, I'm full. Like an hour later I'm ravenous, I'm looking for something else to eat. And it's just you're hungry all the time. You have something to eat and it fills you for like an hour, and then you're just hungry again. I wake up in middle of night just like absolutely starving." (P15)

The future

The physical changes to the body following surgery, such as not feeling hungry and the sickness were considered to be a large contributory factor to the weight loss participants had experienced in the first three months. There was an expectation these feelings would come to an end and it was then that participants would undergo challenges to change their behaviours around food.

"At [the] minute it's been easy because I haven't been able to eat properly, so it's like just sort of coming off because I'm not eating. But once I get that sorted then I'm going to have to sort of work at it a bit. Up to now I haven't really, because I ate that much before it was just like cutting down was enough, but I know it's going to have to go quite strict eventually." (P15)

The future presented a variety of hopes and challenges in terms of physical ability and weight loss. Those participants who weren't undertaking exercise were looking forward to starting again. However, a handful were limited by their other comorbidities.

"I've recently been to cardiologist and I can't do any exercise, extreme exercise yet, because of my angina." (P2)

At nine months, where participants had seen a huge amount of weight lost, they were starting to wonder when their plateau in weight would be. This feeling was disconcerting and something participants were trying to prepare themselves for. The externalised thoughts between the self and the body that have been reported throughout the weight loss journey remained evident at nine months.

"I'm hoping my body will know when to stop, which I'm sure it will know, because human bodies are just amazing." (P13)

4.1.3 How my life has changed after bariatric surgery: Psychological consequences of the surgery and losing weight

Improved confidence and appearance

Participants expected their low levels of confidence and self-esteem to improve following surgery (see chapter 3.5). This was realised, with participants reporting improvements to their personality and no longer hiding from people.

"Whereas before I didn't want anybody to notice me; now I'm quite willing to talk to people and not like be in shadow." (P2)

The impacts of improved confidence were widespread, not just in how the individuals felt about themselves, but also in their actions and responsibilities such as returning to driving, caring for family members and dealing with day-to-day life. During a dyadic interview with P4 and his wife, it was P4's wife who commented about improved confidence and the positive changes in routine and behaviours of her husband.

"He's got more confidence, definitely more confidence. He wouldn't go out this room. He wouldn't go to the gate. You know, he wouldn't talk to anybody at the gate or anything like that because he just thought everybody was, you know, looking at him and saying how fat he was and that. They weren't but that's how he thought. But now, you know, he goes round garden centres and comes to the supermarket." (P4)

In pre-surgery interviews, the expectations of psychological change following weight loss were strongly linked to the idea of improved appearance (chapter 3.5). Post-surgery, many of the improvements in confidence could be related to how participants felt about their appearance and body shape. Comparisons were made with their pre-surgery weight and size and how the weight loss experienced so far had already altered their behaviours whilst out in public.

"Because now I think well I'll go out, before I'd have been oh god, if you'd have put me in a swimsuit like when I've been in Turkey on holiday, my daughter's private pool [i.e. in a holiday villa], I put my cozy on and I've gone in, but no way would I have gone down beach or in hotel pool, I'd have been so conscious....now I just get my cozy on and go and get in pool, if you don't like what you see look the other way." (P9)

Participants felt their journey had just begun and there was a way to go, but the weight loss was spurring them on and some felt more able to deal with the reactions of others to their appearance changes. (picture 10 [appendix 14](#)). Whilst this linked photograph and quote from P13 reflects confidence in managing potential negative comments, there were also many reports of receiving positive comments in relation to weight loss and change in appearance.

"It was nice for people to stop and turn round because they didn't realise it was me, and then asking nice questions." (P12)

Anxiety about appearance

Many of the participants were struggling to see a difference in their body size and shape. This was the case even though they were aware that their clothes size was reducing, they were losing weight and people were commenting about their weight loss.

*"But you see I don't feel any different, and now when I look at pictures, I still think I'm as big as what I were. **But you're not.** But the scales are saying I'm not. My dress clothes are saying I'm not. But I look at mirror I see exactly the same thing." (P17)*

The vast amount of weight lost in the first three months was something they had not experienced in previous attempts to lose weight and contributed to the problems participants were having in adjusting to the changes in their appearance.

"I say my psyche has not quite caught up with the size I am at the moment. If you lose it slowly it would, wouldn't it, but it's just so fast." (P18)

Even at nine months participants had still not adjusted to their change in appearance, reporting juxtaposition between continued feelings of obesity and a fear of extreme weight loss. (pictures 11 and 12 [appendix 14](#)).

The speed and amount of weight lost also caused anxieties about what others were thinking and saying about the cause of the weight loss as early as three months post-surgery. This was more apparent with participants who had not been open with peers, family and friends about having the surgery; some admitted making other excuses for the rapid weight loss such as illness, diets or intense exercise. Participants who had told family and friends reported experiences of being told that they had

taken surgery as the easy option to lose weight. Either situation resulted in participants feeling shame at having the surgery. The fear of being talked about for having the procedure seemingly replaced the anxieties and experiences of being judged about the cause of their obesity that participants reported pre-surgery (picture 13 [appendix 14](#)).

Whilst most participants were unhappy with their appearance prior to surgery, many had found ways to manage their feelings of living with obesity. However, as many of the participants had never been thin, they didn't know how the weight loss would affect their looks, or indeed how they would feel in a thinner body. Some participants reported that they had to adjust their expectations of how their body and appearance would change as they lost weight. Participants reported having to find a new normal. This new normal was discussed in relation to appearance but also in terms of how they socialised, acted and managed events.

*"And that's really what it's about. I think, like you said, some operation, you'll get fit, off you go, and your life resumes normally. This doesn't. **No.** It doesn't. **No, it's changing.** You don't resume to previous normal. It's not like having a broken leg and taking the plaster off, you can walk down the streets, it's not like that, it really isn't and that is the curveball." (P17)*

Improved relationship with food

For some participants, a key positive psychological consequence of the surgery was the ability to manage their relationship with food. Old habits such as not wanting to waste food and finishing off meals even if they were not hungry were reported as being a cause of obesity in pre-surgery interviews. Food was also reported as being a crutch for a variety of historical or recent traumas and experiences (chapter 3.1). However, the surgery had enabled participants to come to terms with some of these issues and not be dependent on food to manage difficult circumstances.

"I think it's not realising that I'm actually not dependent on all that stuff. When you're addicted to food it's really hard because it is something you need to live on so you still have to eat it... And it's just learning how to manage it and learning that you're actually managing the food; the food's not managing you." (P13)

This change was not instant and in the early weeks following surgery participants

found themselves struggling emotionally with their inability to consume the volumes of food they were used to having. These challenges left them questioning their decision to have surgery and took some adjusting too.

"I did have a couple of weeks where I was literally crying for hours because I couldn't eat.....-Every time I was upset, I used to go and eat before the surgery. I was very big on emotional eating. So obviously if I was feeling emotional about missing the food my obvious thought was go and get something, you know, you must need it. Not being able to do that, it was like having a war inside my head. It took a couple of weeks to get over that." (P13)

Fear of regaining weight lost was apparent. This fear may in the long term contribute to maintaining new eating and activity behaviours.

"And I don't care how much I lose as long as I keep losing it and I don't put it back on. I'm just scared, even though I know, well I can put it back on but I'm just scared that I'll just go backwards." (P12)

Excess skin

All participants were asked about the existence of, or any future concerns about excess skin. Many views were fairly like those expressed pre-surgery, that excess skin may become a problem but one that would be dealt with by tucking it in to clothes (chapter 3.7), or self-funding surgery abroad. Exercise and creams and lotions were being used in the hope that the emergence of excess skin could be managed or prevented. Older participants remained less concerned about it as they felt others were less likely to see them without clothes on.

"To be honest with you everything seems to be sort of like tightening in, apart from my stomach. I'm worried a little bit about my stomach. I've still got my mother's apron, but I'm thinking that say if I join gym may be that'll hopefully go. But I've had it for a long time. But I can feel stuff tightening and whatever, so I'm hoping." (P6)

4.1.4 How my life has changed after bariatric surgery: Social consequences of the surgery and losing weight

Social experiences were becoming easier to deal with as participants' confidence grew. Pre-surgery, eating out in public was challenging and sometimes avoided because of feeling judged about portion sizes and types of food in relation to their weight. However, the inability to eat larger portions post-surgery meant participants were less concerned about what others thoughts of their food choices. One

participant even reported empathy towards others who were living with obesity in situations of eating outside the home.

"I go in a restaurant, you can look how much I've got on my plate, I don't care, because you've got hell of a lot more than me on yours. And that's how I feel about it all now, and it's totally changed me. Where before I'd be conscious of what I put on my plate and everybody looking at me and thinking oh look at her, and now it's me thinking oh look at them. Or I'll see a big woman and I'll think oh poor woman, somebody ought to mention bariatric to her." (P9)

Whilst some participants were happy to eat out and were much less worried about what others may be thinking about them, this was not common for everyone. Not being able to physically finish a meal and having to send a lot back caused embarrassment. Restrictions in the types of drinks bariatric patients are able to have (i.e. not sugary or alcoholic) supplemented feelings of awkwardness and limited enjoyment of social occasions.

"when I went out I'm conscious that I can't just say, I'll have a vodka and diet Coke because I can't have the Coke because it's fizzy." (P18)

Eating out required planning and limited the spontaneity due to the types of food and drink available. The responses and behaviours of family towards the participants' change in diet proved challenging and was considered to restrict social occasions and reinforced pre-surgery feelings of being different from others. This challenged the pre-surgery expectation of improvements to social and interpersonal relationships.

"The whole changing your eating culture, on a private level, in the private realm, in the public realm, in the family realm, vastly, and I vastly underestimated other people's response to it, like my family didn't want to eat in front of me and it was kindness but it made me feel even more odd!" (P18)

Family relationships

Pre-surgery, those participants who were parents and grandparents discussed the importance of seeing their family grow up and to interact with them. Relationships improved with children and family members through increased physical activity and leisure time opportunities. The quote below demonstrated the impact that changes to relationships had on child development, the importance of this to participant 13 could not be underestimated.

"He's just so much happier that I'm able to do things with him. Like I played football with him last week in the garden, and he was just looking at me going mummy you're supposed to be sat down, you're not supposed to be stood up with us. But then obviously he was happy that I did. So he's noticing it, and we're taking them for walks and stuff and that didn't used to happen. Everybody just seems a lot happier with things like that." (P13)

P4 referred to the change in his relationship with his grandchildren and the perceptions they had of him:

*"They [grandchildren] know their other grandparents more than they know me but since this, they've got better haven't they really and I mean, you know, I suppose when they've come in the past all they've seen is a big fat man sat... **Or lying on that settee asleep. Or sitting there and nodding. (P4 Wife)** When they come down now I'm usually in the garden like you know." (P4)*

Socialising still didn't come easy and required effort to go out and be in the public view undertaking 'normal' activities. (picture 14 [appendix 14](#))

By nine months new challenges to socialising and relationships had emerged. Participants reported how their lifestyle changes were adding pressure to their relationships with partners who didn't want to participate in additional exercise or change their diets. Whilst pre-surgery hopes were of an improved social life, the reality of this was not always welcomed (picture 15 [appendix 14](#)).

Future aspirations

Increased opportunities for socialising were a future hope for those who had not yet managed to go out and meet old and new friends. Barriers that had prevented participants from socialising in the first three months were not always linked to weight or surgery but included reasons such as poor weather, work and family illness. This highlights the fluidity between the layers of the SEM. Returning to work was discussed pre-surgery as a future aspiration and remained prevalent at three months post-surgery. Returning to work to meet others and to socialise were important. Seeking promotion was reported by participant 16, whilst acknowledging she wasn't yet where she wanted to be weight and confidence wise following her surgery.

"They offered me a job as a private banking manager which I'd love to do, but I won't do it yet, and when their area manager asked me last week he said why

won't you do it [P16], you can do those jobs. I said, I know I can, but I told him about my op and he said well you can tell you've lost a lot of weight and you've changed, but he says but why is that stopping you now? I said because I need to get a little bit further into my journey. I don't want to wear an [bank name] suit, I want to wear a nice suit. So if I were a private banking manager wages then I'll do it, but when I feel confident enough. So hopefully towards the end of the year I'll definitely start applying." (P16)

4.1.5 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight

Appearance

Many participants felt their appearance had improved following the immediate weight loss. The changes in appearance were noted through rapid dropping of clothes sizes. The weight loss also gave participants the motivation to take some pride in how they looked, buying new clothes, wearing makeup, jewellery, changing hair styles, being able to wear heeled shoes were key examples of this. Improved appearance was a driver to encourage socialising for male and female participants.

"last New Year's Eve we didn't go out, because basically I had nothing to fit me and I just know, I'm not going in jeans and a t-shirt. So we didn't go, but like now we'll go to Tesco's and she'll say oh look at this t-shirt and I'll go oh yeah, I'll have that, chuck it in trolley, yeah." (P15)

Changes to shopping habits such as places to buy clothes from and styles were reported.

"I don't look at baggy things anymore. You know what have got sleeves in up to neck, I don't look for anything like that. Now I look for something, like it's hot, t-shirt, you know, things like that, what's going to be cool." (P2)

Pre-surgery there were only a few pictures depicting a participant's full body. However, following surgery participants had taken pictures of their whole body at different angles. These pictures demonstrated the positive feelings related to improved appearance and the pride participants were taking to look nice. Comparison pictures of before and after surgery was shared to highlight the vast improvements participants felt had been made to the way they looked (picture 16 in [appendix 14](#)).

Other pictures were of participants in items of clothing which either didn't fit them prior to surgery and are now too big, or were in a size smaller than the ones they were used to wearing at three months (picture 17 in [appendix 14](#)) and nine month interviews (picture 18 in [appendix 14](#)). Nine-month pictures, however, were also tinged with disappointment as expectations of change had not met the reality.

Negative consequences of weight loss linked to changed body shape, were starting to emerge as early as three months and continued to worsen at nine months post-surgery (picture 19 [appendix 14](#)). Different areas of the body were singled out. Female participants reported changes to the size and shape of their breasts and that excess skin was emerging on their arms and legs. These changes were impacting in the intimate relationships and added to worries about their partners leaving them. (picture 20 [appendix 14](#)).

*"I miss my boobs and I don't find, well [P16 partner] loved my boobs before and now I don't have any boobs and he doesn't touch my boobs. And I feel as if I've not just had bariatric surgery, I feel as if somebody's done me a mastectomy and I don't have any boobs, because he doesn't touch them."
(P16)*

Future

At each interview, all participants were asked about the goals and expectations they wanted from the surgery. Pre-surgery goals are reported in chapter 3.5. Post-surgery, the goals remained similar, with health and normality a key feature. However, more participants also quantified goals in actual weight loss and clothes size. This may be because participants were already noticing a weight reduction and were therefore more confident in stating where they expected to reach to be fully happy with the outcomes of the procedure.

"Well I'm still like 19 stone. So there's still a good bit to go. I don't know if I get another five stone off I suppose I'll be happy." (P15)

An additional theme emerging from the nine-month data focussed on concerns linked to future pregnancy. Two participants discussed their intent of starting / extending their family and the challenges this brought about in relation to their weight loss and changing bodies. The thought of increasing weight during pregnancy was difficult to

comprehend after spending so long trying to lose weight, whilst aspirations for surgery to reduce excess skin would be affected by pregnancy plans.

4.2. Things that are helping me to achieve success

Interpersonal relationships helped develop the personal motivation required to maintain increased activity levels and improved diets. This motivation was also being driven by noticeable changes to appearance such as reduced clothes sizes and weight loss. Fear of the rate weight loss slowing down, stopping or regaining weight also drove this behaviour.

4.2.1 Things that are helping me to achieve success: Networks

Networks were identified as a crucial mechanism to achieving a successful outcome following bariatric surgery. Bariatric peers were a source of one of these networks. Many of the participants knew others who had undergone bariatric surgery, some made new friends with people who had the procedure on the same day as them, whilst others had met peers at hospital led surgery support groups. Not all participants were accessing support groups but were aware they were available should they wish to seek support in the future.

Those who met other bariatric patients on the day of their operation reported how the support had been useful during the three months since their surgery. Valuable support included helping to manage the practical challenges such as food stages and tolerance of foods. Others bariatric patients also provided a non-judgmental source of information which alleviated the need to regularly contact the hospital MDT.

*"we phone each other like we help each other out. She'll ask me what sort of foods are you having, soft foods, what sort of foods do you tolerate? I can't tolerate meat but she can. I can't tolerate any sort of meat whatsoever I just end up being sick with it. She can tolerate cheese where I can't. So everybody's different. **Is it nice having that?** Oh yes I mean I said to her, we've become really, really close. It just helps each other out, if you know that someone is going through the same thing as what you're going through." (P8)*

These interpersonal relationships with bariatric peers also provided emotional support, particularly at times where morale was low, or participants faced challenges within their immediate network of family and friends. Within the peer networks were positive role models for encouraging physical activity, socialising opportunities and continued weight loss. Eating out with bariatric peers was less problematic than with family and friends; the comfort within a group situation to eat smaller portions and share food was mentioned.

“I went out for a meal with some friends, we'd all had weight loss surgery, been a brilliant support, don't know what I'd do without them. And they had, so we had, well we had two starters between five of us.” (P5)

The bariatric network also helped with practical solutions such as changes in clothes sizes. As participants lost weight, they swapped clothes between them, to save money, but also to feel better about their appearance.

“I've got my friend out of it who we've gone out for nights out with them and she's passed all her bigger clothes onto me. It's like I've bought a few things but like I'm getting all these clothes now, and I think well until I get to where I want, and like I pass her anything I can, and she's got another friend who she's having it done so now we're bagging everything up as it gets too big to send to her..... Bariatric swap shop.” (P9)

Relationships continued for those who met bariatric peers through the hospital, or on line support groups and social media. Two of the four participants whose nine-month interviews were analysed stated that they remained in contact with the other patients they met and value the support and commonality they share.

Friends and family networks were also important. Prior to surgery, participants reported that they had family and friends (mainly female) who were not convinced about the surgery, much of this driven by fear of problems or fatality. However, after seeing the immediate benefits from the surgery, they were much more positive.

“A lot of them who kept saying to me don't do it, all the risks, really don't want you to do it, ... And now said now it's been like the three months that they realise it was the right decision and it's the best thing for me, now looking at me now.” (P12)

The weight loss experience of some participants had a positive impact on their family

members in that they were losing weight. This helped to reinforce changes in dietary and physical activity behaviours thus supporting the weight loss journey of the family.

"my daughter's been doing it" (P11)

Organisational support through HCPs was also an important source of support. Participants continued to acknowledge the help and information they had received pre-surgery and how this was continuing to help them on their journey.

"Because I think if you didn't have that preparation you wouldn't know what on earth were happening to you." (P3)

Advice and contact post-surgery with the MDT was viewed positively. The expertise and knowledge of the dietitians particularly in relation to food stages was crucial, as was the ability to contact them when required.

"if you do have any problems they're always on the phone, the dietitian or the nurse, they are absolutely amazing. They're there to support you no matter what, but yeah there is a very good support network." (P3)

Following surgery patients are cared for by the tier four MDT; however, some participants who had made good relationships with the tier three services they attended pre-surgery continued to access their support. Due to the local commissioning arrangements of tier three services, face-to-face support post-surgery was not available; however, it seemed some tier three staff were going beyond their role to provide support to patients they had built up a rapport with.

"Yeah. I've actually been on the phone to her a couple of times, and she keeps apologising that she can't make an appointment for me because I'm not on the Weigh Ahead books anymore. We've been on the phone a couple of times and she's actually settled some of the issues that I had in my head.....Obviously with [Weigh Ahead dietitian] as well going through the Weigh Ahead thing and actually starting to see some results which I've not had before, it kind of made it easier for me to talk to her about things like that.....it feels more personal with her, so easy to ask her." (P13)

4.2.2 Things that are helping me to achieve success: Behaviour change

Exercise

Pre-surgery, participants reported how they struggled to exercise because of their weight, but were confident and motivated to participate in exercise following their surgery. All acknowledged that increasing their levels of exercise and physical activity

would aid their weight loss. In the first three months following surgery, many participants had embraced exercise. The types of exercise reported included: increased walking, swimming, gym, dance and Zumba classes. Some insecurity around their shape and size still existed but were managed through the types of exercise individuals chose (pictures 21 & 22 [appendix 14](#)).

The motivations for increasing exercise also centred on the prevention of excess skin (also see section 4.5).

"And I've never joined a gym before in my life, never thought I would like it, but I keep thinking with me losing the weight I have to keep up with the gym so I don't get all the saggy skin, and it'll help me with my weight loss." (P12)

At nine months, prevention of excess skin remained a priority along with continued weight loss and maintenance.

"I feel like I'm, I need to be there [the gym], because I need to carry on losing it. I'm not small enough yet, I'm not thin enough yet. I need to earn being thin, and that's the place where I'll earn it. I need to tone my skin, I've got to keep going to my skin, because if I work really hard it'll go away." (P17)

Pain was mentioned as a side effect of exercise. However, participants that had started to exercise regularly felt the pain was worth the rewards they were seeing, in terms of the changes in weight, size and changes in their physical ability (picture 23, [appendix 14](#)).

Those that had not yet started to undertake any additional exercise were hoping to commence in the near future (picture 24, [appendix 14](#)).

Diet

The physiological consequences of the surgery meant dietary change was vital. The side effects that occurred if too much food or the wrong types of food were consumed have been reported in chapter 4.5. Whilst in the three months following surgery participants may be physically restricted in the types and volumes of food they could eat, this time was also viewed as important in starting to change their psychological relationships with food.

"I am looking just at food so differently and portion size. I don't really want to sit there with a big plate, eating food. I know it sounds crazy. I set out on my little plate things that I want to eat on my little tea plate. I never really finish a full tea plate, sometimes I can, sometimes I can't, but I don't think it's an issue and I have my fruit and I might just eat it over an hour and it's just a different approach to food." (P18)

Changes in food habits when out of the home were also reported.

"I'll buy a scone and instead of buying two scones I buy one scone with butter, not butter, margarine, because I don't like butter, and I'll put it on. And I cut it in half, and then I cut it in half again and I'll have one half, but I cut it into three bite sizes and I've had enough. I'm happy with that, I've had enough, you know." (P11)

The eating behaviours of participant's families presented challenges, especially where other members consumed a poor diet. However, participants reported that they were finding ways to eat foods in a healthy way therefore allowing them to feel included with the rest of the family.

"So sometimes if the kids are having a KFC and you fancy it, I can make mine a healthy way. And that's the way I've got to think in my head now is I'm not going to miss out on something all my life, I've just got to think of something I want the healthy way." (P12)

The ability to tolerate different types of food and the altered taste (also reported in 4.5, for example, the participant who started enjoying tomato for the first time) has led to changes in the food eaten. Some of the changes felt contradictory to the ideas they had about diet pre-surgery. Participant 17 had taken photographs of different types of foods she was now much more conscious about incorporating into her diet to provide essential nutrients (pictures 25, 26, 27 & 28 [appendix 14](#)).

There was a perception of having certain food 'rules' following surgery. Some participants were very strict at following this *"You have to abide by the rules"* (P16), mainly through fear of physical consequences such as illness or pain along with preventing weight loss. These rules contributed to reinforcing behaviour change around diet. Avoiding alcohol for at least twelve months following surgery was also recommended and was adhered to by some participants. Reports of findings from participants who were trying to test the boundaries can be found in 4.2.2 and in two

years post-surgery data.

4.2.3 Things that are helping me to achieve success: Drivers of personal motivation

Participants talked about their high level of personal motivation; they said this was necessary to achieve the desired outcomes of surgery. This motivation was driven by how participants perceived their appearance would be improved through reduced body size and shape and the positive effects this would have on other health conditions. The reductions in body size were commonly reported as a reason for continued commitment to change behaviours.

"when they measured me last time, I'd lost four inches off my neck, which I think will help my sleep apnoea because that's in my throat, so that's four inches gone off that. And last time there were eight inches off the waist." (P10)

As well as keeping a record of changes to body measurements, many participants kept items of clothing as a reminder and to help them recognise how much weight they had lost.

"I want to save some [clothes]. I've saved them jeans. I've saved them jeans and I've saved those bras. I didn't realise how much I'd changed." (P16)

Pre-surgery, some participants provided pictures of their bodies from different angles or next to furniture to depict their body size (section 3.4). Some participants had continued this to demonstrate how their body shape and size had changed and would continue to do this throughout the study as a record of their weight loss journey. Comparison pictures were used at nine months post-surgery as a tool to boost morale when other complications were taking their toll on motivation and mental health (picture 29, [appendix 14](#)).

Fear provided a source of motivation to maintain behaviours and stick to the dietary and exercise recommendations given by the surgical MDT and HCPs. This fear was driven by a variety of factors including the experience of dumping and one of stalled weight loss or weight gain. Not all participants had experienced dumping. Of those that had, it wasn't always as a result of food, but also linked to contraindications with

their medications. The fear of dumping was reported as being a reason to maintain recommended diets and not to try and test their body's response to certain foods.

"Yeah, I think in a way then I'm probably glad I have had it once to experience it [from medication], so now I think no I'm not going to have it. But because I would have probably tried to cross the boundary or tried, because I don't know what it was like." (P12)

Fear of not losing more weight and weight regain was common. Whilst most were seeing their weight reduce, it was not always consistent each week which caused some anxiety about regaining the weight they had lost.

"And I don't care how much I lose as long as I keep losing it and I don't put it back on. I'm just scared." (P12)

Surgery was commonly referred to as a tool which had the potential to aid weight loss. However, there was strong acknowledgment that a change in mind set and lifelong obligation of dietary change and exercise was required to achieve success. Mind set was an individual thing that would require constant focus and commitment.

"they're giving you a tool and that tool is the operation, I says and that tool won't work on its own unless you work with that tool. When you work against that tool or you don't use that tool I says you're going to go back to where you were I says and you're going to be here in six, seven years' time, you know, you're going to be back at it. I says you've got to be in right mind." (P11)

This mind set to battle old habits and achieve remained crucial at nine months.

"No, don't matter how much they prepare you and how many books you read, how many seminars you go to, I think, because they do operate on your belly don't they, not on your head. So I think you will always have something in your head that says go for it, try it. But I won't now, I can't, I can't afford to be like that." (P16)

As well as the invested effort of HCPs, the public policy and associated financial implications of the surgery on the NHS were also mentioned. This investment in individual's health was often reported as a further motivating factor to realising potential outcomes associated with the surgery.

"It's cost a lot of money, and I've gone through a lot of angst and time and effort to get it, and [surgeon] given up his time to do this operation for me and do it well for me, why should I undo all that?" (P11)

Participants also reported how seeing others who had undergone surgery and subsequently gained weight provided a motivational tool not to do the same.

"And everybody you speak to will say oh yeah they lost 11 stone, 12 stone, but they've put 5 stone back on. So I'm sort of quite cautious, because I think like everybody I know that's had it done has put weight back on. So I'm sort of determined I'm not going to put it back on if you know what I mean?" (P15)

Furthermore, seeing others who are living with obesity was reported as providing motivation not to regress and regain weight.

"Yeah and I do feel sorry for them. See some people are happy to be like that, they don't want to change, but for them that do want to change and they can't it's awful, because you're like cumbersome, you waddle. I know I did and you do feel awful!It's a reminder of how I felt and I don't want to get like that anymore. It's like a, I know it sounds awful but like a boost to carry on doing what I'm doing" (P2)

4.3 Things that are preventing me from achieving success

The section above presents aspects of life that were identified as being crucial to achieving success, however these same things were also cited as potential problems. Interpersonal networks of family, friends, HCPs and bariatric peers were a source of challenging situations and additional pressure that participants had to navigate and manage. Even though participants were generally aware of the recommendations and changes they were required to make post-surgery, some of the behaviour they reported raises doubts about their compliance with these recommendations, whether that be activity, food, vitamin or alcohol related. Excess skin was becoming apparent although the extent to which this was reported to be having an impact varied. Some participants were reporting physical and psychological consequences of excess skin which has the potential to affect long term outcomes of the surgery.

4.3.1 Things that are preventing me from achieving success: Networks

Networks were identified as key to achieving a successful outcome following surgery but were also cited as a potential negative impact. Bariatric peers, family, friends and HCPs were all named as impeding or influencing behaviour change and affecting psychological health and motivation.

The positive support provided by bariatric peers through stages of food transition also influenced negative behaviours in relation to food. Participants perceived their peers to be more daring and testing of their food tolerances, particularly in relation to foods that the HCPs had said should be avoided. In the long term this may encourage the participants in this study to try other foods often against the advice of the HCPs.

A social media site set up for bariatric patients by the hospital MDT was unfortunately being used to circulate messages of negative behaviours in relation to diet and exercise. One example given was discouraging exercise and physical activity for fear of reducing access to benefits and income related to immobility and comorbidity. This is an example of the influences of each of the layers of the SEM interacting with each other creating unintended consequences of a support intervention. Bullying and bickering on the social media site was reported as having a negative impact on post-operative experiences and would prevent engagement with the support networks often encouraged to be developed for patients by clinicians, policy makers and academic literature.

"but there's more falling out and bickering. It's like so many of them have developed this fibromyalgia, have you heard of it? Yeah. Right, so they're using this to say oh I can't exercise, oh I can't do anything. They've set up sites of their own right. Now all these symptoms of fibromyalgia, well I've got them, my friend's got them, do you know what I mean? And so I said this to them, so they added me to the site. Now I've never commented on it but I've looked on it, and it's all about DSS payments, and you need so many points for this, and it's like they're not exercising because they don't want to lose their money.....It'll [bickering and pressure not to exercise] stop me going to coffee mornings" (P9)

Friends and family were the source of many challenges that participants faced in adjusting to the required changes following surgery. There was mixed evidence of families adopting new patterns to the types of food eaten together. Similar to the data presented (4.2), some participants reported family members who had reduced their portion sizes and adapted their own diets to lose weight. However, in other families, members refused to change what they ate and, therefore, the participants continued to eat differently from the rest of the family. Whilst pre-surgery this caused

distress within the household for participants, at three months following surgery it appeared to be more manageable.

"I tend to cook for them and then do me something different, or if they have the chippie I make myself something different. But it doesn't bother me, I sometimes think I'm missing something so I'll have a bite of one of the chips and go no, and then I think I know that I've tried it and I realise I don't want it." (P12)

Adapting to changes in portions sizes was problematic, especially in circumstances where other family members had always been in control of food provision and placed their own habits onto others. Participants reported situations of being pressured to eat more by family who didn't understand the physical consequences of the surgery in terms of reducing the ability to eat larger portion sizes. This pressure left participants questioning their actions and caused additional distress.

"my partner he gets a bit angry with me that I'm not eating. I try, but we don't eat together, because it just causes more hassle. Because he thinks it's ridiculous that I don't eat, and he seems to think it's in my head. And it's not in my head. I want to be able to eat it." (P5)

At nine months post-surgery the pressure to eat more continued. However, at this point the rationale was considered to be jealousy of weight loss, particularly when the food provider was overweight themselves.

"I don't know if she's slightly jealous that I've had it and she hasn't. Before I had the operation, she was pretty much you've got three burgers there, you should only really have one. Okay. Whereas now I'll be oh just put me one of them burgers on, and she'll be oh I've done you three, what don't you want three? I just want one, and I don't know if she's like shovelling a bit more on to try and sort of..... I'm not saying she's deliberately trying to sabotage me, but then it's like oh go on then, I'll have two and I only really wanted one but...." (P15)

This assumed jealousy of weight loss was affecting relationships with family and friends from three months post-surgery. The jealousy was attributed with participant's weight loss, especially where the other person was reported to struggle with their own weight and had tried to access surgery themselves.

"I've not spoken with my daughter since. When I left, she just turned round and says oh go and get thin with your bariatric friends, and we've not spoken since." (P9)

Jealousy was also evident between husbands and wives where weight loss was leading to changes in appearance, confidence and interest in socialising.

"Yeah, I think my husband was really worried because he said he didn't want me to go really skinny. And he was worried that I'd leave him and everything else like that. So he got a bit scared and stuff." (P12)

The jealousy between partners continued at nine months, leaving participant 16 feeling upset that her partner didn't worry prior to the changes.

"The first time he's ever said anything was the other week when I got dressed up to go out, he says, he didn't say anything to me when I was going out just apart from I looked lovely. And then when I come back and he actually said to me who've you been dancing with and who've you been talking to and who've you been? And I found that really hard....I said but would you have asked me before my op, would you have said when I got ready, no you wouldn't have said I looked nice. When I come back you wouldn't have asked me if I'd danced with people, and I'll tell you that now that you have more men talking to you when you're fat than you do thin." (P16)

The type and access to support from the health services networks MDT and other HCPs varied between participants. Where some were extremely happy and thankful for the support, they received pre and post operatively (reported in 4.2), others were less happy. The level of information provided pre-surgery was discussed, with some participants feeling that they could have been told more than they had been. The types of information required varied for each person and mainly depended on the types of experiences and problems participants had encountered.

Participants reported a few areas that they felt knowing more about would have helped them in their immediate journey post-surgery. Participants suggested that this information could have been given out in a booklet or FAQ sheet, preferably pre-surgery so there was more time to prepare.

"they don't explain a lot of stuff. I asked before what will I be eating and stuff like that, so I could get stuff in ready. Oh we'll give you a leaflet when you're in hospital. And I'm thinking why can't you give me something that I can look at now so that I can be prepared for when I come home, and there was nothing, and like I didn't know that I'd have to be on B12 injections for rest of my life and vitamins for rest of my life and stuff like that. I think they should tell you these things beforehand, which they don't." (P6)

This same participant (P6) reported personal financial constraints as being an additional reason why providing more information pre-surgery to prepare for change was a necessity.

"Yeah, just for practicalities, because not everybody's got money at certain points when they go for these operations, so they might have to think oh may be a couple of weeks before oh what am I going to be needing? So some people would have been may be stuck if it weren't their payday and they've got other bills to pay before." (P6)

At nine months post-surgery, participants discussed how accessing psychological support pre- and post-surgery would have helped them better prepare for the changes and challenges they have faced along their weight loss journey. One participant had been referred for psychology services but faced a long wait before being seen despite having reported some serious problems (picture 30 [appendix 14](#)).

"At the hospital I had the one group session and I had the one appointment with the surgeon when he approved me for it, then pre-op and then surgery. So I didn't actually have, I don't know, a counselling session may be, if you want to call it that. Because I don't know how many people it would help, but me personally it would have helped, just to, I mean I might have just brushed it off but at least I would have been aware of how hard it actually can be. Because I was just prepared for the physical side of it rather than the mental side of it, so I think that was probably the biggest thing." (P13)

Whilst participants felt like they had access to support from the hospital MDT there were some negative reports of the organisational links between secondary and primary care health professionals. Particularly in instances of additional medical problems experienced post-surgery.

"I felt very much that I left hospital and I didn't see anyone, didn't hear from anyone, didn't see anyone. Got this appointment through in eight weeks and I'm in agony and they just say see your GP. My GP hasn't got a clue. He's used to coughs, colds, not major surgery with pain." (P17)

Poor communication, contradictory messages (picture 31 [appendix 14](#)) and a perceived lack of ownership from HCPs continued at nine months, especially in cases where weight loss was not as expected. Participant 15 felt that primary care HCPs were frightened of providing advice or prescribing medications whilst under the MDT, leaving the patient between two services and not getting the help they required. This

could be an unintended consequence of the commissioning policy in how it is translated into practice.

"So then you go to our doctors and you say well look, things are not going right, and they just say go away, you're under hospital, we don't want to touch you. Doctors are frightened to death to say anything to you, because you're still under [surgeon] for first three years, they're just absolutely petrified." (P15)

During follow up appointments, weight and body shape are measured as an indicator of progress. Participants were undoubtedly keen to have the measurements taken, especially when they were seeing weight loss and a reduction in size. However, some participants felt that HCPs were more interested in positive outcomes to demonstrate service effectiveness than in them as an individual.

"When I went for the first appointment and I'd lost this weight, the nurses were very, very pleased with me because I'd lost nearly two and a half stone I think in five weeks and they were incredibly pleased with me, so they were getting their outcomes, and that kind of made me feel, well, it's like you're like a puppy dog, give me a sweetie because I've done that well for you. It felt like that." (P18)

During the nine-month interview participant 15 also reported the desire of clinicians to demonstrate success, even when from his perspective the surgery hadn't been successful as had not lost any additional weight following his surgery.

"I feel really cheated like. I've done, what I've got I've done on my own, and I think I could have done that without going through all this. And they don't, pretty much they sell it to you and they sell it to you on all the success, pretty much it's they're going to get the results and it's like. It's like even now it's not oh Christ you haven't lost any weight since the operation, it's like oh you've still lost five stone, since you've been with us you've still lost five stone. So in their eyes you're a success because you've lost five stone, not the fact that you've lost nothing since the operation. You've [the NHS] just paid what, I don't know, £10-20,000 for this operation or whatever it is, and it's done nothing but you've lost five stone. No, I've lost nothing. I see it the other way. They see oh from when you first came to us to now you're still five stone lighter, and until you go back over that five stone you're still classed as a success, even though you've done nothing since the operation." (P15)

P15 also commented on the lack of post-surgery support from the MDT to correct any behaviours that were contributing to the lack of weight loss; appointments regularly cancelled and no follow up opportunity to see the surgeon.

"I must be doing something wrong otherwise I would be losing weight, but finding out what I'm doing wrong is just like I'm not getting any help, that's the hard bit." (P15)

4.3.2 Things that are preventing me from achieving success: Behaviour change in order to comply or not with post-surgery recommendations

Prior to surgery all participants spoke about being keen to be more active and undertake exercise following their surgery. However, at the three months post-surgery interviews whilst all were more active in their daily lives, there were still some who were not undertaking regular structured exercise. These participants were generally older (>50 years) and had other comorbidities. Various barriers to exercise were cited. Contraindications with existing comorbidities such as angina and mobility problems were preventing exercise participation along with the fear of pain induced from exercise participation.

"I've recently been to cardiologist and I can't do any exercise, extreme exercise yet, because of my angina." (P2)

Lack of time and family commitments were also discussed along with the financial implications of gym membership for people on restricted budgets. This draws out the implications of socio-economic status on behaviour; whilst bariatric surgery policy suggests the need to change physical activity behaviours the realities are that at the individual level this is challenging for some people.

"I will think about joining a gym for the first time. Because at the minute until I get myself sorted job-wise I can't really afford it. And that's another thing they've got to realise that people can't afford to buy stuff." (P6)

Even with improved confidence accessing gyms remained a problem to some of the participants. As discussed in the pre-surgery interviews (chapter 3.2), feeling out of place in commercial gyms remained an issue.

"they're full of them that's already slim and they look at you, you know, what are you doing here like because you're fat?" (P7)

Despite receiving information about what should be included in a healthy balanced diet at pre-surgery sessions and appointments, some participants felt unclear about what they should be having or chose not to follow the recommendations. Whilst all

described their intent to improve their diet by reducing portion sizes and making different choices with food and drink, the type, volume and quality of food and drink they were consuming showed problems with the individual skill and knowledge for some patients (picture 32 [appendix 14](#)).

"I mean today I've had two pieces of toast for breakfast, for lunch I had a little bit of pork pie, bramby apple, Mr Kipling little things, that's all I've had today, so far." (P10)

This was still evident at nine months post-surgery with participants providing examples of finding ways to consume sugary drinks and high calorific foods.

Guidance is provided by the hospitals on the stages of diet and the associated timeframes, for example, when to progress through the different consistencies of food from pureed to soft, mushy, crispy and solid. The journey participants described through these food stages was mainly one of finding foods that could be tolerated (see section 4.2). It was clear that many participants were keen on progressing through the stages at a quicker rate than recommended. Participants described trying foods they were advised as causing potential problems and the repercussions of having these foods and drinks (also see 4.5). Some felt that the negative effects they experienced would help them with diet compliance, however it illustrates problems with the long-term commitment of fully adapting to recommended changes in diet.

"But you know when your tooth hurts, and you have to touch it to find out how much it hurts, that's how it was with the bread. Because I don't feel how bad I thought sure I could eat a slice of that. I'll toast it and spread it with butter like, you know, so it's moist. And then I'd... .. Straightaway it would come back." (P4)

Patients are advised against consuming too much soft consistency foods once they progressed to solids because they will be able to eat more than required. However, participants gave examples of going against this advice.

"It's weird with sloppy stuff, because if it's like shepherd's pie I could eat it as big as a dustbin lid no problem. But if you have like a Sunday dinner it's minute, it's literally one potato, one small piece of cauli, two or three bits of carrot, then I don't bother with meat, and by time I've had that it's like full." (P15)

The desire to eat more than they physically could or should was a contributing factor to obesity pre- and post-surgery. Whilst surgery provided an instant reduction in stomach size to prevent overeating, any psychological changes to address why people do overeat was not fully realised at three months post-surgery (picture 33 [appendix 14](#)).

The quote below illustrates further the extent of the psychological and physical reactions to changes in food behaviours that participants were finding themselves having to manage.

"But worst thing with me was when we went to Yarmouth, we went to get rock and that for family, and I walked in and I thought oh I'm all right, but by time I'd been in five minutes I said to him it was like putting alcoholic in a brewery, I came out and I was shaking, because I could really have eaten that. And like I said one half of my brain says oh try it and other half saying no you can't, it's like having a devil on one side and an angel on other battling!" (P2)

A few participants had gone against advice and discussed having tried and been able to tolerate alcohol since their surgery. As with compliance with dietary recommendations, failure to follow guidance on refraining from having alcohol may prove significant in adhering to long term dietary change.

"I can drink lager and my cider. I can drink all my spirits." (P15)

In some cases, the negative behaviours are reinforced by family and friends.

"It's Father's Day and it was my birthday last week, so my lads know me from old, they brought me, well one of them brought me a case of lager, you know." (P4)

As a result of the physiological changes in the gut and absorption of nutrients following surgery, patients are advised to take a daily multi vitamin (bought by the patient) and have quarterly B12 injections (NHS funded). Compliance with this was mixed and a variety of barriers were given for non-compliance. For those on low incomes, the financial implications of buying the vitamins was problematic, remembering to take the tablet daily, or taking an additional tablet when they thought they would reduce the daily requirement for tablets was proving difficult to come to terms with.

"Yeah, remembering to take them. Yeah, if you feel all right you just think oh, but it's like weird." (P15)

Participants had found other ways of ensuring they had the recommended intake of vitamins, which may not have been endorsed by the MDT.

"I've been drinking stuff like Ribena Plus which is enforced vitamins, vitamin drinks in general like flavoured water with added vitamins and stuff so I'm still trying to take it in somehow. I'm eating quite a lot of ice lollies that are made from oranges with Vitamin C in and things like that so I'm trying to do as natural as I can and looking at my blood results last time it's working." (P13)

4.3.3 Things that are preventing me from achieving success: Excess skin

There were mixed experiences of the onset and impact of excess skin amongst the participants (chapter 4.5). Of those who were already noticing or experiencing excess skin, some were extremely concerned and reporting negative effects. The speed at which skin has become an issue was a surprise. Participants felt that rapid weight loss had contributed to the extent and consequences of the skin.

*"How fast the skin has become an issue, because I wasn't expecting it to be an issue yet. I thought it was going to take at least six, seven months before that's going to be an issue. **So when you say an issue, what do you mean by issue?** Hygienically, the folds for example. I'm prone to skin infections anyway. Already been to the doctor's once in regards to this, and I've already had some cream that I need to use. It's literally, now it's getting warmer as well that doesn't help." (P13)*

Whilst the physical impacts of excess skin are acknowledged to be lesser than the consequences of obesity, the participant quoted above continued to report restricted movement at nine months.

*"it gets in the way. It physically gets in the way when I'm trying to do things. Like bending over the cot bed to see to [youngest son], I have to move the skin aside so I can get him. Before I couldn't even bend over so at least now I can bend over, but I still have to move it aside. **Right, okay, so it's kind of limiting. Do you think it's still impacting then on your quality of life?** Not as much as the weight was, but it still is." (P13)*

At three months, participants were worrying how excess skin was affecting their appearance. This was limiting engagement in physical activity, particularly swimming. The emergence of excess skin meant participants were still seeking changes to their

body and which have some longer-term effects on their psychological wellbeing (picture 34 [appendix 14](#)).

Many participants discussed where they thought skin may be a potential problem, commonly focussing on arms and stomachs, however there was some surprise over where problems were starting to arise (picture 35 [appendix 14](#)).

By nine months excess skin was worse than expected and was affecting psychological health. Sites of excess skin included arms, legs, breasts and stomach. Photographs were shared to highlight the perceived severity (picture 36 [appendix 14](#))

As in pre-surgery interviews, a number of participants suggested they would aim to access future surgery. Many knew the changes to accessing NHS funded procedures and the limitations associated with this, so also discussed accessing privately funded procedures in the UK and abroad. Potential issues with meeting the guidance set out in public policy were mentioned; even if NHS funded skin surgery was available there were issues with the feasibility of meeting the criteria described during a nine-month interview with participant 13.

"I think it's [BMI] 30 or under, yeah, and I'm a 34-something at the moment. So I'm getting there, but another issue I've got is I don't want to be skinny; I just want to be healthy. Now I've got probably about two stone worth of skin. Now if they want me to lose the two stone, then they'd give me the tummy tuck, I don't want, I never thought I would say this, I don't want to get too skinny." (P13)

The ambition of self-funding skin surgery also remained evident at nine months post-surgery.

"I will definitely, definitely, even if I pay myself, have a boob job, in some way shape or form, they need to be sorted, because that is the thing that's upsetting me the most. More than my arms, my belly, is my boobs." (P17)

4.3.4 Things that are preventing me from achieving success: Expectation v reality

Many of the expectation's participants had about their lives following surgery had been or were starting to be realised (see 4.1). The information on the different types

of bariatric surgery which was provided at the pre-surgery seminar helped participants to make informed decisions about which procedure they wanted to have. Despite this knowledge, some participants had begun to question their decision when weight loss wasn't occurring at the speed they had anticipated. This was worse when participants knew others who were losing weight and had undergone a different type of surgery. This may lead to long term problems where weight loss is not happening at the rate expected.

"I don't know if it's different because I've had a sleeve and they've had a bypass. I would have thought only difference were that I would have lost it slower." (P5)

For some the reality of post-surgery life provided some unexpected challenges and feelings. In some cases, physical recovery was blighted by unexpected complications from the procedure including increased pain and requirement for additional medications to manage new health problems. Expected reductions in medications for existing comorbidities had not transpired and participants felt in limbo between what they were told pre-surgery by the MDT to the information received from their existing HCPs.

*"So has your diabetes gone now? I don't know. No it hasn't gone..... I expected some reduction in my medication last time but she were like oh no it don't make any difference to your diabetes, you're on for that for the rest of your life. I thought oh right. **So who said that to you?** Nurse, diabetic nurse. And I thought oh what, I thought, I don't, it probably won't, you're always going to, but I thought it, as it got, you lost weight, I'd reduce my medication." (P5)*

Two female participants reported how they in some way expected the surgery to provide an instant solution to their weight and skin. Whilst this was said semi-seriously it does question the emphasis and hope that the surgery will provide an answer to issues that existed pre-surgery and the extent to which these expectations are identified or indeed managed by clinician's pre-surgery.

"I think I was expecting somebody just to magic wand and I'd be a size bloomin' 16 and it doesn't work like that." (P6)

The reality of weight loss was causing new psychological problems for participants compared to how they felt about their bodies, pre-surgery.

"I feel really paranoid, really worried, don't feel, when I get dressed, I don't know if I look all right. I need a lot of reassurance which before I couldn't give a monkey's. I felt good, I knew I looked good and that were it. You know, I were a big girl and I'm fine. Now it's very much, as I've started with flabby skin, do I look all right, does this look too big, does this look too small, are people going to know, if I eat something, are they going to be looking at my plate? I'm driving myself insane." (P17)

Once participants had reached nine months post-surgery the reality of changes to appearance and amount of excess skin were much worse than anticipated. These psychological consequences may affect how successful participants perceive the surgery to have been in the long term.

"I knew there'd be some issues; I didn't expect them to affect me so much in my head than they would have. Because that was one of the things I said at the group meeting, I said what is a bit of loose skin compared to the fact that you're still here? But it is actually, it is making me cry myself to sleep a couple of nights, and, but like I said before, it's something that I need to get over, and obviously making sure that the infection doesn't get any worse and stuff. And hopefully at one point it will get sorted." (P13)

"I thought I'd feel really confident and comfortable and, you know, and now I'm so paranoid about my body more than I ever have been. Whereas I would get a swimming costume and walk about in it, not a problem, now I will spend ten minutes looking in the mirror trying to make sure that everything's not on show and I like it, or it's alright as I walk out. But I'd be more covered up now than I ever have been." (P17)

Participants reported that their expectations of change to elements of their life including: health, ability and desire to eat, appearance and weight loss were positively reinforced by the MDT and Tier three services. However, where these expectations were not fully realised the consequences of this were so much that by nine months two of the participants were left questioning the value of having the surgery at all and different information prior to surgery may have altered their decision to go ahead. In relation to excess skin:

"That is a big thing that's upset me most I think, because there's no cure for that." (P17)

and weight loss:

"when you go they'll say, that [nurse specialist] and [dietitian] will say to you oh you'll never eat big portions again, you'll never feel hungry and you'll have to make sure you force yourself to have meals because you'll not be hungry so

you'll not want to eat, you've got to make sure you eat. But it's totally opposite, and if they'd have said to me before well you'll lose weight but you'll still feel hungry and this and that and the other, I'd have probably thought well there's no point. Because really, it's just been a waste of money, other than sorting my diabetes out. Yeah, I'm a lot healthier in myself, I can do stuff now and I am a lot more active. It's not done what I wanted it to do [lose weight]." (P15)

Pre-surgery participants expected that once they had lost weight, the responses they received from HCPs in relation to their obesity causing other health problems would diminish and they would be less judged. However, at nine months the opposite of this occurred with participant 17 reporting how HCPs blamed health problems on the weight she had lost.

"when I go to the doctors, it's not because I'm overweight, it's because you've lost so much weight. So I've got a pain here in my arm, it's because you've lost loads of weight. My back hurts, well that's because you've lost loads of weight. Can you just check this out for me, well yeah, that's because you've lost loads of weight. That's all I get. So I'm either too fat or now it's because I've lost weight. And I'm sick of it. So I do what they want me to do and still they're banging on about something else....So, and like my vision of well you know, you go and see health professional, you stop something what everyone tells you is really bad for you, like being overweight, then you get loads of other things what's wrong with you. It's just been like confirmed all over again." (P17)

4.4 Additional findings from statements 1-4 of the framework

Additional findings from the three months post-surgery interviews from the first four statements of the theoretical framework (Why I live with obesity; How I tried to lose weight; Why I needed bariatric surgery; How I accessed surgery) are summarised below.

Post-surgery, participants continued to discuss the experiences they felt were the causal influences of their obesity such as childhood and behaviours which were identified in the pre-surgery analysis. Some of these experiences were entrenched from childhood and more detail was provided into the nature of these experiences to that given pre-surgery. During the three-month post-surgery interviews, some participants reflected that these areas of their life and the drivers of their habits would need to be addressed in order to lose weight.

Previous studies have highlighted HCPs support for weight loss as critical to success. There were mixed experiences of HCPs from different organisations (for example HCPs in tier three and four weight management services, GPs and consultants treating other comorbidities) support prior to surgery referral. The medical model approach to managing obesity was criticised, with a perceived judgement and lack of understanding by HCPs regarding the complications of losing weight. This lack of understanding was accentuated where medical professionals had no personal issues of obesity.

*"You'll never understand that because you've never had a weight problem, and that was the problem, you're being diagnosed by people who've never had a weight problem, so it's a very glib statement, go away and stop eating. **Does it feel quite judged then?** Oh God yeah! But I think there's a very bad discrimination against obesity in this country and within the medical model and I think the way it's approached." (P18)*

Furthermore, the attitude and support of HCPs towards bariatric surgery even from weight management services was thought to be negative:

"So he [Tier three talking therapist] were adamant that he didn't want me to have surgery and the day I said I'm having surgery he'd got a face on and didn't finish my session." (P16)

In the immediate (approximately ten days) lead up to the procedure all patients are requested to go on a liver shrinking diet. As morbid obesity is often a cause of fatty liver disease, the diet aims to enable the surgeons to have better access to internal organs and carry out a successful procedure. The form of diet varies at different hospitals. In the two trusts involved in this study one used a low-calorie option whilst the other trust requested patients to only eat and drink certain amounts of yoghurt, milk and unlimited sugar free jelly in the ten days prior to surgery. All patients are made aware of the diet during the information seminars they attend prior to consenting to the procedure. Participants in this study explained how the diet was the actual start of their journey. Having a final big meal the night before the diet was common (picture 37 [appendix 14](#)).

The diet provoked anxiety in the participants; they reported being fearful of the

hunger they would feel whilst on the diet. However, they were worried that if they did not adhere to the diet and their liver did not shrink, they would not be allowed to have the surgery (picture 38 [appendix 14](#)).

The experiences of the pre-surgery diet varied, some struggled with the physical side-effects of the diet such as tiredness and sickness.

"I couldn't eat yoghurts, I couldn't—I were having about a pint of milk a day, and I just felt so, I don't know how I worked, I mean I felt physically ill. I were getting dizzy spells" (P5)

However, the benefits of additional weight loss from the diet were viewed as positive.

"Ooh it was good actually [pre-op diet]; I lost some real good weight beforehand." (P11)

4.5 Summary of three- and nine-month's post-surgery findings

Chapter four highlights the continual nature of the surgical weight loss journey. Immediate post-surgery experiences and feeling of wellness were positive for most participants. However, for some, these positive physical, emotional and psychosocial experiences began to highlight concerns, challenges and unexpected outcomes. Evidence of these concerns continued at nine-months. Adherence with recommendations to change activity and diet was evident for some but not all participants. These behaviours were affected by a range of factors including personal motivation, psychological and physical state and support networks. Networks of support have the potential to have long term positive and negative impacts on success. Whilst most participants were losing weight, the weight loss-initiated challenges that were not expected pre-surgery. Where problems had arisen at three months post-surgery, they had continued to nine months, such as worsening physical and psychological issues with excess skin. However, the improvements to physical ability, exercise participation and overall health were reported to be vastly improved compared to pre-surgery, indicating successful outcomes.

Chapter 5: Two Years Post-surgery findings

This chapter presents the two years post-surgery interviews (n=13) and photovoice data. This data plays a vital role in demonstrating long term experiences of bariatric surgery patients. To the author's knowledge, the longitudinal nature of this study makes it unique in highlighting experiences of patients living in England from pre-surgery through to two years post bariatric surgery.

The chapter follows the structure of previous chapters, using the framework of theoretical ideas. As a reminder this framework comprises of seven statements:

1. Why I live with obesity
2. How I have tried to lose weight
3. How I accessed bariatric surgery
4. Why I need bariatric surgery
5. How my life will change / has changed after bariatric surgery
6. Things that will help me achieve success / Things that are helping me to achieve success
7. Things that will prevent me from achieving success / Things that are preventing me from achieving success

The findings presented previously in chapter 4 and those presented in this chapter focus on the post-operative period and therefore predominantly cover statements 5-7. Emerging themes specific to the two-year interviews led to a further statement, number 8. Bariatric surgery: successful or not. This is presented in section 5.4. Data from the Quality of Life (IW-QOL and EQ-5D-5L) measures will also be presented in this section.

5.1 How my life has changed after bariatric surgery

The consequences of the surgery and associated weight loss identified at three and nine-month post-surgery continued to be reported as both positive and negative.

Some participants had experienced overwhelming positive changes to their lives and continued to look forward to a much-improved future. However, this was not true of all; for some, expectations of weight loss, improved health and confidence were not yet realised.

5.1.1 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight

At two years post-surgery, weight loss had contributed to significantly improved health and the eradication of comorbidities such as sleep apnoea and diabetes. The number of medications and appointments with other clinical specialists had reduced. Participants who were diabetic pre-surgery were continuing to be monitored in general practice but reported positive results. See Table 13 Change in comorbidities pre to post-surgery page 177 for a full breakdown of self-reported change.

"everything that was wrong with me has gone. My cholesterol is normal now, so. I still take one metformin but they said they'd just leave me on that for a while, but my bloods had shown that I haven't got diabetes, but they said they're just going to leave me on that for the next six months and then if it's back normal next time then they'll take me off that.I'm feeling fit and healthy." (P5)

Weight loss was associated with improved sleep. In addition, hair loss that was reported at three months had ceased. Following weight loss, a couple of patients had been referred to orthopaedics for knee replacement surgery, this was both as a result of the damage caused by years of obesity and the changes to body alignment that the weight loss had affected.

Improvements to health were not common to all participants. Whilst health had not significantly worsened, by two years some participants were reporting the immediate health gains had subsided. In some cases, this was linked to weight regain.

"Because after the year the weight loss just stopped. And the diabetes came back." (P10)

Negative consequences to health and QoL were also experienced with weight loss bringing about new experiences of pain *"some pain's gone, but other pain, it's fetched*

other pain in" (P2) and changes to diet were thought to be causing new issues with the digestive system.

"Sometimes with my bowels I either get constipated or I get the runs, but I suppose that's just because I'm not eating enough roughage, I don't know." (P5)

"But you know when you've thrown up, and then there's nothing else to come, and you're heaving and there's nothing coming out of you, well sometimes it's like that, and that can be agony, you know what I mean. You're begging for something to come up, you know. And it doesn't." (P4)

Another consequence of weight loss that was not expected was feeling the cold. Participants regularly wore extra layers and used blankets to keep themselves warm in all seasons.

"I'm freezing all the time. It's ridiculous! [P13 husband]'s always telling me like oh you used to be so warm, you're cold now your insulation's gone. So I'm forever with woollen socks and jumpers and collars and stuff." (P13)

Throughout the study, participants were asked about their weight. Nearly all could recall how their weight had changed over the course of their lives and how it continued to change post-surgery. At two years weight change was reported using different terms including: BMI; body fat; clothes size and actual weight in kgs / stones. 11/13 participants reported major reductions in their weight or BMI. The weight loss was relatively rapid within the first year following surgery before plateauing. Most reported their weight to be relatively stable at two years. The stability in weight loss was associated with being normal - another positive outcome from the surgery and one which was a common aim pre-surgery, as reported in chapter 3.

*"Yeah, well, I've lost six stone altogether, so yeah. **Right, brilliant!** So I've sort of lost half a stone, put a couple of pounds on, so I've not had a big weight increase or anything, so it's just stayed about the same, it's like just I suppose like normal people do." (P5)*

Table 9 highlights the self-reported pre-surgery measures, the post-surgery changes to these measures and the time at which weight loss plateaued.

Table 9 - Self-reported changes of weight and weight loss plateau

Participant	Self-reported pre-surgery weight	Self-reported pre-surgery BMI kg/m ²	Pre-surgery goal	Self-reported starting weight (reported at 2-year interview)	Self-reported 2-year post-surgery weight	Self-reported body weight loss	Self-reported BMI post-surgery	Weight loss plateau	Weight loss / BMI goal met	Considered surgery a success overall
1	24st	45 kg/m ²	16st	Did not have surgery						
2	21st 7lbs	45 kg/m ²	Lose 6/7st		13st	9st 7lbs		From 19months post	YES	YES
3	19st 7lbs	48 kg/m ²	10st 7lbs Size 12/14 clothes		12st	8st		From 16months post op	NO	YES
4	Unknown	Unknown	Unknown	Does not know weight loss or starting weight doesn't like to be told				Weight fluctuating	Unknown	YES
5	17st	46/48 kg/m ²	Health			6st		From 12 months approx	YES	YES
6	22st 13lbs	Unknown	Size 16/18	Lost to follow up						

7	21st 11lbs	55 kg/m ²	Size 14			5/6st		Weight loss fluctuating </>4lb	Unknown	YES
8	17st 13lbs	46 kg/m ²	10st Size 12	Lost to follow up						
9	18st	47 kg/m ²	<11st Size 12/14	20st 4lb	10st 12lbs			Increased weight by 1 stone recently	YES	YES
10	26st 6lbs	50+ kg/m ²	15st	26st	23st (increased to 25st @1yr post op, but back to 23st now)				NO	NO
11	19st 7lbs	43 kg/m ²	Size 14/16			5st 7lbs	32 kg/m ²	Weight loss gradual over time but fluctuating now slightly.	Unknown	YES
12	18	50 kg/m ²	Didn't want to state a goal			10st		Maintained weight for 1 year, fluctuates </> 5lb	N/A	YES
13	25st 10lbs	Unknown	BMI <30		15st	13st	33 kg/m ²	Maintained weight for 12months	NO	YES

14	25st	Unknown	Improve mental health	Did not have surgery						
15	26st 4lbs	Unknown	Health	25st before starting pre op	19st 7lbs	Lost 5st at pre-surgery, just under 1st following BS, put this back on		Didn't lose any post-surgery	NO	NO
16	Unknown	Unknown	11st Health	23st 5lbs	9st 13lbs		22.4 kg/m ²	Maintained weight since 15 months. Put 6lb following illness and other surgery but feels better. More aware of weight gain now.	YES	YES
17	19st 4lbs	42 kg/m ²	size 16	138kg	67kg	lost 11st 7lbs		Maintained weight since 1 year	N/A	YES
18	19st 7lbs	47 kg/m ²	Improve life	Lost to follow up						

Along with improved health and weight loss, participants reported they had continued to have more energy.

"I feel I've got a little bit more, as my mum used to call it, a little bit more pep and zest in my life than what I had in the past. There's a bit more of that old [P11] back." (P11)

This played out in a variety of ways including activities with children.

"I've got a hell of a lot more energy than I did. It's really weird because I do little things now with the kids, like we skip to school. Because I could never skip before, so I skip or I race them." (P12)

At two years, participants shared pictures that reflected changes to physical size and how this improved daily life. In the pre-surgery interviews, space and size was an issue that caused embarrassment and daily hardship and distress (Chapter 3.4). At two years after surgery participants were still getting used to their change in body shape and weight (picture 1,2 & 3, [appendix 15](#)).

Small day-to-day things were still reported to be improving daily life such as: walking up and down stairs pain free, being able to breathe whilst walking, getting dressed on their own, taking a bus to go out rather than relying on a taxi, and being able to walk freely without needing to assess terrain for fear of falling as participant 3 described:

"I can just go and walk. And I don't even assess the situations now, the kerbs or anything like that. I'm not focused on that. Road surfaces, paths, they don't bother me now. Where [before] I would assess everything." (P3)

Surgery continued to be viewed as a tool to restrict eating. Participants commonly referred to the tool as preventing their body from eating either too much or the wrong foods and drink, rather than the tool helping them to adapt their eating behaviours. The physical consequences of this were sickness and feeling ill which were still evident (for some) two years after the procedure.

"So if I eat the wrong thing, it won't go down, or it comes back up, so it's still working. At least I'm not putting weight on, so." (P13)

"And my body won't let me drink lager, and it won't let me eat white bread, and it won't let me eat fish and chips. And it tells me I can't, because if it didn't I would. I would, even though I would never want to be the way I was before, it's hard, it's an addiction." (P12)

The lack of feeling hungry remained existent for some participants two years post-surgery.

"I've never been hungry in two years. I've not felt hungry once....Yeah and that is a strange feeling not to feel hungry, very, very strange." (P3)

These participants were hopeful these feelings would continue leading to continued weight maintenance unlike the situations of other people who they knew had had surgery.

"I'm hoping it's going to be like this all the time being able to get about, not being hungry and overeating. I'm hoping I don't get to that stage. Because one of the nurses at my doctors, her friend were like six months in front of me, and she got to the stage where she were hungry, and all she were doing at night were sat eating and she put quite a bit of weight back on." (P2)

This thought of weight gain was a future challenge that is discussed further in section 5.3. However, for two of the male participants the challenge was a reality, as they had already seen their weight increase; and whilst in the first three months they had seen improvements to their health and mobility, this had since deteriorated. One participant was awaiting additional future bariatric surgery.

*"Well it's gone backwards again. It changed my life for the first year, I was great because I could walk long distances, I could swim. I got back to that and then it just went down again, and you're thinking oh Christ, here we go again. **So this next time.** This next time hopefully it will be a one-off and that'll be it." (P10)*

The physical consequences of surgery in relation to reducing food volume were not experienced by all. Participant 15 felt he had never felt a restriction in the volume of food he could eat, despite being told pre-surgery that he would not be able to consume the amounts of food he was used too. Participant 15 reported at his nine-month interview that he was seeking HCP support to deal with the overeating, but at two years his food intake and weight remained unchanged, leaving him continuing to question the success of the procedure.

"It's not actually what I'm eating, it's the amount I'm eating. Because I can eat more than you easy, no problem. I can do four sandwiches easy no mess, not a problem at all. They said you'll never be able to eat four sandwiches again. I've been able to eat them from day one. They told me, they were like oh can't be. I said oh right can't be. Shouldn't be able to, well I can." (P15)

Whilst the majority of participants were happy with the weight-loss they had experienced, some participants discussed their future in reference to continuing to lose more weight and reaching a target weight or size they had set. However, it wasn't clear when these targets were determined as they appeared to be moveable across the journey depending on the level of achievement participants felt they had already experienced.

"Yeah I do, but I want another stone off at least. Because I'm 12 stone now, so I'd like to get to about 10½, and if I get to 10½ so I've got a stone-and-a-half to lose. Whether or not I'll lose it, I don't know, because this might be my plateau, this might be where I'm always going to be" (P3)

Activity was considered as being crucial to continued weight loss

"my biggest ally is being able to be a bit more active and that, and I'm confident I'll lose a bit more" (P4).

Yet the actual level of participation and commitment still varied across the sample. Future hopes of those who were less active were of increased habitual activity around the home such as gardening or going to the gym. More active participants aspired to and had taken part in mass participation events such as Race for Life or half marathons.

5.1.2 How my life has changed after bariatric surgery: 2. Psychological consequences of the surgery and losing weight

There was a considerable improvement in confidence following weight loss. This played out in a variety of ways, from socialising with peers and family to applying for jobs and returning to work. In the pre-surgery interviews, hiding away from the world because of their weight, physical size and appearance was common in the lives of the participants in this study. However, following surgery this was reported as being a thing of the past.

"Yeah my confidence is raising more than what it was. I were more like, you know, like stand at the back and don't let anybody see, you know, like a wallflower, whereas now I will interact with people more, whereas before I weren't too confident." (P2)

"I've just been for an interview last week. I didn't get the job like, but I didn't have no fears. Didn't have no fears whatsoever for the job, going for the job. And it's strange because I really thought I would have struggled, but not

anymore. I think this has given me the confidence that I never ever thought I would have or never ever showed." (P3)

One main factor was the participants' confidence in dealing with day-to-day life and anxiety of being judged by strangers because of their weight. However, following the weight loss they felt better able to manage being outside the home and in their community.

"I'm what do you call it, confident enough in myself, but I'm more confident about going out amongst, because I don't think I'm getting stares, look at that big fat so and so like." (P4)

Even where participants reported how in certain situations they may have come across as confident pre-surgery, this was compensatory behaviour to cover up their inner feelings.

"I was always confident at work and that and people think because you're loud that you're confident, but you're not, it's just I think that's a cover up" (P5)

Increased confidence was not just linked to social interaction but also to appearance and trying new activities. Participant 17 shared two pictures, one of her in an outfit that made her feel confident and another participating in new experiences that she felt that she wouldn't have undertaken pre-surgery (pictures 4 & 5, [appendix 15](#)). This highlights how the weight loss changes the individual's ability to interact with their environment.

Just as the physical consequences were not universally positive, neither were they from a psychological perspective. Those who had not lost weight or the weight they had expected to reported feelings of failure which affected their lifestyle choices and motivation.

"May be I'm just expecting more than what I've got, I don't know, may be my expectations were a lot higher....Um, but then again I think when you do try and you get negative results and you're like, you're fed up with it. It's easy to get on the back slide than it is to keep going forward. Because I was always determined I was going to get under that 19 stone, and it doesn't matter what I did I could not." (P15)

Even in cases where weight lost had surpassed expectations, other expectations of

how their body shape would change following weight loss were not met resulting in negative psychological implications. Positive and negative psychological consequences were often reported by the same participants in their interviews, see participant 17 in the pictures above and the quote below.

"I think my expectations might have been blurred. I mean some expectations have come out better, I'm smaller than I thought I'd be. But then expectations of the skin and my boobs weren't." (P17)

Weight gain following weight loss also affected how participants felt and adjusted psychologically to their weight and appearance.

"And I'm never going to be a size 6, 8 or 10, but I was happy being my 12/14, it's where I wanted to be, I was happy with it. But then I've put this stone on, and I'm seeing myself as fat. I'm seeing myself as how I used to be when I was 20 stone. It's like I'm like 11 stone 12, I may as well be 20 stone 12, that's how I feel" (P9)

Added to this was the realisation that even when the goal or expected weight loss was reached following major adjustments to lifestyle that it didn't end there and commitment to change was lifelong to maintain a healthier weight (picture 6, [appendix 15](#)).

5.1.3 How my life has changed after bariatric surgery: Social consequences of the surgery and losing weight

Weight loss appeared to have a major impact on social lives, in particular through increased interaction with family and friends. This was clearly as a result of the combination of changes in participants' physical capabilities, improved confidence and feelings about their appearance (as described above). Improved social relationships with family members, particularly children and grandchildren were of major significance for the participants; these were initially reported at three-months post-surgery and continued to bring about an impact on the lives of their family (picture 7, [appendix 15](#)).

"I took the kids ice skating before and I never would even dare in case I fell off the size I was. But I've been ice skating, and I didn't care with falling down, because I know people weren't looking at me because I was the big woman in the room. I was blending in now." (P12)

The reality of the impact on social life and personal relationships was greater than expected.

"I don't think I had a clue how it were going to change apart from losing the weight. I didn't think the social side would change as it has. I've actually got a social life. I didn't think it'd really change things between me and [P13 husband], which it has, to better." (P13)

This impact was described by one participant who pre-surgery relied on carers or family to help with dressing and personal hygiene. This burden was felt by everyone involved and no longer relying on this was having a positive impact on these relationships, bringing them closer together.

"I don't need them [children] to look after me like they used to have to. They've got a life now that they haven't got to be carers for their mum, they've got a life now and they can live their life how they're supposed to without having to worry about me." (P3)

Eating outside of the home remained divisive across the sample. Some participants had resolved or learnt to live with the barriers they had to eating out that were apparent at pre-surgery and three months post-surgery. Strategies included increased confidence to ask for smaller portions and physical ability to manage different types of food. However, eating out with family and friends could lead to challenging circumstances and caused conflict over food portions and types of food participants required. Eating out with bariatric peers continued (reported at three months) to be less stressful.

"The people who I'll go out to eat with are usually the people who's had surgery anyway, but I find if you go out with different people, I find it hardest going out with my partner because he'll mention it" (P5)

Fear of sudden sickness was still evident along with the inability to consume the portions sizes served in restaurants which caused participants to avoid eating out or going out at all with food involved. This had an unintended impact on social isolation which pre-surgery was hoped to improve.

"But I still can't go out for a meal or anything properly because I can't eat it..... I mean like Christmas Day today, Christmas dinner, I'm not going anywhere. I've been invited out to three places and I'm not going, because I know I can't eat." (P10)

However, other social experiences such as nights out with friends and trips away were regularly enjoyed whereas pre-surgery would have been avoided.

"I'm always on the go, like this week I've got one night home. I were out Monday, Tuesday, yesterday, I'm going out tonight. So it's, yeah, very, very different." (P13)

Other positive social consequences were evident through participants accessing training and volunteering placements, re-entering employment, changing jobs and securing promotions. Many of those entering employment reported this as an aspiration prior to surgery.

*"Ah work, now I'm a supervisor. **Fantastic.** I mean I've only started working since I lost my weight anyway. But within a year of working, I work for [football club], I now supervise a bar and I look after managers, and it's something I never thought I ever would. And I don't know if it's the confidence that's got me where I was, but now I actually supervise people and I like it." (P12)*

Prior to surgery, mobile phones were used as a method to retain contact with family, friends and the outside world. Whilst still being described as a lifeline the meaning had changed, phones now acted as a means of managing a hectic social calendar.

*"Yeah, it's my lifeline still now, yeah. **How do you mean it's your lifeline now then?** Well I've got everything on it. I do my banking on it, I do my social stuff on it, my calendar's on it, it's shared with my husband, so we've got everything on there. I can't lose it" (P13)*

Improved socialising was not evident in the lives of all, some had reduced their social networks: *"I mean my best friend, I haven't seen my best friend for five months." (P10)*. Others reported having lost important friendships following the weight loss, which was worsened in situations where friends were living with obesity themselves.

"I lost a few of my friends. Some of my bigger friends I don't talk to now. They don't talk to me." (P12)

In some situations, the impacts on relationships with family members and partners were also strained. With one participant referring to a breakdown of relationships with her siblings and a potential future breakup with her partner.

"I think it's almost evident that I will leave and I'll go forever." (P16)

The thought of ending personal relationships was not only driven from the perspective of the participants but from that of their partners. The change in appearance and confidence of participants instigated jealousy and fear of a relationship breakdown from partners.

"He thinks I'm going to run off, because I'm already 10 years younger than him. And he always keeps saying how he's got a new woman now and everything. And he always jokes and says, everybody keeps asking who his new wife is and things, which it's a joke." (P12)

5.1.4 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight

During the two-year interviews participants who had taken photographs in previous interviews were given the opportunity to relook at them. As pre-surgery photographs were scarce around the homes of the participants, the chance to see the pictures in the study was reported was the first time some of the participants had seen themselves since pre-surgery. The pictures triggered a range of emotions including shock and sadness at their appearance and QoL pre-surgery along with elation at how they had changed. Participants who had lost considerable amounts of weight reported how they no longer recognised themselves. This recognition was portrayed from both positive and negative perspectives (pictures 8, 9, 10 & 11 [appendix 15](#))

Being happy to have pictures taken of oneself was a new phenomenon. This was reflected in the photographs that participants shared at two-years post-surgery (picture 12, [appendix 15](#)). As a further reminder of change in size and weight, participants had kept some clothes they used to wear. Pictures were shared of participants in the old clothes, or new clothes such as trousers placed against old clothes to show the difference in size (pictures 13 & 14 [appendix 15](#)).

The changes in appearance were generally positively reinforced by comments from family, friends and acquaintances.

"because an old friend, one who I hadn't seen him for about, it must be about seven years since - we were trying to think how long we'd seen each and he was like, God, you look younger now than the last time I saw you. That is quite a nice feeling that!" (P5)

Changed appearance was not a major discussion point for male participants. However, female participants were enjoying a variety of consequences of their changed appearance including their new shape and size and, the associated benefits such as being able to borrow clothes from friends and family (picture 15, [appendix 15](#)).

One of the anticipated benefits of the surgery that was discussed during pre-surgery interviews was shopping for 'normal' sized clothes in 'normal' shops. This was realised as participants stated that shopping for clothes had changed from being a chore and expense to a favourite pastime, especially now they could shop in cheaper high street shops rather than specialist ones for 'fat people'.

"I can actually go to normal shops to buy them. I can fit into Primark clothes now, so it's cheaper. It's so much more expensive buying bigger clothes. A pair of jeans, could talk £30-40, and I could get them for £6 now just from high street shops, so a lot cheaper." (P13)

Furthermore the types of clothes purchased had changed, rather than plain, dark and baggy, participants were wearing different styles, colour and patterns being happy to stand out and be noticed (picture 16, [appendix 15](#)).

"Oh yeah. I don't wear as many dark colours. I had a tendency to wear either navy blue, black, brown, no flowers, just plain, whereas now I look at oranges and yellows, things like that." (P2)

Along with different clothes, wearing jewellery and heeled shoes was now common, something that was reported to have been nigh on impossible before the weight loss (picture 17, [appendix 15](#)).

The changes to appearance were not universally positive and some participants reported challenging social situations.

"I think I looked ill because I'd lost so much weight and my hair had gone thin. Customers, don't forget I'm front facing aren't I at work, got customers saying are you ill, have you had treatment? And I were like what? Do they think I've got cancer or something? And a lot of them did, which is quite difficult." (P16)

Physical changes to body shape and size also brought about some challenges,

especially where participants were experiencing issues related to excess skin. This gave a need for bigger sizes and continued evaluation of styles to accommodate the excess skin (Section 5.3 for more data on relating to excess skin).

How participants felt about their body under their clothes was a source of anxiety and even disgust. The issues that were starting to arise at nine months post-surgery with changes to breast size and shape had continued. This affected current and possible future relationships. Despite participant 16 reporting her relationship was breaking down she also spoke about how she felt about her body preventing her from moving onto a new relationship.

"If you see my body with no clothes on, it makes me sick, it repulses me. So there's no way on this earth that I think I'm going to have somebody else different to [P16 partner]" (P16)

5.2 Things that are helping me to achieve success

The main themes presented in this section mirror those highlighted in chapter 4.2 - support networks, behaviour change and drivers of personal motivation, as appearing to influence the chance of successful outcomes for patients following bariatric surgery. The added value of presenting the longitudinal data using the same theoretical framework depicts some subtle changes that have arisen along the journey from pre-surgery, three and nine months post through to the two-year analysis presented in this section.

5.2.1 Things that are helping me to achieve success: Networks

The following provides an analysis of some of the mechanisms that participants were still using and requiring to support them on their weight loss journey. These sources of support were not common across all participants and chapter 5.3 provides further analysis highlighting opposing experiences. However as emphasised in the previous chapter, the interpersonal relationships with bariatric peers, family and friends and HCPs are all a significant source of support.

Some participants were still meeting their bariatric peers but generally contact with

them had reduced. At three months post-surgery peers provided a source of emotional support and help to manage practical aspects of diet and progression through food stages; but at two years this had become more normal. Support was now required with managing other aspects of daily life and contact was mainly conducted using social media and on-line forums.

"I look every day. And I think if you've got any problems and it doesn't kind of matter, I would say these sites are 80% weight loss, and then people just put on that they've had a bad day or somebody's said something or they've got relationship problems, they just post everything." (P16)

Participants also referred to offering their support to others who were about to or had recently had surgery. This was offered through commenting on social media sites or for one participant speaking at the weight loss seminar that all patients are required to attend prior to surgery. Whilst challenging, this provided a time for self-reflection on the journey they had personally made since they attended the seminar pre-surgery.

*"And I've even spoken at seminars. **Wow** [dietitian] rang me up and I've spoken, nerve racking as hell. And it was really weird to actually walk into the seminar room where the last time I walked in I were one of the patients and I was sat on one of the big chairs. Where this time it was really weird because all the big chairs were set out and I went and sat on one anyway, it was just weird. And I kept thinking I wonder if people are wondering why I'm sat in here, and it was quite nice being sat there and being thin and talking to everybody else. And then you're relating like I went through your car parking spaces and opening your door and things like that. And how they were relating to me, and then the pictures at the back of me from before and after. And it was quite nice talking to the people thinking that was me, and if I can do it they can do it." (P12)*

Family and friends were a continued mechanism of support for most participants. This included family members also changing their diets in an attempt to lose weight, increasing physical activity and also making efforts to improve their own appearance.

*"But he's now got new teeth and new glasses, and he's stopped smoking and all sorts. **Oh wow.** So it's difference with him. So he's changed as well for the better and health-wise. So I might have kick started him." (P12)*

A real highlight in one participants' journey was her family and friends taking part in an event together (see picture 18, [appendix 15](#)).

The support and contact received from the tier four MDT continued to be positive for most participants. Where no additional problems arose and set appointment schedules were followed the MDT were regularly referred to as being *"just a phone call away"*. Contact at scheduled appointments provided an opportunity for participants to be praised and to reinforce the positive changes they were making.

"I did like to used to go to my appointments, because I liked the praise from them. You get it from everybody else but because they're professionals and I'm doing it right, and I liked going to get weighed and to see them." (P12)

Routinely, participants saw the dietitian or nurse specialist at their follow up appointments. In the case of one individual, psychology services were also accessed to manage some complex issues that had arisen following surgery. These areas were reported at nine months and had the potential for severe impacts in relation to managing weight loss, behaviours and relationships with close family and friends. This reinforces the requirement as described in bariatric surgery policy for an MDT including psychology services to be available to support patients along their weight loss journey.

"She gave me courage to speak to my husband about stuff. She's like what's the worst thing that can happen if you tell him? And we talked about rejection and a lot of other things. So it was a time when I said she really helped me through quite a dark point..... So she was a really good help." (P17)

At the time the two-year interviews were undertaken, contact with the MDT varied. Some participants had already been discharged from the service following their two-year review. Others were about to be discharged, whilst those who had continuing health needs remained as a patient requiring follow up consultations. The prospect of not having regular appointments left mixed feelings amongst those interviewed; some felt that they were far enough along their journey that they wouldn't require further support. Following discharge participants were reassured to be told that whilst routine appointments would cease the MDT would be available to speak to patients if they had any problems. This perception of not suddenly being left alone was reassuring.

"Even though I've been discharged now, the bariatric team have said, if you have any problems you pick up the phone. They said if you need us again just go to your doctor and we'll book you in. So it's not even stopped, even after that two-year deadline it's not stopped." (P3)

NHS guidance (The Royal College of Surgeons of England, 2014) states lifelong follow up medical care following bariatric surgery should be provided by a tier three service. The three-month interviews cited examples of continued access to tier three services, mainly through established relationships participants had with tier three staff (Chapter 4.2). At two years post-surgery, access to the tier three services continued to vary, based on the geographical locations of the participants and the ability of the tier three services to continue to offer their input. This ability may have been driven by local commissioning arrangements. Access to tier three was also determined by individuals and their need for further support. However, those that had lost a great amount of weight and were more confident with their behaviours questioned the requirement to ever return to a tier three service.

"I don't know because I don't know if I'd need them now [tier three service]. Because I've got a healthier lifestyle now, and I feel that that's for if you're bigger, I think if you're needing more support that way before surgery, so I don't feel that I'd need their services" (P3)

Some patients received positive support in primary care and were reassured with monitoring for ongoing medical issues and weight was a valued part of their weight journey.

*"I have regular health check-ups. They weigh me regularly. **Oh right, okay, so they're kind of helping you out as well.** Yeah they check me, you know, all my bloods, make sure that I've got no diabetes coming back. They keep an eye on my glands, whatever were wrong before. **They're monitoring you.** Yeah, I've got them as a backup." (P2)*

5.2.2 Things that are helping me to achieve success: Behaviour change

The narrative of participants who undertook regular exercise changed somewhat over the study. Pre-surgery, participation in exercise and physical activity was a chore or impossibility; at three months post-surgery it required some effort and was driven by weight loss and prevention of excess skin; whilst at two years post-surgery it was a way of life and included walking home from work and being more active around the house and garden. Where pain or physical challenge remained an issue, participants

reported battling through the pain or changing the types of exercise they did in order to stay active.

"I do still have to stop because of the pain in my hip, but it don't stop me doing it now, as long as I know I've got somewhere where I can rest and, but I'll still keep carrying on, where before I wouldn't have been able to. I'd have been in that much pain to stop it, where now I have a little rest and then I'm off again." (P3)

Inactive family and friends sometimes challenged the need to undertake exercise, but in such cases, participants were clear that exercise was now a commitment then needed to maintain. Examples of the extent of this commitment were provided (picture 19, [appendix 15](#)).

This same participant linked the requirement to exercise with additional calorie consumption, demonstrating a new approach to behaviour change and lifestyle than the one taken prior to surgery.

"I drank all cocktails that night, oh full of sugar and crap. So in my brain it's like to be able to go out and have drinks or this kind of food, I need to balance it with doing this. So that's kind of how my brain works, whereas it didn't before, because I would never have got up and done that. I would have been like no way, I'm just going to stay in bed." (P17)

As described in the analysis of three months post-surgery interviews (Chapter 4.2), behaviour change continued with the habits related to consumption and the relationships with food. This was an ongoing issue that required continued effort, but one which participants increasingly felt they were tackling. Changes included being able to leave food on plates at the end of a meal which pre-surgery would not have happened. Reduced portions sized were now considered to be a way of life, whether it is eating inside or outside of the home and eating routinely throughout the day. Although life and work challenged routine, participants felt better able to deal with this and prepared with healthier options.

"when I go to work I take snacks. I'll have a yoghurt in my bag or a cereal bar, and I'll have some fruit. And I take food everywhere with me, because if I'm out and I'm hungry and everybody else is eating, I've got something that I can have. Or I'll take a bottle of water, and I still take food everywhere with me but it's different food now." (P12)

Developing a normal relationship and food not being the sole focus of enjoyment in life was also crucial to managing long term behaviour change.

"Do I always have a healthy option? 90% of the time yeah, but other 10% I think I'm just like anybody else. Just like you, you know, you might have five days a week where you have healthy choices." (P16)

Where old habits were creeping in, participants were aware of this and came up with new strategies to manage the situation.

"that's when I do eat [at night], it's like mindless eating and that were my problem before. You were eating things you shouldn't eat, because I think you mix, it's just like a craving, isn't it, and then it becomes a habit, so I try, I've just bought myself a colouring book, something to do with my hands when I'm watching telly, like I either play on my computer or, yeah, just something so you're not thinking about, oh what can I fancy?" (P5)

5.2.3 Things that are helping me to achieve success: Drivers of personal motivation

Old photographs were used as a motivational tool. The disgust participants held at seeing old photographs of themselves was reported in section 5.1 where the photographs were linked to a change appearance following weight loss. However photographs also continued to be a motivational tool to prevent weight gain (picture 20, [appendix 15](#)).

The constant reflection on the QoL prior to surgery was common and acted as a motivator for continued behaviour change in order to continue with weight loss and maintenance.

"Every day I always think of where I was and where I am now, and how I love it now and I wouldn't do anything to go back." (P12)

In situations where participants had noticed some fluctuation in their weight following surgery, clothes sizes were reportedly used as a driver of motivation.

"I won't go up into a 16 no. And now everything's really tight. So I should actually be trying a 16 but I won't, I want a stone off, get back comfortable yeah." (P9)

The sentiment of surgery being the last chance to lose weight and meet the other aspirations identified during pre-surgery interviews remained evident in the narrative. The feeling that the physiological effects of the surgery had reached the

end of the timeframe, hunger was beginning to appear and therefore additional commitment was required. This affected the mind-set and adherence to behaviours.

*"It makes me think about it, because if you can get to a point where you can do a bit of it, can you override it and do more, probably so. You know, you've heard other patients say I didn't know I could eat a sweet and now I eat sweets. I've tried one and now I can eat a bagful. **But what's in you then that's stopping you?** Well you've been given one last chance haven't you, one biggest chance ever." (P16)*

Participants reflected how poor their health and QoL was prior to their surgery, and therefore health also acted as a driver towards personal motivation for continued weight loss and maintenance.

"Well, because it's given me my life back again, so I know what it felt like to be in that place and once you're in that place it's so hard to get out and it's like somebody's unlocked my door and let me out, I'm not going to get the key back to go back in. It's, no, I think my health, just my health is enough to stop me." (P5)

5.3 Things that are preventing me from achieving success

Networks of friends, family, HCPs and bariatric peers provided support but also contributed to continued challenge. The compliance with the recommended post-surgery behaviours such as food and exercise was becoming increasingly tested as participants felt progressively 'normal'. New worries related to the existence of excess skin and the psychological and physical impacts the skin was having on day-to-day life. Furthermore, post-surgery complications linked to health and family were an additional hurdle that some participants were challenged by.

5.3.1 Things that are preventing me from achieving success: Networks

Family members who tried to influence food intake through types (generally unhealthy) and increased volumes of food remained an issue, although participants felt more adept at managing such situations. Participants recalled situations where family had passed comments about them eating too much which caused frustration and recalled the feeling they had pre-surgery about being watched and judged when eating in social situations.

*"They do, they watch me like a hawk. **Is that good?** Yeah you get a bit oh just leave me alone and let me enjoy what I'm having, but then when you think about it you think well they're only trying to help me. But there's them odd times when I think just leave me and let me enjoy this little bit. But they do, they do watch me." (P2)*

Jealousy amongst family and friends, especially those who are overweight continued to be a problem even two years after surgery. Where family and friends were accessing tier three or commercial weight loss services in an attempt to lose weight themselves, some had passed comment about the effort they were having to put in compared to bariatric surgery being an 'easy' option.

"And then another friend of mine, but this is, I've just seen a photo on here, it was literally a couple of days after I put my two year photo on, she put a picture on when she's lost a stone, or nearly two stone or something, and then comments like no operations needed for me, I can do it on my willpower and things like that." (P13)

In circumstances where participants had fallen out with close family three months post-surgery these had not changed.

*"My daughter still doesn't talk to me. And my friend who binned me off, she still doesn't talk to me. **Can you see that ever changing do you think?** No, not in foreseeable future. **And do you think that's linked to your surgery then?** Yeah, I do yeah, because my daughter's got a bit bigger." (P9)*

Increased activity and changes to diet were also blamed as a cause for fallouts or relationship breakdowns. A continued lack of understanding on behalf of partners over ability to eat standard portions caused problems when eating outside of the home. Relationships were also affected where friends and family who couldn't or weren't interested in exercise, leading to feelings of social isolation.

"Whereas before we were always talking, we were always together, and with some people I was quite close to. And now I feel quite distanced because a lot of my activities are round sport and gym and running, I haven't got anyone, apart from my uncle that actually shares that and wants to do it. And who is physically able to or fit enough like me to do it. So I feel like a bit on my own with stuff a lot." (P17)

There was a lack of praise given regarding the amount of weight participants had lost; this was viewed as unsupportive. This was described where participants had met personal achievements which were missed or not acknowledged. Also hurtful were

situations where others thought participants were losing too much weight and advised them to stop exercising or to eat more.

*"I got loads of people saying you're too thin, you look ill. And I felt kind of sad because I'd put loads of effort in and felt good, and then I got loads of negative comments. **By close family and friends and stuff?** Yeah, my mum was saying how worried she was about me because I was getting too thin.....it was quite hard at that point because everyone was going on about it all the time. And it got frustrating really, because it was working against everything I wanted to do. And I felt like the whole world was just against me all the time." (P17)*

Such comments may not have been based on clinical measures of weight loss such as BMI, there were generally based on others comparing participants to what they looked like pre-surgery. It was the participant themselves who was more aware of the BMI they should be aiming to achieve.

"[partner] will go, don't lose any more now because you'll get too haggard, but I think for my health I need to lose at least another stone to get my BMI down to, I think he said 32 I think" (P5)

Whilst some participants viewed the use of social media as positive source of support, others were subject to negativity following posts they had made, which resulted them in disengaging from the sites. Problems were also experienced during face-to-face support group sessions which resulted in them being stopped. Where support groups continued to be run, barriers to attending included the timing (evening and teatime) and venue (out of the city centre) in which they were held.

The support provided by the MDT both with face-to-face and telephone appointments were generally viewed positively (chapter 5.2). However, a couple of participants who had not personally lost much weight were disappointed in the support they had received. Examples of problems included: contacting the MDT on numerous occasions via telephone and not receiving a response; cancelling appointments; receiving little or no practical advice in response to queries about stalled or slowed down weight loss.

"it's a waste of time. Yeah, went back, seen him and they just went oh yeah you're still losing weight, fine. And I said well it ain't right. And it was oh, it was [Dietitian], a waste of time that one. And says like oh I'll have a word with

[Surgeon B] and I'll get back to you. Never got back to me! And I've left three or four messages, just ignored them all." (P15)

"all they said to me was you'll have to just cut down your food again. You're thinking hang on a minute, I can't cut much down from what I'm eating now." (P10)

Additional negativity in the support provided by the MDT was around feedback given on weight loss during appointments. A few recalled how they felt judged by MDT staff if their weight loss had slowed down or plateaued.

"she made me feel right, you know what I mean, because she said oh you've only lost so much. And I thought but I've lost, even if it's only half a pound I have lost weight. I'm half a pound lighter than when I saw you last three months ago, so don't say it in a way that oh you've only lost that." (P11)

According to NHS England 2016 'Guidance for Clinical Commissioning Groups (CCGs): Clinical Guidance: Surgery for Severe and Complex Obesity' the MDT should provide access to a range of HCPs, although routinely in this study patients only saw the nurse specialist, dietitian and surgeon at appointments. Where concerns are raised regarding psychological wellbeing, access to a psychologist should be made available. Like findings from the nine-month interviews, some participants recounted really struggling with the psychological and emotional impacts of their weight loss journey and the changes they had been required to make, yet most were unaware that that type of support was available. The experience of participant 17 who accessed psychological services reported earlier in this chapter was not commonly accessed.

5.3.2 Things that are preventing me from achieving success: Behaviour change in order to comply or not with post-surgery recommendations

Participants were realising that they were increasing their portion sizes from those they were having immediately after their surgery. During the three-month interviews there was genuine surprise at the lack of feeling hungry; however, at two years post-surgery some participants were routinely feeling hungry before or after their meals. Furthermore, participants were reporting how they were starting to test the boundaries of the surgery in relation to the food they were eating to see if they could tolerate different food and also eat more whilst not increasing their weight. Examples provided were of special occasions and festivities such as Christmas.

"So if you're thinking oh well I've lost that weight, now I can eat whatever I want, you can't, you're still on that diet. I've found myself over Christmas, because I thought Christmas, I'll enjoy myself. I watched a bit of what I were eating, but the other things, you know, like a bit of cake or couple of, bit of sandwiches, that still put me like five pound on over Christmas. You know, like from just before Christmas Eve up to New Year, that put me five pound on." (P2)

The negative consequences such as illness caused by eating too much of the wrong type of food did continue to provide a mechanism of control, however testing this was still reported.

"Sometimes I try and test my boundaries because I want more and I want more, and that's what I always did before. I'll eat it, I'll eat it, and then get to the stage where I feel so sick I have to run and I throw up. So I know I can't pass my boundaries or my limits." (P12)

Pre-surgery food related behaviours included obsessing about food and inability to control eating. These returning behaviours were becoming more evident in the two-year post-surgery interviews. There were mixed views on whether this was caused by the surgery changing participants' tastes or whether it was down to the individual to regain control over old habits that were returning.

"I can't eat my meal I'll leave it and then I think I haven't eat that so I can have this, and I'll just have a bit of that. And I'm having little bits and I'm - like last night I thought about it and I thought what am I doing? If I'm hungry have something to eat and don't mess about with biscuits and liquorice." (P7)

One participant blamed their sweet obsession and subsequent weight gain on a new comorbidity that they had developed following the surgery.

"I couldn't understand why I'd got this massive sweet craving, it just came on me this year, and it turns out I've got underactive thyroid and were just craving sugar." (P9)

Pre-surgery barriers to exercise were centred on the access to appropriate opportunities, physical inability, lack of mobility, other health conditions and pain. At three months post-surgery most participants were much more active and those that weren't were hoping to participate in exercise in the near future. At two years post-surgery, nearly all were much more active in their daily lives through walking, playing with children and grandchildren and domestic tasks; however, the number

participating in regular structured exercise had fallen to just two of the participants. Furthermore, these participants were having problems exercising as a result of further surgery they had undergone. New barriers to exercise and reduced activity levels were similar with this group as they would be with the general population. Examples provided included: lack of time, change in occupation, not being able to afford gym membership, other interests, additional health problems and their local environment.

"there's not exactly mountains and rivers to see round this end of the woods, you know what I mean." (P4)

5.3.3 Things that are preventing me from achieving success: Excess skin

Table 10 summarises the presence and extent that excess skin is causing problems for each participant. Five / 13 participants reported concerns with excess skin.

Table 10 - Presence and extent of skin

Participant	Presence and extent of excess skin
1	Did not have surgery
2	Worse than expected
3	Doesn't like it but manages it
4	Not major issue
5	Not major issue
6	Lost to follow up after 9 months
7	Not major issue at present time
8	Lost to follow up after 9 months
9	Skin on arms small issue, would rather have skin than increased weight
10	No issues
11	Skin - causing problems with lichen sclerosis and carrying extra weight
12	Not too bothered - arms most worried about especially in summer when wearing vest tops etc
13	Need to wear bigger clothes to accommodate excess skin, causing infections, seeking future surgery
14	Did not have surgery
15	No issues as not lost weight
16	Skin worse than expected. Breasts and stomach
17	Skin worse than expected, breasts, stomach, arms and legs
18	Lost to follow up after 3 months

Prior to surgery many participants felt that any excess skin would be less of a problem than the additional weight. This was true for some, such as those who said it was not

a major issue; but others continued to report significant problems with their physical and psychological health. Furthermore, for these participants the extent of excess skin was far worse than expected, which affected their perception of the overall success of the surgery.

"I didn't expect to have this much loose skin to start off with. But I also didn't expect it to affect me this bad. Because I remember at the group meeting before the surgery, people were going oh what about skin, what are we going to do about this, and I'd say end of day you're going to lose the weight, what's a little bit of skin going to, is it going to matter? And now I'm like yeah it does matter." (P13)

Participants reported the areas of their bodies that had been most affected, these generally being: arms, stomach, legs and breasts. Some had taken pictures of their bodies to highlight the issue and discussed the impact it was having in their psychological wellbeing and even made them question the benefits of the surgery (picture 21, [appendix 15](#)).

The impacts of excess skin were reported across all age groups, but mainly by female participants. Male participants experienced less problems, but this could be attributed to the fact that they had not lost as much weight as female participants.

"it's horrible. You look and you look and you can get hold of your skin, you know, and it's sounds awful you can move it." (P2)

The problems of excess skin not only affected how participants felt about their own bodies but also in how they considered others thought of them, particularly about how they would look under their clothes with the excess skin.

Excess skin was not only causing psychological distress but also creating physical problems such as preventing completion of physical tasks and causing skin infections e.g. lichen sclerosis. The excess skin was also affecting clothes size and appearance.

"my clothes are going, they're getting smaller, apart from the skin. I still have to make them bigger because of that." (P13)

Additional surgery to remove excess skin used to be available on a case by case basis, however access to this type of procedure has become increasingly restricted. Some

participants had already begun to seek additional help to combat the problems they were experiencing with their excess skin. However, so far, all had come up against barriers. Primary care professionals appeared supportive with applications for corrective surgery, but ultimately the decision whether to fund the procedures was not theirs to make, they were only acting on the patient's behalf. The most common refusal was cited as not meeting the BMI threshold and the brief amount of time since the surgery and evidence of weight loss maintenance. Participants felt that meeting the BMI threshold was proving complicated as the additional weight of the skin was not considered.

The effects of excess skin have the potential to affect sustained long weight loss. Therefore, patients undergoing bariatric surgery may benefit from being offered additional skin surgery in the future.

"I would love to have the potential tummy tuck processes added onto the gastric, because it's a continuous thing. It does affect you emotionally and potentially physically as well, because I know loads of bypasses, they get depressed and they put the weight back on.....loads of people say it should be a part of the process, just to finish the process that's been started, because it could send people back onto the cycle again." (P13)

5.3.4 Things that are preventing me from achieving success: Post Bariatric Surgery complications

A new theme that emerged during the two-year post-surgery interviews was additional complications that had arisen following surgery that were affecting continued weight loss and weight loss maintenance. Not all these complications were directly linked to the procedure itself. Bereavements and illness within the family had significant emotional impact on the participant's ability to prioritise and commitment to their own health.

"I've just no real thoughts on myself whatsoever, because I'm like you know, more bothered with her [wife with cancer] at minute aren't I, so I'm like it doesn't matter what I think really does it?" (P15)

Additional health problems that were not linked to the surgery also affected participants' ability to maintain any positive changes to behaviour they had made. A few of the participants had had their gall bladder removed. Whilst common in

bariatric patients it was not clear from the interviews whether this was direct consequence of the surgery, but it did cause some setbacks.

However, some health problems were directly linked to the bariatric surgery. One participant reported having further major surgery as a result of her massive weight loss. This surgery has seemingly had a more severe impact than the bariatric procedure and associated recovery (picture 22, [appendix 15](#)).

5.4 Bariatric surgery: successful or not

At this two-year stage it was possible to consider the extent of which the bariatric surgery had been a success for participants. From the participants' point of view the success of bariatric surgery was measured by the marked changes to their weight and wider psychological, physical and social consequences on their life. Many of these changes are reported in section 5.1. The extent of the changes varied between the participants; however, of those interviewed at two years post-surgery the majority (12 out of 14) considered bariatric surgery to have been successful for them (see table 9).

In order to indicate the level of success of bariatric surgery, this section will also draw on the QoL measures (Impact of Weight on Quality of Life - IW-QoL and EQ-5D-5L) taken at each stage of data collection (and an additional measure at 18 months post-surgery collected via the post) alongside the qualitative data. All the QoL data has been presented in this final analysis chapter to demonstrate the changes to QoL over the study period.

Changes to QoL are used by some clinical teams as an outcome measure of bariatric surgery success. QoL data was collected in this study as an objective representation of how QoL changes throughout a person's bariatric surgery journey and as a clinical benchmark, not as a comparison between the study participants' QoL and with the QoL of other bariatric surgery populations. As a result, statistical analysis has not been conducted. Furthermore, given the small numbers of participants would not provide significant statistical results. Data is presented using charts and tables. For

further information on the QoL tools used, the scoring methods and how they were administered see chapter 2 and appendices 8, 9, and 12.

Table 11 identifies the participants who completed the IW-QoL and EQ-5D-5L questionnaires at the various time points throughout the study. Pre-surgery was the only time point across the study where data is available for the full cohort of participants. 6/13 participants completed the IW-QoL and EQ-5D-5L questionnaires at every stage of data collection and it was upon statistical advice that only these six full datasets were assessed, even though 11 patients completed the questionnaires at three data points. Charts 1-7 use the completed data sets of these (n=6) participants to present changes to reported QoL across the longitudinal study. Pre-surgery data from the full cohort is also used to provide a baseline measure to highlight how representative the smaller cohort may have been.

Table 11 Quality of life data collection

Participant	Pre-surgery	3 Months	9 Months	18 Months	2 Years
1	Y	Did not have surgery			
2	Y	Y	Y	Y	N
3	Y	Y	Y	N	Y
4	Y	Y	Y	Y	Y
5	Y	N	Y	N	Y
6	Y	Y	Y	Lost to follow up	
7	Y	Y	Y	Not complete	Y
8	Y	Y	Y	Lost to follow up	
9	Y	Y	Y	Y	Y
10	Y	Y	Y	Y	Y
11	Y	Y	Y	Y	Y
12	Y	Y	Y	N	Y
13	Y	Y	Y	Y	Y
14	Y	Did not have surgery			
15	Y	Y	Y	Not complete	Y
16	Y	Y	Y	Not complete	Y
17	Y	Y	Y	Y	Y
18	Y	Y	Lost to follow up		

Chart 1 Mean scores for each domain of the IW-QOL using complete data sets (n=6)

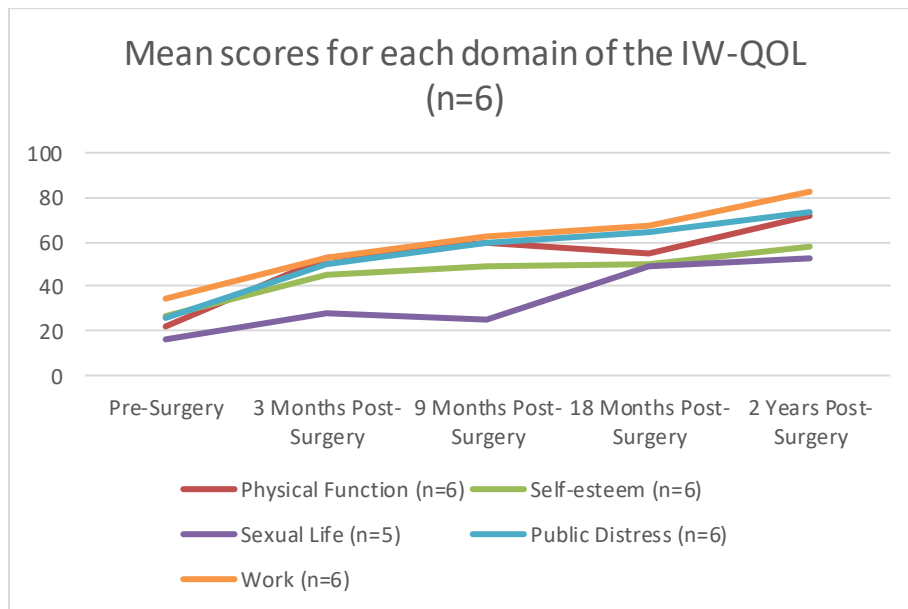
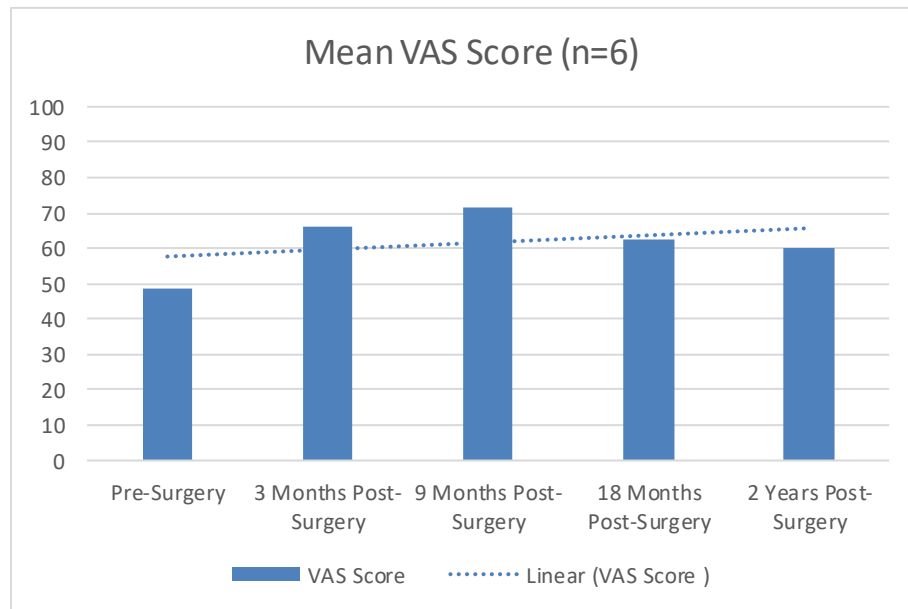


Chart 1 displays the mean IW-QOL scores for (n=6) participants. The overall trend indicates improvements to all QoL domains across the study period. The pre-surgery data from the six participants generally compares with baseline measures of the full cohort of participants, with the main variance being in the sexual life response.

The EQ5DL is split into two sections - the descriptive system and the Visual Analogue Scale (VAS). To analyse the VAS scale 0=worst health and 100=best health. Chart 2 displays the mean VAS score for the six participants who completed the EQ-5D-5L at each stage of the study.

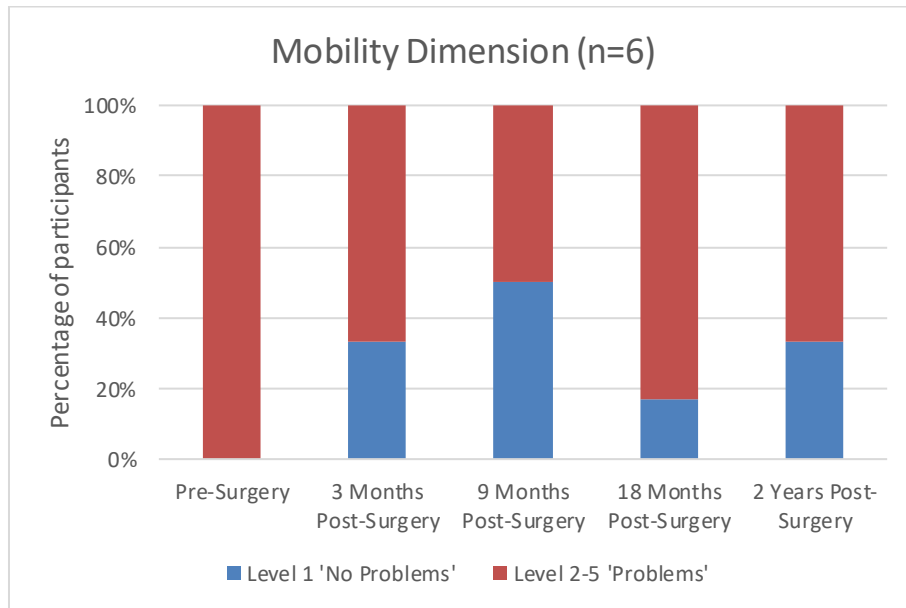
Chart 2 Mean VAS data for participants with complete data sets



The mean scores for EQ VAS is lower pre-surgery (48) and peaks at nine months post-surgery (72). Whilst at 18 months (63) and two years post-surgery (60) participants report lower levels of health, it does not fall as low as pre-surgery scores. The linear trend line indicates a slight increase in the mean VAS score from pre to two years post-surgery period. The pre-surgery baseline data for all participants was 45, therefore indicating a similar response.

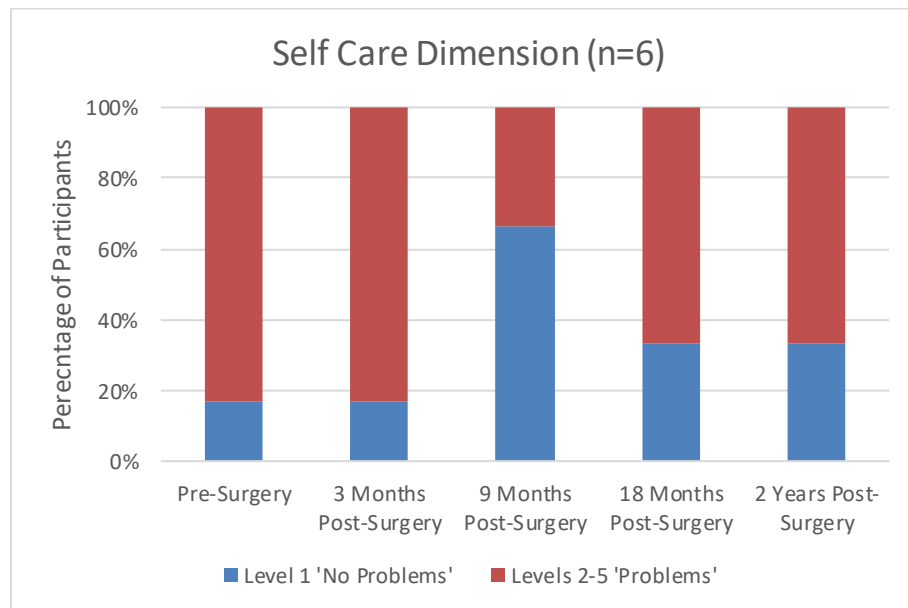
The five dimensions of the EQ-5D-5L descriptive system provide a subjective health profile for each participant. The data can be dichotomised into 'problems' (levels 2-5) and 'no problems' (level 1) in order to present the frequency of reported problems. The linear trend across all domains from pre- to post-surgery indicates fewer participants reporting overall problems. However, across three of the five domains the best results (highest number reporting no problems) was observed at nine months post-surgery. The number of reported problems increased again at 18 months and two years post-surgery. At two years post-surgery most participants are discharged from the bariatric service; this increase in the numbers of problems being reported may indicate the start of complications or additional requirements for support at the time of being discharged.

Chart 3 EQ-5D-5L Mobility Dimension: Level of Reported Problems for participants with complete data sets (n=6)



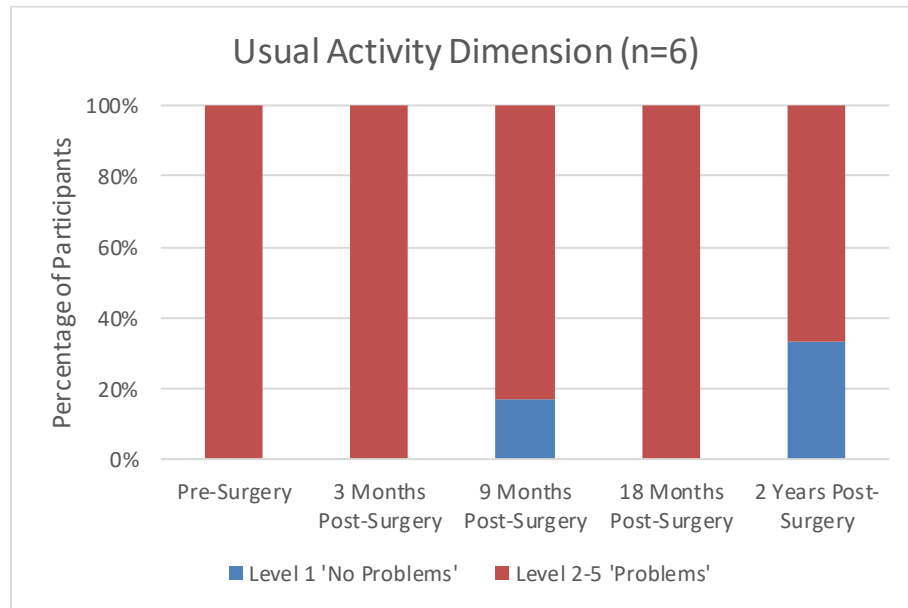
Pre-surgery all participants reported problems with their mobility. At nine months post-surgery, half of participants reported problems. However, by 18 months and two years post-surgery the number of participants reporting problems increased.

Chart 4 EQ-5D-5L Self Care Dimension: Level of Reported Problems for participants with complete data sets (n=6)



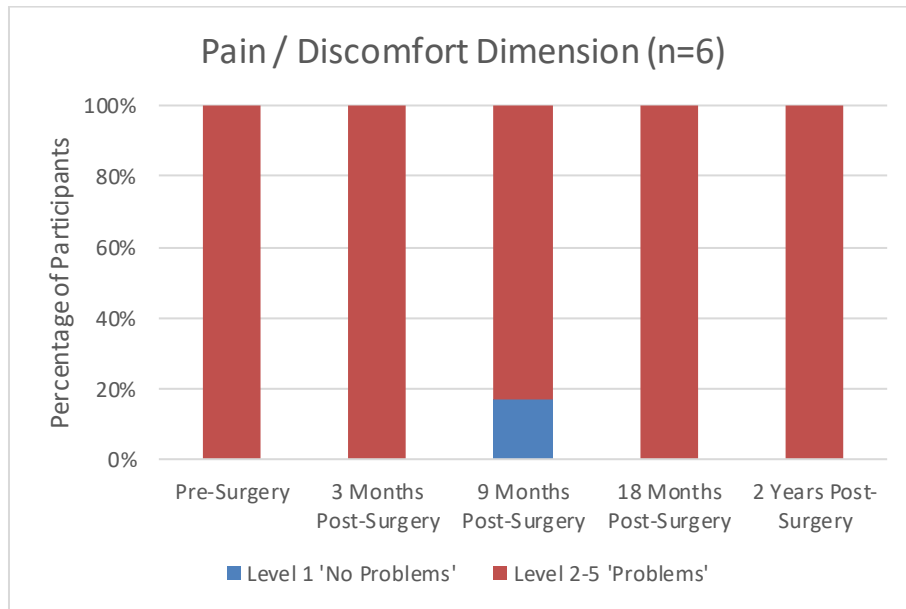
Similarly, for self-care at pre-surgery most reported problems with their mobility with best results seen at nine months post-surgery. Again by 18 months and two years post-surgery the number of participants reporting problems increased.

Chart 5 EQ-5D-5L Usual Activity Dimension: Level of Reported Problems for participants with complete data sets (n=6)



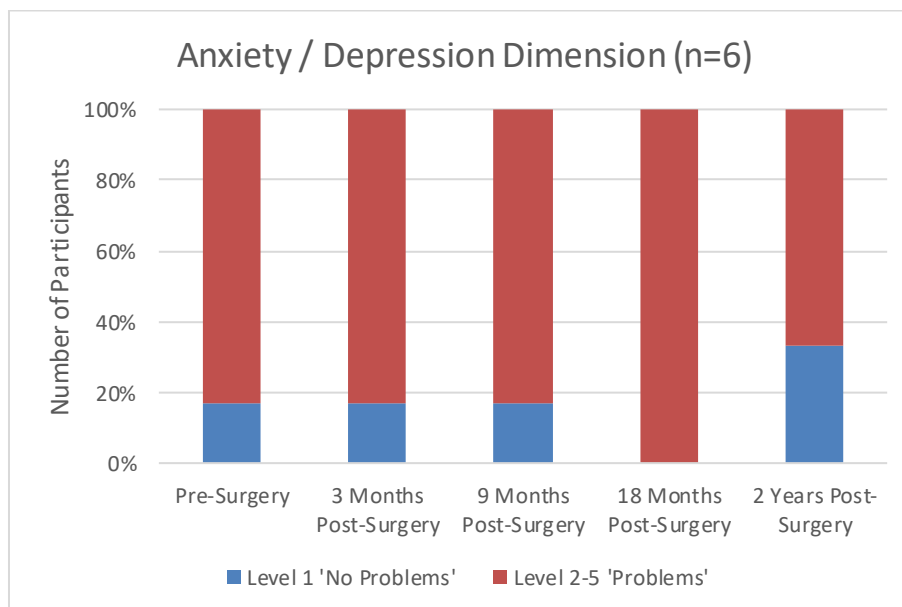
At pre-surgery, three- and 18-months post-surgery all participants were reporting problems with their usual activities. However, by two years post-surgery improvements were identified as two out of the six participants reported no problems.

Chart 6 EQ-5D-5L Pain / Discomfort Dimension: Level of Reported Problems for participants with complete data sets (n=6)



Levels of reported problems linked to pain and discomfort were consistent across the study with the only variation at nine months when one of the six participants reported no problems with pain.

Chart 7 EQ5DL Anxiety / Depression Dimension: Level of Reported Problems for participants with complete data sets (n=6)



The number of reported problems relating to anxiety and depression was prevalent across the study.

Table 12 - Reported 'no problems' or 'problems' within each domain of the EQ-5D-5L for participants with complete data sets (n=6)

EQ-5D-5L Dimension	Reported Problems	Pre-Surgery	3 Months Post-Surgery	9 Months Post-Surgery	18 Months Post-Surgery	2 Years Post-Surgery
Mobility	Level 1	0	2	3	1	2
	Level 2-5	6	4	3	5	4
Self-Care	Level 1	1	1	4	2	2
	Level 2-5	5	5	2	4	4
Usual Activity	Level 1	0	0	1	0	2
	Level 2-5	6	6	5	6	4
Pain / Discomfort	Level 1	0	0	1	0	0
	Level 2-5	6	6	5	6	6
Anxiety / Depression	Level 1	1	1	1	0	2
	Level 2-5	5	5	5	6	4

Table 12 displays the numerical data from each of the graphs.

In summary, the data which specifically focuses on how weight impacts QoL (IW-QoL data) indicates a notable improvement across all domains from pre to two years post-surgery for the six participants with a full set of data. The baseline data from this smaller cohort was like that of the full cohort of 18 participants who completed the questionnaires pre-surgery. The marked increase is not as notable when using the EQ-5D-5L data which represents QoL per se rather than the IW-QoL data, which is obesity specific. The results from neither the VAS nor the descriptive system domains of the EQ-5D-5L indicate a continued improvement in QoL over the study period.

Peaks of improvements in the results were generally reported at nine months in the smaller sample of those who completed the survey at every stage of data collection. The results further indicated a slight decline in the VAS and most of the descriptive system domains from nine months to two years. This data alone might suggest that nine months is a critical time to demonstrate maximum improvements to QoL following bariatric surgery. If data collection were to stop at this time the findings might be deceptive. There was insufficient data to determine whether this nine-month peak existed across all participants who had not completed all of the surveys at each time point. The downturn in results after this nine month period highlight the requirement for longitudinal research and to apply a note of caution in claiming success using QoL measures alone.

Exploring the QoL data at an individual participant level in the context of self-reported weight loss illustrates additional need for caution in relying on QoL measures as reports of surgery success. The graphs in [appendix 19](#) illustrate the change in IW-QoL over the course of the study for each participant. These graphs highlight three groups of scenarios. A - participants who had lost weight and felt their surgery had been a success, charts display a general upward trend of improved IW-QoL across the study period (see charts 8-15 and commentary [appendix 19](#)). B - participants had lost weight (charts 16-17 [appendix 19](#)) but didn't identify with sustained improvements to QoL over time. C - (charts 18-19 [appendix 19](#)) participants with low levels of actual weight loss whose QoL fluctuated over the study and didn't illustrate the marked improvements seen in group A.

As well as QoL participants also self-reported comorbidities and health at pre- and two years post-surgery interviews. These findings are not to be viewed as quantitative findings and only as things that mattered to the individual participants in relation to their changes to health pre- and post-surgery.

Table 13 Change in comorbidities pre to post-surgery

Participant	Comorbidities pre-surgery	Comorbidities 2 years post-surgery
1	Joint pain depression / anxiety	Did not have surgery
2	Type 2 Diabetes Mellitus; Increased Blood Pressure; Joint Pain; Hypothyroidism; Angina; Depression; Cholesterol; Arthritis	Type 2 Diabetes Mellitus eradicated; Hypothyroid medications not required; Medications for other comorbidities reduced; Increased pain caused by weight loss, suffer from drop foot; Feels cold
3	Osteoporosis; Asthma; Hypermobility Syndrome	Overall health improved; Osteoporosis and Polymyalgia controlled; Asthma medication no longer taken; Gall bladder removed
4	Hypothyroidism; Oedema; Obstructive Sleep Apnoea; Increased Blood Pressure; Cholesterol; Psoriasis; Taking Warfarin; Type 2 Diabetes Mellitus; Irregular Heart Rate; Liver and Kidney Problems	Improvements to comorbidities but not eradicated; still using Obstructive Sleep Apnoea CPAP machine
5	Type 2 Diabetes Mellitus (and feet pain); Joint Pain; Depression; Obstructive Sleep Apnoea	Type 2 Diabetes eradicated but still on medication for next 6 months; Cholesterol levels normal medication to be reviewed; Obstructive Sleep Apnoea eradicated
6	Back pain; low confidence	Lost to follow up after 9 months
7	Blood disorder; Previous Pulmonary Embolism; Warfarin; Depression (medicated); Prolapse; Cholesterol	Asthma improved; Obstructive Sleep Apnoea CPAP machine still used; Reduced some medication
8	None reported	Lost to follow up after 9 months
9	Type 2 Diabetes Mellitus; Increased Blood Pressure; Cholesterol; Stomach Acid; Joint Pain - waiting for knee replacement	No longer Type 2 Diabetic; Other comorbidities have improved; Additional major surgery / health scare

10	Obstructive Sleep Apnoea; Type 2 Diabetes Mellitus	Health and QOL worsened. Type 2 Diabetes Mellitus had gone one year post-surgery but has now returned; Suffers from leg ulcers and carpal tunnel; Obstructive Sleep Apnoea eradicated Awaiting further Gastric Bypass Surgery
11	Crohns; Fibromyalgia; Oedema; ME; Joint Pain; Lactose intolerant	No longer Type 2 Diabetic; Fibromyalgia improved
12	Mobility; Diagnosed Depression and Anxiety; High Blood Pressure	High Blood pressure; Increased medications (vitamins); Feels cold
13	Post-Natal Depression (managed now); Back Pain	Feels cold; not asthmatic; reduced fatty liver disease
14	Severe mental health issues (previously been sectioned); poor mobility; raised Blood Pressure and high Cholesterol	Did not have surgery
15	Type 2 Diabetes Mellitus; Depression; Breathlessness	No longer Type 2 Diabetic
16	Previously on antidepressants which caused Oedema; Knee Pain	No health problems reported other than slow transit bowel that was a previous condition, not linked to weight
17	Irritable Bowel Syndrome; Polycystic Ovary Syndrome; Hypothyroidism; Diverticulitis; Back Pain	Diverticulitis worse; Had emergency operation for twisted bowel and hernia, reportedly caused by weight loss; Depression and Anxiety
18	Knee pain and poor mobility	Lost to follow up after 3 months

The clinical measures of success of bariatric surgery include weight loss, a reduction in BMI and the eradication of comorbidities or reduction in prescribed medications, particularly diabetes. See Table 9 in section 5.1 for weight loss. Table 13 highlights the comorbidities participants reported having at the pre-surgery interviews compared to those that they reported during the two-year interviews. Five out of six that had diabetes (self-reported) pre-surgery had controlled blood sugar levels and had completely stopped or reduced their medication, but some were still being monitored in primary care. Even where comorbidities had not completely been eradicated, lower dosages of medications or reductions in the amount of medications for existing comorbidities was commonly reported.

However, in some cases the number of medications had increased and in the case of one participant (P10) their diabetes returned one-year post-surgery as their weight increased, leading them to question the value of the surgery for them. Furthermore, another participant (P15) who had not lost a significant amount of weight also felt like the surgery had failed despite their diabetes being eradicated. This participant was fairly critical of the intentions and measures of success adopted from the clinical perspective.

"But they just see that as another success. Well we've cured your diabetes so it's saving the NHS tens of thousands of pounds in medication. All it is, it's just statistics, that's all they see." (P15)

5.5 Summary of two-year post-surgery findings

The physical and psychological burden of daily life had generally reduced, and many participants reported improved interpersonal relationships and feeling normal. The extent of these improvements varied between participants, with some experiencing different anxieties and a return to normal eating habits. Following weight loss, improved confidence led to increased social activity and improved relationships but also strained relationships with some close family and friends.

Pre-surgery experiences of poor health, QoL and appearance were used as motivation to maintain behaviour change. Even so commitment to food and physical activity

behaviours were tested and whilst levels of habitual physical activity had been maintained the number of participants reporting participation in structured exercise had dramatically decreased from three months to two years post-surgery.

Excess skin was having a detrimental effect on surgery outcomes and perceived success for some participants. Physical, psychological and social consequences of excess skin were reported. These participants were seeking future restorative surgery but were facing challenges from the national policy and funding restrictions.

Positive outcomes of surgery included happiness, normality, improved confidence, social life and health. Yet accepting changes to body image and unintended consequences of surgery on health were problems that could undermine the success of surgery from the participants' viewpoint and require further clinical support.

Chapter 6: Summary of findings

The findings from the pre surgery, three and nine months and two years post-surgery data highlight several potential mechanisms that could influence the success of bariatric surgery. This chapter provides a summary of these explanations and their importance from the participants' perspective under the headings of each of the eight statements used in chapters 3 - 5. To evidence the quality of the reporting of the qualitative data presented in this thesis a COREQ checklist has been completed (See [appendix 17](#))

6.1 Why I live with obesity

All the data relating to this statement is taken from the pre surgery findings.

People attribute different reasons for their morbid obesity including long term impacts of childhood experiences such as abuse and family environment; genetics; experiences across the life course such as relationships and other illnesses; and, habits and routines around food and exercise. These causes may affect the participant's ability to adapt following surgery and their view of successful outcomes.

6.2 How I have tried to lose weight

Data from this statement reflects findings from the pre-surgery interviews.

Participants reported a long history of weight loss attempts using various methods including exercise, medication and diet which was the most common method. Participants had failed in their attempts to lose weight and sustain weight loss. Weight-cycling (weight loss and regain) came from the failure to maintain long term changes in diet and physical activity behaviours. This weight-cycling burdened the lives of the participants leaving them desperate for a permanent reduction of their morbid obesity. Whilst participants reported the need to change their behaviours, bariatric surgery was viewed as a permanent change to the body that would restrict eating and thus end weight cycling.

6.3 How I accessed bariatric surgery

Data from this statement reflects findings from the pre-surgery interviews.

Accessing a referral for surgery was a lottery and often unequitable; experiences ranged from years of battling with HCPs for a referral, compared with those of chance discussions during routine unrelated medical appointments. Referral pathways varied depending on the locality in which participants resided, some accessing tier three services and others direct to the MDT from primary care or specialist consultant. This is despite National guidance on the commissioning of a morbid obesity pathway (see section 1.3). The inequity of access to treatment may be fuelled by the beliefs, values and knowledge of HCPs in relation to the availability and types of treatment for obesity and the existence of specific obesity treatment services. This combined with the length of time participants had spent in trying to access surgery added to their desperation for the procedure.

6.4 Why I need bariatric surgery

Data for this statement was derived from the pre-surgery interviews.

The risks associated with surgery were outweighed against existing poor QoL. The battle of managing physical challenges associated with daily life was burdensome. Feeling judged by loved ones, friends, HCPs and strangers had negative psychological effects. Furthermore, the shame and stigma participants felt as a result of their appearance led to social isolation. These experiences and feelings explained why bariatric surgery was the last resort to improve physical and psychological wellbeing. Whilst these feelings and experiences drive the desire for surgery, they may also heighten the expectation that following surgery these experiences will reduce or even disappear.

6.5 How my life will change after bariatric surgery / How my life has changed after bariatric surgery

Findings from each stage of data collection have been used to provide a summary for this statement.

In pre-surgery interviews, participants in the study reported anticipated losses of up to 50% of their body weight but their measure of success went far beyond weight loss per se. The major outcomes were linked to what the weight loss would allow them to do, be, have and feel with a prevailing desire for normality. The overriding expectation was of increased life expectancy and a happier, healthier future. Expectations were of lessening the burden or eliminating existing comorbidities and preventing future ill health. In relation to daily life, losing weight would allow participants to make the choice to be more active; undertake routine tasks in and outside the home; have more energy; reduce pain and increase mobility. These physical consequences supported the desire for normality.

Being normal and social experiences was also linked to several other areas of daily life and psychological health. Normality is a subjective term and the extent to which participants achieve the outcome of feeling 'normal' and acceptance of whether they meet it may have long term effects on their satisfaction of the surgery and motivation to maintain required adherence to lifestyle change.

In three-month post-surgery interviews, the phrase 'normality' was less explicit. Expectations of 'normal' changed in relation to appearance, and physical outcomes underpinning normality were more prominent. The expectations of normality and change reported pre-surgery were not unanimously translated into positive experiences. Where successful physical, psychological and psychosocial outcomes were achieved, it was with little perceived effort on the part of the participants. This may have detracted from the realisation of the severity of the physiological changes to the body from the surgery and therefore the requirement for behaviour change.

Post-surgery physical changes surpassed expectation. Increased energy meant self-care, activities of daily living and physical activity outside of the home, not only became routine but were easier, enjoyable and had positive impacts on relationships. Additional outcomes such as the physiological changes of altered taste, not feeling hungry nor physically being able to eat large portions were not expected. As a result of the forced changes to diet a psychological shift in the relationship with food came from the feeling of food being a source of pleasure to be imperative for survival. These factors were clearly aiding weight loss at this point, yet the permanency of these changes and feelings were unknown. Therefore, factors that contributed to obesity such as dietary habits and psychological health may not yet have been tested, meaning that longer term they remained unclear.

Improved health was an expected successful outcome of surgery; however, the actual impacts on health outcomes varied. Reduced pain, comorbidities, number and strength of medications were reported contrary to no change to comorbidities or medications, new health problems, increased joint pain caused by the weight loss and hair loss. These negative outcomes were not anticipated and have the potential to affect longer term outcomes.

Weight loss led to an increased confidence to socialise with friends and family, seek additional opportunities such as employment and with motivation to try with appearance. The amount of weight loss and speed of loss varied. By two years, feelings of normality were reported in relation to sustained weight as opposed to the constant weight cycling reported pre-surgery. The adjustment to changes in body shape was proving to be a challenge as participants struggled to 'see' the weight they had lost and felt they needed to find a 'new normal'. Where weight loss had led to dramatic changes in body shape it was having negative impacts on psychological health and relationships. Partners were jealous of additional attention and new social experiences whilst friends who were overweight themselves were resentful of the extent of weight loss that they could not achieve.

Shame remained a part of people's lives, the shame of obesity being replaced with shame of having the surgery to lose weight. These feelings linked to cost to the NHS of the surgery and the societal view of surgery being the easy way to lose weight. Fear of reduced life expectancy and ill health was replaced by fear of weight regain once the immediate weight loss slowed down. There was no mention of support to manage these feelings provided by the MDT or other HCPs. Furthermore, at nine months participants referred to the lack of psychological support pre- and post-surgery which they felt would have been beneficial to them managing the changes of body image, weight and behaviours following surgery.

6.6 Things that will help me achieve success / Things that are helping me to achieve success

The data for this statement derives from all stages of interviews across the study. Throughout the weight loss journey, support with adapting to and maintaining behaviours and managing emotions was required from friends, family and bariatric peers, GPs, tier three and MDT services. Where the support was active participants were reporting positive physical and psychological outcomes.

Adapting to a new eating regime was challenging but by two years many participants felt more confident in maintaining their new eating behaviours and managing potential challenges. At pre- and post-surgery, participants believed that the physiological outcomes of the procedure provided a permanent tool to modify eating habits and restrict volume of food consumed. This tool also supported psychological change and commitment to behaviour change and was referred to at each round of interviews. Habitual physical activity levels also increased following surgery and were maintained at two years.

Post-surgery, old clothes and changes to anthropometric measurements were providing motivation for continued behaviours. Fear was also a driver of behaviour; this fear was of weight loss stopping, weight regain and experience of dumping. The extent to which this fear would remain a part of the participants' life long term is

unknown. Adherence to new behavioural approaches appeared to be driven by fear of dumping and weight gain rather than the knowledge and motivation to adopt new physical activity and eating behaviours as a commitment to healthier lifestyle behaviours. This fear contradicted with the aspiration of a new normal as participants didn't expect fear to be part of their daily lives post-surgery.

6.7 Things that will prevent me from achieving success / Things that are preventing me from achieving success

The data for this statement comes from all stages of the study.

Pre-surgery, participants spoke of the challenges that they may come across which could influence outcomes. Post-surgery these challenges were discussed as real issues that were affecting the potential of positive outcomes. Understanding these factors when providing bariatric services may enable clinicians to better support patients throughout the pathway.

Support networks of family, friends, bariatric peers and HCPs influenced the behaviours of participants in relation to food, exercise and anticipated outcomes of surgery. The behaviours of family and friends with regards to their own food and exercise and unwillingness to improve their own lifestyles meant that participants continued to feel different. Furthermore, family and friends who did not understand the necessity to change certain behaviours following surgery mocked decisions and or added pressure to participants who were trying to follow guidance. Whilst the weight loss journey is individual to the person undergoing the surgery, the wider networks have a direct influence, engaging these networks along the journey from pre-surgery in what to expect through to post-surgery and managing change may result in a more supportive environment and thus improved outcomes.

Poor communication and contradictions in the information given by weight management interventions, primary and secondary care left participants struggling to navigate the healthcare system. Follow up appointments after surgery focussed on

weight loss and participants felt criticised and judged if they weren't achieving the expected weight loss. During the two year interviews the lack of access to psychological support pre- and post-surgery was raised as a potential problem and gap from the bariatric surgery support pathway.

Throughout the study, participants described how their ability, motivation and personal circumstances to adhere to guidance on behaviours were tested. Some of these mechanisms influencing behaviour were external to the individual and harder to tackle, such as the financial implications of changing behaviours that are required for success; a better diet, vitamins and exercise were all more prohibitive to those on low incomes.

Internal mechanisms such as the physiological consequences alone were not enough to control the volumes and types of foods consumed. Boundaries were pushed to establish food tolerance levels and the desire to eat remained an issue throughout the study. This desire was further challenged once the ability to consume regular food was reached. Despite participants receiving dietary support throughout their journey, their knowledge in relation to a healthy balanced diet was questionable and highlights a need to better understand the individual knowledge of patients.

Habitual physical activity levels of all participants increased from pre to post-surgery. However, the adherence to structured exercise changed over the two years. Pre- and immediately post-surgery participants were either taking part in or wanting to exercise but at two years post-surgery only 2/13 were undertaking regular structured exercise.

During the pre-surgery interviews, participants dismissed the notion that excess skin would cause physical and psychological problems that were any worse than the lived consequences of morbid obesity. Yet as early as three months post-surgery rapid weight loss and onset of excess skin was having major physical and psychological effects on the lives of some participants. These participants discussed the need for corrective surgery. However, the level of support identified within the surgical

pathway for excess skin is limited with funding restraints meaning there is little possibility of accessing NHS funded corrective surgery. The underestimation and actual lived consequences of excess skin challenged how successful participants attributed the surgery to have been. Without correct additional surgical or psychological support the consequences of excess skin could undermine outcomes.

6.8 Bariatric surgery: successful or not

The qualitative data related to this statement was generated in the two-year post-surgery interviews. This statement also reflected on the findings of the quantitative QoL data that was collected across all timepoints of the study.

Participants were asked to reflect and summarise their weight loss journey and whether they considered the surgery to be successful or not. From a clinical perspective all participants had lost weight and levels of comorbidities had reduced. This signifies a positive clinical outcome and concurs with policy that bariatric surgery is successful in reducing levels of morbid obesity. However as reported previously there were some negative physical, psychological and social consequences of weight loss that challenged participants' view of success even where they met clinical goals. Two of the participants had not lost the weight that they had expected following surgery. Clinically these participants had successful outcomes, yet they reported that the surgery had not brought about the level of successful outcomes they were expecting.

Improved QoL is an outcome measure of surgery and is used to measure success beyond weight loss. QoL data was collected in this study using the IW-QOL and EQ-5D-5L questionnaires. This data provides an indication of change not a measurement of change in QoL and subjective health profile from pre- to post-surgery. Whilst the IW-QOL does suggest improvements the EQ-5D-5L is less positive therefore the data does not conclusively indicate positive improvements across all domains.

Chapter 7: Literature review

This chapter presents the literature review that was undertaken as part of the overall thesis which aims to address the research question- 'what influences whether bariatric surgery is successful for patients?' First, however, is a brief restatement of the thesis so far.

The background (chapter 1) provided an overview of the rationale, policy and treatment context for severe obesity in the UK, the outcomes of bariatric surgery and the theoretical framework of the study. The background chapter highlighted the prominence of literature demonstrating clinical and physiological outcomes of surgery but little by way of the experiences of bariatric surgery patients in the UK. Chapter 2 set out the methodology and described the way in which ideas and theories about the success of bariatric surgery are developed in the thesis. The analysis of the data presented in chapters 3 to 5 set out the key findings from the experience of patients going through a bariatric surgery pathway in the UK. These were summarised in chapter 6. The literature review presented in this chapter (7) uses these findings from real time experiences of pre- and post-surgery life to structure the empirical literature search, particularly where qualitative methods were used, to explore similarities and gaps in previous studies.

7.1 The scoping review search strategy

For this chapter, an extensive scoping review was conducted to identify existing research on surgical procedures for overweight and obesity using qualitative methodologies. Scoping reviews aim to find the most relevant studies to the topic (Arksey & Malley, 2005). Unlike systematic reviews, scoping reviews do not attempt to assess the quality of papers but can still be conducted using a systematic search strategy (Booth, 2016). To ensure the scoping review followed an organised process, the 'Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist' (Tricco, 2018) was completed when conducting this review (see [appendix 18](#)). In this review, one broad search of title and

abstracts in two databases CINAHL and MEDLINE was conducted. The search used MESH and other search terms that were also used in two recent UK based review papers (Coulman et al, 2017; Parretti, Hughes, & Jones, 2019). The systematic by Coulman et al, was conducted using a modified version of the Critical Appraisal Skills Program criteria and the Parretti et al rapid review was registered with PROSPER and was reported to the Enhancing Transparency in Reporting the Synthesis of Qualitative Research (ENTREQ) framework. Terms were linked to procedure type including: 1) 'bariatric surg*'; 'bariatric operation'; 'weight loss surgery'; 'gastric bypass'; and 2) obesity related terms: 'Obesity+'; 'obes*'; 'overweight'; 'weight loss'. These were combined with terms linked specifically to qualitative methodologies including: 'focus group'; 'Interview '; 'qualitative'; 'thematic analys*' (see [appendix 20](#) for full list of terms).

A set of search criteria was used to filter the results and select appropriate papers:

Inclusion criteria:

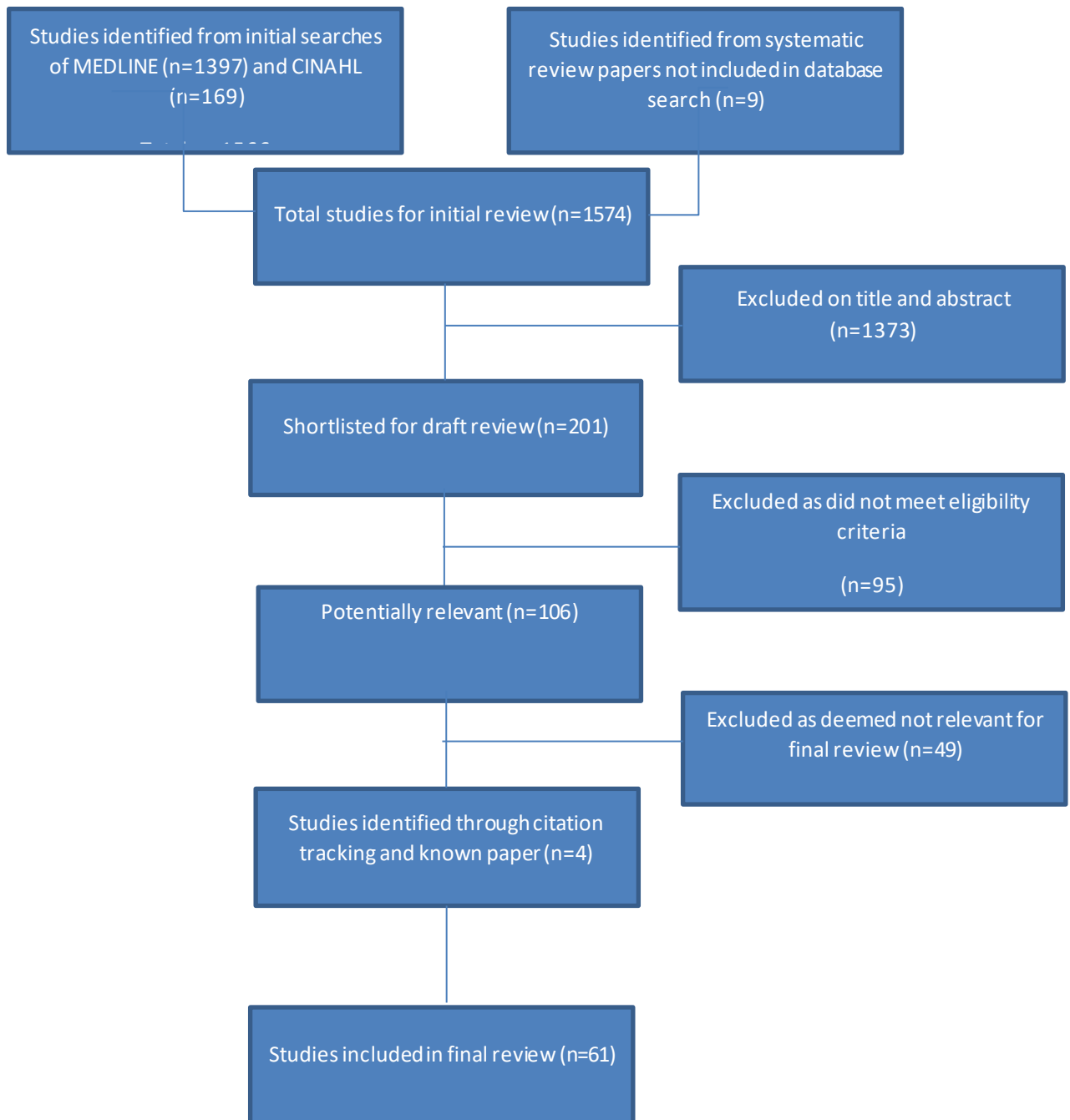
- Original research / systematic reviews
- Adult populations
- Research conducted between 2000 - present (May 2019)
- All forms of bariatric surgery
- Qualitative studies

Papers were excluded from the search if they:

- Focussed on clinical outcomes only; such as weight loss and physiological changes
- Papers from countries that were demographically different from the population of interest (e.g. non-western countries in Africa and Asia with different demographics to the UK population)
- Papers not in English language
- Unpublished studies and dissertations or theses
- Were not relevant to the four aims of the thesis, e.g. mainly quantitative, did not address support needs or mechanisms to support success

The Refworks data management system was used to support the collation of the papers. Citation tracking and results from the two review papers were also included in the search process along with the inclusion of one additional paper known to me.

Figure 4 - Review process for identifying papers to be included in final review



7.2 Scoping review results

The review identified 61 relevant papers. This search strategy was considered broad enough to uncover papers relevant to each aim (see list below). The full data extraction table can be seen in [appendix 21](#). Headings of the table followed the format in the review paper by Coulman et al (2017) with some additional headings important to this review including country of origin and the aim to which the paper relates. Techniques of reading the papers aligned to recommendations in (Greenhalgh (2019) which included: the relevance of the research question; the appropriateness of the methods used; participant selection; data collection and analysis; and conclusions and their relevance to the results. The principles of a scoping review were retained. During the appraisal process the papers were reviewed considering their links to the four aims of this thesis and it is under these four aims that the existing literature is presented.

These aims are:

1. Clarify what success after surgery means to a patient
2. Explore the support needs of bariatric surgery patients and experience of the care pathway pre and post bariatric surgery
3. Identify the mechanisms through which success is achieved or not
4. Identify the implications for clinicians, policy makers and commissioners

The qualitative studies included in the final review were conducted using interviews (n=49), focus groups (n=3) and interviews and focus groups (n=3); two studies were content analysis of website forums; and four were systematic reviews of literature (see extraction table [appendix 21](#)). Twelve of the final number were conducted in the UK with the others based in Europe, the US, Australia and South America. The studies from outside of the UK bear some comparison with experiences of obesity, motivations and outcomes from the surgery; however, caution must be applied when reviewing the health care support, particularly in relation to countries with non-state funded surgery such as the US.

Nine of the studies collected data pre-surgery and 45 post surgery. The focus of pre-surgery studies was on the experience of obesity and how it drove the decision to access surgery. Several studies conducting data collection post-surgery retrospectively explored participants' lives before surgery and their experiences of morbid obesity. The length of time that had elapsed between surgery and the interviews was not always clear in studies. In some papers the time which the data collection was undertaken ranged from immediately after the procedure to ten years after the surgery had taken place. The method of recruitment and sampling often meant that participants within studies may have had their surgery over five years apart (Bocchieri et al, 2002; Stolzenberger, Meaney, Marteka, Korpak, & Morello, 2013) and as such be at very different points within their journeys. Reviewing the literature identified that the challenges and rewards that are prevalent in daily life at 12 months post-surgery are somewhat different to those present at five years post-surgery. Whilst the studies with a time difference shared common themes, following a cohort of participants through their journey and interviewing them at the same points in time as the methods used in this study adds to the generalisability of findings.

The timeframe post-surgery was up to ten years, hence raising concerns about the accuracy of recall from pre-surgery to possible dramatic changes in life post-surgery. However, seven studies were, like the study presented in this thesis, longitudinal (Beltrán-Carrillo et al, 2019; Dikareva, Harvey, Cicchillitti, Bartlett, & Andersen, 2016; Engström & Forsberg, 2011; Johnson et al, 2018; Knutsen et al, 2013; Lynch et al, 2018; Zabatiero et al, 2018). Such studies collected current data pre- and post-surgery, adding to the veracity of the experiences across the journey. The longitudinal studies were all conducted outside of the UK; but as with the present study, data was collected at various points from pre- to two years post-surgery. As discussed previously (see chapter 3) the modified Photovoice and longitudinal methods used in this study were mirrored on a US based research study (Johnson et al, 2018).

The main findings of the studies reviewed are now set out using the four-aim framework of the thesis.

7.3 Aim 1: Clarify what success after surgery means to a patient

This aim explores how surgical success is defined from the patient's perspective using three sections: the types of studies which refer to measures of success of bariatric surgery; pre-surgery expectations and experience of obesity; and, post-surgery outcomes and the experience of surgery.

7.3.1 Quantitative or qualitative; how to define a measurement of success

Literature on the outcomes of bariatric surgery is generally quantitative in nature and clearly defines measures of success using clinical measures (see Chapter 1). However, studies using these clinically defined measures do not provide understanding of the expectations from the patients' point of view (Bocchieri et al, 2002) and as such the psychosocial aspects of obesity remain unaddressed (Jumbe & Meyrick, 2018). By contrast, the present study aims address this by clarifying what success after surgery means to a patient using qualitative methods.

The term success was not commonly found in the qualitative literature included in this review; instead studies referred to "experiences" (da Silva & Maia, 2013; Forsberg, Engström, & Söderberg, 2014; Griauzde et al, 2018; Johnson et al, 2018; Magdaleno, Chaim, & Turato, 2010; Natvik, Gjengedal, & Råheim, 2013; Wysoker, 2005); "outcomes" (Bocchieri et al, 2002); and "impacts" (Groller, Teel, Stegenga, & El Chaar, 2018; Ogden et al, 2006) to describe how individuals felt about surgery. A systematic review (Coulman et al, 2017) through which some of the papers in this literature review were sourced, looked at studies which explored living with the outcomes of bariatric surgery from the patients' perspective rather than success per se. Jumbe & Meyrick (2018) was the only paper that referred to success and, similarly to Throsby (2012), there were contrasting views in the 'measure of success' from the patients' and HCPs' perspective.

7.3.2 Pre-surgery expectations and experience of obesity

In the literature, the personal accounts of why individuals feel they need bariatric surgery were presented in a variety of pre- and post-surgery studies. Arguably those

studies which collected the data whilst individuals were awaiting their surgery had an additional layer of reliability as the experiences were current and did not need to allow for problems with recall. However, as there is not a huge volume of pre-surgery studies available, themes from other papers were considered in this review.

A starting point to develop an understanding of success is to explore the reasons why individuals feel they need the procedure. In exploring this need, studies interviewing people pre-surgery report the life experiences of a person with obesity. Engström & Forsberg (2011) explored the meaning of awaiting bariatric surgery with 23 individuals using a phenomenological hermeneutic approach which considers the subjective experiences of participants. The authors felt that this approach gave a deeper understanding from the perspectives of study participants through descriptions and interpretation of individual experiences. Using these methods, they described: i) the feeling of being burdened by obesity as the disgust and shame of their bodies; ii) the necessity to construct a restricted life through reduced social contacts; and, iii) reliance on others for hygiene and everyday tasks. Other physical and psychosocial consequences of living with obesity included: iv) poor physical health and reduced life expectancy; v) struggling to manage activities of daily life (Edward, Hii, Giandinoto, Hennessy, & Thompson, 2018; Owen-Smith, Donovan, & Coast, 2017; Pfeil, Pulford, Mahon, Ferguson, & Lewis, 2016) and vi) dealing with the social stigma of obesity (Groven, Råheim, & Engelsrud, 2010; Park, 2015) and vii) stigma during experiences with HCPs (Stolzenberger et al, 2013). Even where poor health and comorbidity was not a current issue the fear of developing future illness was very real to a person with obesity (Pfeil et al, 2016).

The burden of obesity is commonly linked to a loss of control and desire to regain control. In their longitudinal study, Engstrom and colleagues (2011) reported that the burden of obesity prior to surgery was caused by a loss of control in relation to food intake driven by emotional eating, constant weight cycling and a feeling of hopelessness of future weight loss. They described the desire for a mechanism to offer sustainable control of these eating behaviours, to feel de-burdened from obesity and to end the rollercoaster of dieting. The UK study by (Pfeil et al, 2016)

explored the journey to gastric band surgery and provided many examples of participants' expectations of how the band would control their eating. As in Engstrom's (2011) study, this expectation was driven by the powerlessness they felt in controlling their eating and weight. The powerlessness may be linked to physical injury, psychological trauma or negative social experiences and controlling weight is expected to resolve these other problems (Jumbe & Meyrick, 2018). Controlling eating behaviours was a common theme reported in other studies where data was collected pre and post bariatric surgery (Jumbe & Meyrick, 2018; Ogden et al, 2006; Ogden J et al, 2005; Pfeil et al, 2016).

The qualitative synthesis (Coulman et al, 2017) identified control as one of the key themes in their review of 33 studies of post-surgery experiences. A factor in accessing surgery was the hope for control in eating, health, weight and lives. Despite feeling in more control in the first few years post-surgery, longer term studies in the review highlighted issues of weight regain which were challenging the sense of control and thus having potential negative outcomes longer term. By taking or regaining control of their eating and weight, individuals were anticipating and desiring a new life. Surgery was reported to be the 'last resort' to support individuals to make these changes (Bocchieri et al, 2002; Ogden et al, 2005; Wysoker, 2005) and as the 'panacea' to improved life (Johnson et al, 2018). The expectations of improved life were to: increase life expectancy; reduce pain and comorbidities; improve health, QoL, mental and emotional health; and improve appearance and social relationships (Engström & Forsberg, 2011; Pfeil et al, 2016; Willmer & Salzmänn-Erikson, 2018).

A global theme of the expectations and a measure of success was for normality across all areas of life (Coulman et al, 2017). Normality is to rid themselves of the physical and psychological consequences that obesity has on daily life, acceptance of appearance and access to opportunities that normal looking people can routinely access. The desire for a normal life was one of surfacing from their current difficult and isolated situation (Knutsen et al, 2013). The measurement of obesity 'BMI' which uses categories of 'healthy / normal weight', 'obese class - 1, 2 and 3', may reinforce

the stigmatisation that a person with obesity experiences and underpin their craving to be normal by losing weight (Knutsen et al, 2013).

7.3.3 Post-surgery outcomes and the experience of surgery

Success is achieving the objectives set prior to surgery (Da Silva & Da Costa Maia, 2012) and individuals viewing themselves as healthy (Knutsen et al, 2013). These objectives might be physically, psychologically or socially related. The scoping review and the review of outcomes by Coulman et al (2017) highlighted examples of these different perspectives of success.

The physical outcomes experienced following surgery included: weight loss; improved QoL; reduced comorbidities and medications; increased energy which in turn led to the ability to undertake activities of daily living and other physical activity (Aramburu Alegría & Larsen, 2017; Bocchieri et al, 2002; Dikareva et al, 2016; Engström & Forsberg, 2011; Groller et al, 2018). Some of the psychological outcomes reported were: increased self-confidence; improved body image; and a better relationship with food (Aramburu Alegría & Larsen, 2017; Ogden et al, 2006; Willmer & Salzmann-Erikson, 2018). Socially the experience of weight loss brings enriched relationships with friends, family and work colleagues. Intimate relations with partners improved (Aramburu Alegría & Larsen, 2017; Groller et al, 2018). Increased confidence led to greater interest and ability to socialise and seek new opportunities (Da Silva & Da Costa Maia, 2012; Engström & Forsberg, 2011; Groller et al, 2018; Groven, Galdas, & Solbrække, 2015). Feelings associated with appearance were improved. The effects of weight loss and changed body shape meant individuals were able to buy and wear smaller clothes (Aramburu Alegría & Larsen, 2017).

Three factors were reported to determine success from the individual level: i) following programme rules, ii) meeting weight loss goals and iii) the amount of individual effort required (Groller et al, 2018). These three factors may create some tension; meeting the goals is unproblematic but highlighting the tension between the rule following (diet advice) and effort required (adhering to the advice) is difficult and the results can be disappointing (Bocchieri et al, 2002). The review by Coulman et al

(2017) highlighted control as a key determinant of success. Feeling in control over hunger and satiety led to control of weight and ultimately increased happiness. The extent, to which physical feelings of control were evident longer term, was presented. One-year post-surgery was highlighted as the start of a downturn of physical control, and a requirement to take personal action to maintain diet behaviours. The ability to manage this is both a factor of achieving success and success itself.

Normality was an overriding concept. Success means that all aspects of life are more normal; this includes activities of daily living, opportunities at work, improved appearance, blending into the crowds and being socially accepted (Coulman et al, 2017; Griauzde et al, 2018; Groven et al, 2015; Jensen et al, 2014). Studies with all-male or all-female participants highlighted different experiences or aspirations of normality. A study with men (Groven, Galdas, et al, 2015) found that physical activity became routine as weight loss led to improved physical capability, fewer restrictions on clothes, more confidence in exercise environments which resulted in increased self-esteem. A study interviewing young female adults cited the continued struggle for normal weight and being accepted by their peers (Jensen et al, 2014).

The experience of individuals post bariatric surgery was not always one of success. Experiences of negative outcomes were plentiful in the literature. These outcomes can also be grouped under the themes of physical, psychological and social. The extent to when they emerge generally increases the longer the time frame following the procedure (Natvik et al, 2013). Examples include: continued fat identity (Aramburu Alegría & Larsen, 2017); presence of excess skin (Atwood, Friedman, Meisner, & Cassin, 2018; Da Silva & Da Costa Maia, 2012; Gilmartin, 2013); limited weight loss or weight regain (Groven & Glenn, 2016; Jones et al, 2016); and lessening of control (Coulman et al, 2017). Part of achieving success is to deal with the negatives and develop techniques to normalise the body following weight loss (Throsby, 2008) and follow the 'programme rules' (Groller et al, 2018). Whilst some of the negative impacts are known and are considered pre-surgery, others are new. Those that were known pre-surgery such as hair loss and sickness were sometimes played down and were outweighed by other benefits (Edward et al, 2018; Throsby,

2008). These negative experiences may well act as a barrier to success and as such require additional support to overcome. Dealing with these negative outcomes may be significant to success from the perspectives of not only the patients but also commissioners, policy makers and clinicians.

7.3.4 Aim 1 summary

Overall, the literature relating to the first aim of the thesis concerning the meaning of success went beyond one of weight loss and reduced comorbidities. A quote from Groller et al (2018) demonstrates the continued juxtaposition in the individuals view of success *"I am not a success because I have not lost X % of BW, or I am a success as my life is a lot better now"* (page 792). Key themes of control and normality were frequently reported. The experiences of obesity and its physical, psychological and social effects reinforce this desire for control and normality. The next section of this review will refer to the literature which commented on the support needs of patients pre- and post-surgery and the mechanisms that determine whether success is achieved.

7.4 Aim 2: Explore the support needs of bariatric surgery patients and experiences of the care pathway pre- and post-surgery and Aim 3: Identify the mechanisms that determine whether success is achieved

This section will address aim 2 'explore the support needs of bariatric surgery patients and experiences of the care pathway pre- and post-surgery' and aim 3 'identify mechanisms that determine whether success is achieved. This allows for the support needs and mechanisms that may exist to address them to be presented together.

The section is divided into two parts, beginning with a review of literature relating to the experience of the care pathway pre- and post-surgery. This part includes papers reviewing England's obesity pathway and related service provision. Whilst this limits the amount of available literature, it was considered important to identify gaps in the UK literature and support the thesis aims of providing relevant recommendations to policy makers, clinicians and commissioners who are developing the obesity pathway in England.

The second part is not limited to the UK literature. This part explores the support needs of individuals. The support needs are presented under the headings of psychological, physical, social and cross-cutting themes. The literature reviewed in relation to these support needs will also identify the mechanisms which may or may not exist that have the potential to influence success. The review will highlight areas where there doesn't appear to be a mechanism identified in the literature to address the support need.

First to clarify what is meant by 'support need' and 'mechanism' the terms are defined.

7.4.1 What is a support need?

Aim 2 refers to support needs. For the purpose of this review, 'need' is understood as a 'need in order to meet the goal of success from the patient's perspective'. A patient has a support need where there is a barrier to success which they cannot easily overcome themselves. Support needs can be broadly split into three areas: psychological, social and physical support needs. Some support needs go across all these areas such as managing the psychological, social and physical impacts of excess skin, support to increase levels of physical activity and dealing with limitations arising from lower socio-economic status.

7.4.2 What is a mechanism?

Aim 3 refers to mechanisms. Tilley (1998) describe a 'mechanism' as 'what is it about a measure which may lead to it having a particular outcome in a given context' (page 145) (See chapter 2 for more information). In relation to this study, 'mechanism' therefore refers to something which may address the support need by, for example, removing barriers. Conversely mechanisms also exist within the system that may create barriers that individuals must negotiate and manage in order to reach a successful outcome.

7.4.3 Experience of the care pathway pre- and post-surgery

Guidance states the requirement for good quality pre- and long term follow up care and support from major international clinical bodies. This requirement includes access to psychological support with behaviour change, self-efficacy and weight maintenance, yet details on the availability and effectiveness of such support is missing from international literature (Parretti, Hughes, & Jones, 2019).

The referral system and tiered model offered pre- and post-surgery in England (see chapter 1) is different to that offered elsewhere. Since 2014, individuals having NHS funded surgery in England should attend specialist weight management services pre-surgery and have lifelong follow up care post-surgery (The Royal College of Surgeons of England, 2014). Therefore, studies exploring the experiences of the obesity pathway in England are used here. However, none of the UK papers included in this review report qualitative studies where individuals have attended tier three services prior to or following their surgical procedure. Furthermore, no material was found on the effectiveness of this support or indeed if the support provided meets the expectations and needs of bariatric patients. Of the UK papers in this review: 7/12 were published prior to the 2013 guidance being implemented; one paper reviewed long term weight regain with no reference to support pathways (Jones et al, 2016); and one paper did not mention HCP support (Graham, Hayes, Small, Mahawar, & Ling, 2017). Therefore three papers were reviewed: one a systematic review of tier three services (Brown et al, 2017); one exploring experience of accessing NHS funded surgery through a hospital based weight management service (Owen-Smith et al, 2017); and the third reporting findings from a tier three intervention offering group based support (Tarrant et al, 2017).

The systematic review (Brown et al, 2017) reports findings from a Public Health England mapping review of tier three services (Public Health England, 2015). This paper was known to me and was not retrieved through the search process. The review of quantitative data highlights the limited evidence of effectiveness of services meeting the definition of a tier three service and as such included studies that were not defined as tier three but met the MDT criteria. The focus of the review was to

explore the effectiveness using anthropometric measures and service metrics. The paper highlights the significant weight loss that tier three MDT services has but calls for better reporting of QoL and behaviour change outcomes to understand the mechanisms which contribute to weight loss. One study which suggests attendance at a tier three service prior to Roux-en-Y gastric bypass surgery improves weight loss (Patel et al, 2015) was included in the review. Brown et al (2017) suggest this could support the assumption of the NHS England and Public Health England working group that attending tier three services prior to tier four is beneficial for outcomes (Aronov & Kaner, 2014) however no other studies in the review included tier four data. The review highlights the requirement for future research to consider the effectiveness of the pathway of tier three MDT and tier four services.

A qualitative study by Owen-Smith and colleagues (2016) reported the experiences of accessing NHS funded bariatric surgery. Patients were recruited to the study from a hospital-based weight management clinic in 2012/13. During this time period, some areas operated a tier three service (like the study presented in this thesis), but commissioning and referral pathway guidance were being developed so access to surgery was also granted via primary care. This study found that all patients were referred to the hospital from primary care and it is therefore assumed that no tier three specialist service was available. The study reports similar experiences of living with morbid obesity that are reported in other international papers. It also highlights the stigmatisation that people with morbid obesity face daily which commonly occurs during contact with HCPs. Primary care professionals have limited knowledge, compassion and understanding to support morbid obesity. Onward referrals to weight management specialists are often rationed and only offered after exhausting lifestyle interventions and following a demand for support from patients. The authors report the need for accessible interventions to facilitate weight loss and reduce occurrence of weight regain, through the development of integrated care across the health system. The premise of this has been addressed through the implementation of the tiered model which includes community, primary and secondary care adopted since 2013. However, the findings of this scoping review report the lack of published

research evaluating the journey through this integrated system and as such the actual impacts remain unknown.

Tarrant et al (2017) focussed on tier three group-based support prior to surgery and the psychological connections that developed between the group members. They found that developing a social identity with others in a group may offer structure to engage with a programme and validated educational materials. Furthermore, the opportunity to share experiences may promote change mechanisms in relation to diet and exercise and address psychological needs. However, for some, the tier three service was a means to an end in accessing surgery and as such the authors recognise the need for further research to understand mechanisms of attrition to group engagement. However, missing from the study and wider literature is the long-term impact on behaviours outside of the clinical domain following group-based support.

The two studies provide some insight into the primary care and tier three elements of the weight management framework in the UK, although neither considers patient outcomes or indeed the journey through an integrated system. Both papers refer to the need for more studies on the effectiveness of integrated care pathways for people with morbid obesity and highlight the scarcity of studies exploring the experiences of support across the pathway in the UK.

7.4.4 Psychological support

The psychological impacts of obesity and the challenges and changes faced post bariatric surgery are well accounted for in the literature and identify many psychological issues requiring support. Psychological support is considered even more important than dietetic support (Sharman et al, 2017). Despite guidance stating the need for this support its absence is unequivocal. Owen-Smith et al reinforced the lack of psychological support available for patients. The independent UK NCEPOD report (Martin, Smith, Mason, & Butt, 2012) also found fewer than one third of patients are offered talking therapies prior to surgery referral. Studies frequently refer to the need for the provision of more psychological support in the pathway pre- and longer term post- surgery (Jumbe & Meyrick, 2018; Parretti et al, 2019). However, criteria such as

the type, timing, length of support and who it should be offered by is not accounted for. As this detail is missing, so too are any outcomes that psychological support would have in the short or long term for bariatric surgery patients. Therefore, although psychological support may well be a mechanism for success, in the absence of evaluations or of patient reported contact with psychology services there seems a clear gap in the literature and quite possibly in-service provision. As such this next section focuses on three support needs and suggestions of mechanisms that may facilitate success that are presented in studies. These three areas were themes identified in this study and as such haven been chosen to further explore here.

7.4.4.1 Control of emotional eating

Many people with morbid obesity seeking bariatric surgery report ingrained patterns of emotional, binge and rapid eating which have developed over many years. Food is and has always been central to life, with the motives and reasons to consume food ever present (Da Silva & Da Costa Maia, 2012; Edward et al, 2018). An outcome of this psychological need for food is years of failed attempts at dieting to lose and maintain weight loss. As such, an internal mechanism to restrict food intake rather than willpower alone is sought. Surgery is expected to fulfil this support need by providing this mechanism to take over the control to limit food intake and a permanent physical feeling of satiety (Coulman et al, 2017; Da Silva & Da Costa Maia, 2012; Engström et al, 2011; Hillersdal, Christensen, & Holm, 2016). However, addressing the underlying causes of these behaviours is crucial; without doing so, individuals may find it difficult to comply with post-surgery dietary guidance, in time overriding the physiological mechanisms that bariatric surgery provides (Geraci, Brunt, & Hill, 2015).

The first two years post-surgery are often referred to as a honeymoon period (Coulman et al, 2017). During this time individuals report feeling the presence of a physical restriction to control their eating behaviours and as such do not feel hungry. However in the longer term, once these physical feelings of control to restrict food subside, will-power is required to moderate eating behaviours (Coulman et al, 2017). At this point post-surgery, individuals may find it difficult to develop new methods to deal with the emotions that they once would have managed using food (Knutson et

al, 2013). Bocchieri (2002) reports the need to develop skill acquisition in order to control eating behaviours and establish long term habits. Other studies report the need for psychological support to manage these issues (Parretti et al, 2019).

7.4.4.2 Managing expectations

The person's experiences of obesity drive the expectations of the changes that will occur to their life post-surgery. These expectations are also linked to how individuals measure success following surgery (reported in aim 1). Those who set realistic expectations are more likely to achieve success (Da Silva & Da Costa Maia, 2012). Yet all too often expectations are high and sometimes unrealistic (Parretti et al, 2019).

Individuals require support to set realistic expectations pre-surgery and to manage their expectations of change post-surgery. The rapid review by Parretti et al (2019) identified a need for better information preoperatively to prepare individuals and manage expectations, although it does not identify what this support would be. Post-surgery, a disconnect between the expectations of patients and HCPs exists, particularly in relation to adherence to guidance and weight loss. This can lead to non-attendance at follow up appointments when individuals feel they have let the HCPs down (Parretti et al, 2019). Managing these expectations and patients measures of success could be assisted by clear communication and the development of trusted relationships to provide individual and non-judgemental advice (Parretti et al, 2019).

7.4.4.3 Fat identity

Following extensive weight loss, reduced physical size and clothes size, individuals find it difficult to process the change in weight and body shape (Forsberg et al, 2014). A discordance exists between objective post-surgery weight and an individual's perceptions of their appearance and identity (Griauzde et al, 2018). Post-surgery individuals still self-identify as fat and these feelings are worsened without clothes and when viewing excess skin (Aramburu Alegría & Larsen, 2017). This highlights the support needed to feel 'ex-obese' by managing perceptions of an individual's body and the discrepancy between the felt and actual body (Faccio et al, 2016; Natvik et al, 2013). This is an evolving process which requires the ability to settle the difference

with the internal and external self (Stolzenberger et al, 2013). However these adjustments take time and require psychological support and training enabling them to adapt the perception of their body and come to terms with the extensive weight loss and other changes (Faccio et al, 2016).

7.4.5 Social support

As well as the need for psychological support, good social support is associated with greater weight loss post-surgery (Livhits et al, 2011). Social support may act as a mechanism to successful outcomes; however, the evidence of social support on long term surgical outcomes is limited. Livhits et al (2011) report that there is a possibility that studies attract participants whose social support experiences are positive, excluding situations where social support may have negative consequences on surgery outcomes. The papers in this scoping review refer to both positive and challenging experiences; they also show the types of social support that individuals seek to access and receive along the surgery journey.

Ogle et al (2016) reported the fundamental role that social support plays post-surgery. In the introduction to their paper they refer to a theorised model of social support developed by Tolsdorf (1976). Tolsdorf states it is the actions and behaviours of others that help someone meet the demands of their situation or achieve goals. Types of this social support cited in the bariatric literature include: informational; esteem; network; tangible; and, emotional (Atwood et al, 2018; Ogle, Park, Damhorst, & Bradley, 2016). Using the Social Support Behavioural Code, Atwood and colleagues (2018) categorised posts on a weight loss forum. The most frequently occurring posts were linked to fulfilling informational and emotional support needs. The types and methods of support required and accessed vary pre- and post-surgery. Studies differ in their assessment of when the critical support periods are; for example, Sharman et al state it is higher in the first year (Sharman et al, 2017) whilst others report it is longer term when weight regain is more likely (Jones et al, 2016). Understanding the change in support needs of individuals across the surgery journey may enhance the guidance and knowledge of service providers to improve the experiences of bariatric patients.

Ogle et al (2016) categorised the sources of these types of social support networks into three groups: 1) peers; 2) HCPs; and 3) partners, family and friends. The groups offer different types of support, but all are important and interconnecting. These three groups are now discussed in more detail to explore the mechanisms that they provide and have influence over.

7.4.5.1 Bariatric peers

Pre-surgery, bariatric patients report feeling different from their family, friends and wider society (Johnson et al, 2018). People who are obese often experience stigma, blame and shame in relation to their weight, appearance and health (Park, 2015). Therefore the emotional support from bariatric peers to empathise with these feelings may help to manage these situations and the effects on self-esteem, feelings of self-worth and confidence to socialise (Grønning, Scambler, & Tjora, 2013).

Post-surgery the feelings of shame and stigma continue, not because of obesity but through embarrassment over losing weight as a result of undergoing a medical procedure (Coulman et al, 2017; Graham et al, 2017) often referred to as the 'easy option'. Bariatric surgery patients manage this by not revealing their surgery to others outside of their close networks (Edward et al, 2018; Sharman et al, 2017) often causing longer term problems as changes in weight and eating habits are questioned. This can create additional pressures and undermine the feeling of normality and blending in that is such a strong aspiration pre-surgery (Graham et al, 2017). These needs may be addressed by the emotional support provided by a bariatric peer network that have a shared understanding and experiences of life pre- and post-surgery. Peers are well positioned to act as role models, express empathetic understanding, share knowledge and give reassurance. Family and friends may not always play all these roles and may even do the opposite.

Individuals require information such as the type of surgery, pre- and post-surgery changes to diet and lifestyle changes. Bariatric peer networks provide the opportunity to share such information and experiences. UK and international guidance

recommend the development of bariatric peer networks by clinicians providing bariatric surgery (The Royal College of Surgeons of England, 2014). Contact with bariatric peers is generally made through face-to-face groups organised by HCPs, or online through forums and social media sites. Individuals make the choice as to which type of network they prefer to access (Sharman et al, 2017). The literature identifies different formats of the peer support accessed and some of the positives and negatives to these formats. However, it is not known which type of peer support networks have the most positive long-term impacts.

Internet forums are accessed for information and emotional support prior to and along the surgery journey (Atwood et al, 2018; Edward et al, 2018; Pfeil et al, 2016). Pre-surgery, forums provide: advice to manage pre-surgery diets and preparation for surgery; suggestions to muster support from family and friends (Atwood et al, 2018); and suggestions for managing stressful situations such as deciding which procedure to have (Ogle et al, 2016). Post-surgery, individuals access forums to gain a sense of belonging (Groven et al, 2010) and assurance on how to cope with changes, challenges, support and approval over decisions and achievements (Das & Faxvaag, 2014). The approaches to using internet forums are active and passive. Active participation, where individuals engage in conversation, offer support to others and post challenges they are facing, leads to more gains in terms of approval and support (Groller et al, 2018). Yet through passive participation and not revealing their identity, choosing to take information rather than engage in discussions, individuals still learn about experiences and develop knowledge (Das & Faxvaag, 2014; Groller et al, 2018).

Content on online forums and social media sites is generally not controlled by a moderator. This may cause problems in term of the accuracy of information and the type of advice provided by individuals (Edward et al, 2018; Sharman et al, 2017). Moderated forums provide an outlet to share reliable and accurate information which may benefit the HCP and user. Whilst they require continuous facilitation, they can also enable access to hard-to-reach individuals who disengage or who are not able to raise issues at face-to-face appointments (Das & Faxvaag, 2014). A further benefit is the instant 24/7 communication compared to waiting for face-to-face

meetings or accessing HCPs (Ficaro, 2018). Online support is not universally effective. The digital divide between those that can access online forums and social media sites and those who cannot needs to be recognised (Das & Faxvaag, 2014). Furthermore, the use of online support may decline as time goes on, especially in the cases of weight regain as individuals feel that others on the sites are only interested in success stories (Groller et al, 2018; Groven et al, 2010; Throsby, 2008) or are not as interested in longer term problems that may arise, because their focus is often on the pre- and immediately post-surgery time period (Das & Faxvaag, 2014).

Face-to-face group meetings of bariatric peers are also a source of emotional and informational support pre- and post-surgery. An added benefit of face-to-face meetings is the development of new friendships and support systems. A study on pre-surgery group based support identified that the information exchange between participants has the potential to encourage behaviour change and developed highly regarded emotional support between HCPs and patients and between patients and their peers (Tarrant et al, 2017). Post-surgery, attending support groups is reported to motivate and energise (Groller et al, 2018). Individuals who attend these groups are more likely to experience greater weight loss (Ficaro, 2018). Whilst studies show the value and requirement for face-to-face support groups, accessibility can be problematic. Barriers include locations, timings, employment and family commitments (Geraci et al, 2015; Groller et al, 2018). The focus of support groups is generally pre- and short-term post-surgery; the needs of individuals who have been discharged from specialist care but still require support with weight loss maintenance may go unmet (Parretti et al, 2019). The provision of support groups targeting individuals discharged from specialist services is not reported in the literature and may not be commonly available for people to access at a critical period of their weight loss journey.

7.4.5.2 Health Care Professionals

People with morbid obesity receive health care from a variety of HCPs. The interaction with GPs is often reported in the literature. Common in the literature reviewed here GPs are cited as gatekeepers to accessing surgery and as often being

un-supportive to the needs of a person with obesity (Edward et al, 2018; Willmer & Salzmann-Erikson, 2018). GPs give the impression of not caring about the medical needs of individuals with obesity (Engström & Forsberg, 2011). Patients approach their GPs for weight loss support following years of failed attempts but are frustrated by the continued offer of lifestyle interventions (Owen-Smith et al, 2017). GPs' poor understanding of the experiences of obesity and limited availability of interventions to support weight loss adds to patients' frustrations (Pfeil et al, 2016). This has the potential to affect the outcomes of adherence to changing behaviours and long-term outcomes. Pre-surgery, individuals need understanding and knowledge of appropriate and accessible specialist services and proactive offers of support from primary care (Owen-Smith et al, 2017).

Following surgery, individuals require long term HCP support. In England this is currently offered by the surgical MDT for two years. Following this and in the absence of surgical related medical complications, individuals are transferred to primary care for lifelong follow up (NICE, 2016). Parretti et al (2019) conducted a rapid review of HCP led follow up at 12 months post-surgery. They highlighted primary support needs linked to unrealistic expectations, low self-efficacy, problems with adherence to behavioural change and with weight maintenance. These support needs were heightened in circumstances where individuals reported problems with weight regain. Weight regain generally starts to occur two years post-surgery, when discharge from specialist care takes place (Jones et al, 2016). The shame associated with weight regain may lead to individuals being discouraged from accessing support and non-attendance at follow up appointments.

The support from HCPs post-surgery is generally provided by bariatric nurses, surgeons, psychologists, dietitians and, GPs through an MDT (Parretti et al, 2019). Whilst guidance for behaviour change post-surgery includes advice on increasing physical activity levels, specialist exercise support is not mentioned in the literature. Contact with bariatric nurses is the most frequent support, providing emotional support and expertise. The attitudes and expertise of HCPs can have positive and negative impacts on the level of faith individuals have in HCP which in turn may

impact their adherence to behaviour change and attendance at follow-up appointments (Parretti et al, 2019). Furthermore poor communication between specialist services and primary care can pose difficulties in dealing with unexpected physical and psychological changes (Jumbe & Meyrick, 2018).

7.4.5.3 Partners, family and friends

Studies interviewing couples highlight the patients' support needs from their partners during the surgery process and beyond (Aramburu Alegría and Larsen 2017; Pories et al. 2016; Wallwork et al. 2017). Needs of the patient change along the journey pre- and post-surgery, but mainly include emotional and behavioural support. Some studies also refer to the support needs of partners in dealing with changes brought about by the consequences of surgery. Substantial weight loss following bariatric surgery affects the dynamics and norms of relationships. Pories et al (2016) and Wallwork et al (2017) refer to systems theory to highlight this change. Systems theory proposes that systems are interactive and dynamic and that changing one element of the system will change other parts; a partner having surgery will affect not only the life of that individual but their partner's as well. This challenges couples to balance the needs of each partner. Weight loss contributes to reduced dependency on others and increased autonomy for individuals, meaning that significant others were not relied upon a day-to-day basis (Bocchieri et al, 2002). The decreasing physical and emotional support need places new insecurities on the quality of the relationships from the patient and partners' perspective (Aramburu Alegría & Larsen, 2017; Bocchieri et al, 2002).

Post-surgery, the level of partner support and input varies from that of bystander to one of complete engager (Wallwork et al, 2017). Partners can provide positive support with practical needs around food such as meal planning and eating together and acting as a critique of food choices to support adherence with dietary guidance. Encouraging physical activity and joining in with efforts to be more active is reported (Aramburu Alegría and Larsen 2017; Pories et al. 2016; Wallwork et al, 2017). This in turn may lead to the partner's awareness of their own health and increase their motivation to reduce their own weight (Wallwork et al, 2017). Emotional support

such as reassurance, moral support and encouragement that partners provide is also crucial to success (Aramburu Alegría & Larsen, 2017). Couples reporting emotional support and openness also report increased intimacy and connectedness. Furthermore, couples who acknowledge that they both have significant roles in the surgery and weight loss journey report post-operative success as a joint effort (Pories et al, 2016)

Relationship maintenance activities conducted pre- and post-surgery may act as a mechanism to meet the support needs of bariatric patients. Relationship maintenance activities contribute to new norms being developed between couples and as such are more likely to lead to better outcomes (Aramburu Alegría & Larsen, 2017; Wallwork et al, 2017). The quality of the relationship prior to surgery between a person undergoing bariatric surgery and their partners is likely to affect the commitment to these relationship maintenance activities. Where partners provided emotional support and were open in communication about the decision to have surgery, potential impacts of weight loss on appearance and long term commitment to behaviour change pre-surgery, outcomes were more likely to be positive (Aramburu Alegría & Larsen, 2017).

Post-surgery weight loss also challenges the status quo and the dynamics of relationships with family and friends. Quite often, family and friends lack knowledge and consideration for the physiological consequences of surgery in relation to dietary requirements, sometimes adding pressure to eat more or eat incorrect foods (Sharman et al, 2017). Practical and emotional support from other family and friends is required right along the journey from decision making, preparation, care directly after surgery and adaption to new behaviours post (Ficaro, 2018). However, support from family, friends and partners was not universal with many studies reporting a lack of engagement in the bariatric journey (Atwood et al, 2018).

Jealousy of weight loss is a common factor influencing the relationships, sometimes resulting in breakdown or distant relationships (Ficaro, 2018) or changes to the dynamics of a relationship. Changed appearance increased positive social attention

which also reinforced feelings of jealousy from friends and family (Griauzde et al, 2018). Managing this jealousy presents a dichotomy of happiness between weight loss and upset at the loss of identity and change in relationships (Griauzde et al, 2018). Without support, this jealousy may jeopardise positive impacts on QoL and resocialisation (Magdaleno, Chaim, Pareja, & Turato, 2011).

7.4.6 Physical

Bariatric surgery may have some negative physical consequences, bringing about new health complications and pain, which may lead to an increase in the medications taken pre-surgery such as gastric ulcers, hernias and hypoglycaemic episodes (Groven, Galdas, et al, 2015). Other negative consequences of bariatric surgery include hair loss and fatigue. Gastrointestinal symptoms such as sickness and nutritional deficiencies, altered taste and dumping are common side effects of surgery. There is a discrepancy in the reporting of some of the symptoms between HCPS and patients. Patients report sickness and dumping as a sign of control to reduce food intake whereas HCPs view them as an adverse negative side effect that is evidence of the individual testing the boundaries of their guidance (Engström & Forsberg, 2011). The point at which these health problems develop varies, from immediately after the surgery to longer term. Whilst some do resolve themselves others are reported to worsen. Without being carefully managed these additional needs have the potential to affect the level of success individuals attribute to the surgery. Thus, requiring long term clinical support and a shared care pathway of support from the surgical MDT to primary care (Parretti et al, 2019).

7.4.7 Crosscutting themes

7.4.7.1 Excess skin

Excess skin is a common consequence of rapid and significant weight loss. Whilst the potential for developing excess skin is generally discussed pre-surgery, the reality of its extent is not known until post-surgery, as weight loss occurs. The physical complications of excess skin include infections and discomfort (Groven et al, 2010).

Excess skin can also affect movement restricting mobility and participation in physical activity and exercise (Dikareva et al, 2016).

The qualitative synthesis by Coulman et al (2017) reports several studies which refer to the severe psychological impacts of excess skin with depression and body hatred worse than the obesity itself. Excess skin is evidence of obesity and can maintain the feelings of shame felt pre-surgery (Jumbe & Meyrick, 2018; Throsby, 2012). The impact of excess skin on appearance and perceptions of body image challenge the pre-surgery aspiration of normality. Some people revert to pre-surgery coping mechanisms such as avoidance of social situations (Engström & Forsberg, 2011; Gilmartin, 2013). Failure to deal with these psychological concerns may lead to some people regaining weight as they feel better with their bodies when they have the additional weight. As such, people undergoing bariatric surgery may require support to deal with the physical, psychological and social impacts that developing excess skin may present, such as acceptance of excess skin and normalisation of body image (Jensen et al, 2014; Throsby, 2008).

The HCP acknowledgement of the psychological impact of excess skin can be low. In Throsby (2012) study, HCPs reported excess skin to be a cosmetic rather than a medical issue. Improving HCPs understanding of the impact of excess skin on body image and viewing this as a surgery outcome may prioritise the issue in follow up care (Jumbe & Meyrick, 2018).

Body contouring surgery is a further method to deal with psychological, physical and social support needs that excess skin presents. Skin surgery should be the next step following significant weight loss (Knutsen et al, 2013; Magdaleno et al, 2011). However, access to this surgery is very limited in the UK and internationally. Studies from the scoping review highlight barriers including finance and weight loss targets to receiving contouring surgery and deem it unlikely that individuals will be able to access surgery (Groven et al, 2010). Without skin surgery it is likely that post surgery bodies will not meet the expectations and goal of normality.

7.4.7.2 Physical activity and exercise

The health benefits of physical activity are understood by bariatric surgery patients. Yet the understanding of what physical activity means varies; some regarded it as structured exercise but fewer viewed it as performing activities of daily living (Zabatiero et al, 2016). Barriers and facilitators to increasing levels of physical activity are similar in people with obesity to those of the general population such as lack of motivation, social support and time (Zabatiero et al, 2016). Dikareva et al (2016) reported additional barriers that are more pertinent to the experience of obesity: contraindications with comorbidities and pain; embarrassment of size; and, lack of access to appropriate facilities. In order to meet lifestyle guidance to reduce weight pre- and post-surgery, individuals require support to: improve their understanding of physical activity; and, with methods to address the obesity specific and non-specific barriers they may have to increasing levels.

Post-surgery, individuals require practical and emotional support and understanding to manage the physical and psychological changes and consequences of the surgery. These consequences may impede any effort to undertake more exercise. The intentions to be active reported pre-surgery are not always played out in post-surgery life. For some, weight loss brought about from the surgery and control of eating negates the need for continued physical activity participation (Zabatiero et al, 2018). Barriers such as suitable environments where people feel comfortable to change and be physically active remain post-surgery, thus limiting continued exercise participation. Post-surgery participants reported the embarrassment of excess skin (Beltrán-Carrillo et al, 2019; Zabatiero et al, 2018). Lack of self-efficacy towards participating in physical activity is a barrier pre- and post-surgery (Dikareva et al, 2016; Zabatiero et al, 2018), along with a lack of social support to engage in physical activity (Zabatiero et al, 2018).

Methods to increase participation in physical activity need to address these barriers. Whilst increased physical activity is a key recommendation of guidance pre- and post-surgery, the inclusion of exercise specialists or tailored interventions that could offer support to individuals to address these obesity related barriers are rarely mentioned

in the literature. As with papers reporting psychological support needs, the papers focussing on physical activity make recommendations towards increasing levels of physical activity and do not report the specifics of an intervention. Yet, these recommendations may describe useful mechanisms clinicians and policy makers need to consider to better support patients. Clinicians could offer positive feedback and support regarding efforts to be physically active with a view to improving self-efficacy (Zabatiero et al, 2018). Exercise specialists should be an integral part of the clinical team and support network and provide individually targeted advice and opportunities to gradually increase exercise to increase physical ability and self-efficacy (Dikareva et al, 2016).

7.4.7.3 Socio-economic status

The links between obesity and socio-economic status are well documented (see chapter 1). The requirements to adhere to guidance linked to exercise and vitamin compliance present financial challenges to those who have reduced economic resources (Beltrán-Carrillo et al, 2019; Dikareva et al, 2016; Johnson et al, 2018). The lifestyle choices people make pre-surgery may be governed by available income and the perception of affording healthier food. Studies elsewhere report that dietetic recommendations of food are not always suited to people's circumstances due to being unaffordable (Sharman et al, 2017). Individuals who are motivated to engage in exercise sessions linked to the surgery, struggle to continue when they have ended; finding appropriate community based opportunities or ones that are affordable are difficult (Beltrán-Carrillo et al, 2019). Whilst in England surgery is accessed free from the NHS, the requirements of lifestyle change need to be funded by the individual. None of the studies reported in this review make any suggestions how this need may be addressed thus highlighting a gap in the literature to make suggestions to policy makers, commissioners and clinicians.

7.4.8 Aim 2 & 3 summary

This section has shown how the literature has identified some of the support needs of an individual seeking or undergoing bariatric surgery. These needs relate to patients' psychological, social and physical experiences, their environments and policy. The

section also highlighted mechanisms that may exist implicitly and explicitly to meet these support needs. An issue with the literature in reporting these mechanisms is the lack of evidence evaluating or testing their impact on behaviours and outcomes. Therefore, the key mechanisms by which success is achieved are not clear. The next section aims to highlight the implications of the experiences, support needs and mechanisms for the clinical, policy and commissioning audiences.

7.5 Aim 4: Identify the implications for clinicians, policy makers and commissioners

The implications are closely linked to the measures and mechanisms for success. Clinicians, policy makers and commissioners need to understand how individuals accessing bariatric surgery measure success in order to provide better support on the bariatric surgery journey. The first two sections reported measures of success and mechanisms through which success could be achieved. This next section will focus on three of these potential mechanisms and discuss how clinicians, policy makers and commissioners could use these findings to inform and develop services.

7.5.1 Psychological support

The review of literature found a host of studies that highlighted the psychological challenges and support needs of people undergoing surgery to lose weight. These relate to both the requirement and ability to change lifestyle behaviours and the acceptance and adjustment to the consequences of a changed appearance. Policy guidelines on provision of bariatric services report that psychological support should feature in the pathway pre- and post-surgery. However, in the literature, details of the extent and type of support are not provided. The magnitude of change reported by bariatric surgery patients suggests that anyone undergoing the procedure would benefit from psychological support. Yet even where it does exist there are often restrictions on access to those most in need (Jumbe & Meyrick, 2018). Therefore, gains from bariatric surgery may be undone without better psychological support.

7.5.2 Social Support: Partner, family and friends

The positive impacts of social support are acknowledged in the literature (Livhits et al, 2011). Whilst surgery is an operation on a patient with obesity, studies show the role that interpersonal relationships can have on experience and surgery outcomes; increasing the support available to prepare partners, family and friends for the changes required to lifestyles pre- and post- surgery and for the potential, psychological, social and physical consequences of surgery will be of benefit (Ficaro, 2018). Furthermore, clinicians should reinforce the role that personal networks should take and encourage them to attend appointments and be actively involved in supporting patients across the journey. HCPs need to be aware of the patient's support system and possible positive and negative effects it may have and be prepared to discuss the challenges patients may have with their immediate support networks (Aramburu Alegría & Larsen, 2017).

7.5.3 Excess skin

Excess skin is discussed pre-surgery, but more should be done to prepare people for the possible problems it may cause. HCPs need to acknowledge the impacts that excess skin may have on individuals from a physical, psychological and social point of view (Throsby, 2012). Commissioners and policy makers should view bariatric surgery and corrective / body contouring surgery as a package and acknowledge the psychological and physical impacts that excess skin can have as a clinical, not solely a cosmetic, need (da Silva & Maia, 2013).

7.6 Chapter summary

Whilst the scoping review included 61 papers, limitations within these studies existed. The beginning of this chapter reports the origin of the papers included in the scoping review and the lack of UK papers, or any that focussed on the tiered obesity surgery pathway. The papers included in this scoping review that conducted interviews had similar numbers of participants to my study. Studies mainly covered post-surgery experiences. A limitation of some studies is the length of time that had elapsed post-surgery, raising concerns about recall of the experiences. The longitudinal papers

interviewing pre- and post-surgery provided some detail of the recent experience. Studies mainly reported the experiences of bariatric surgery and life changes, not on the mechanisms that have the potential to impact of surgery outcomes. A limitation of the review is the process was conducted by one researcher which could have missed follow up papers. However, the review process was discussed during with research supervisors and the using PRISMA ScR helped to ensure a structured process was undertaken.

This chapter reviewed the relevant empirical literature to explore the aims of the thesis. The review has highlighted many similarities in the experiences of obesity and bariatric surgery in the studies reviewed with those of participants in my study, for example, the burdens of obesity which drive the expectations of change and normality following surgery and the types and sources of support that bariatric patients seek through existing and new networks. The review has explored how success of surgery is defined from an individual level along with some of the support needs and mechanisms assisting to achieve this success. Gaps in the literature exist in terms of defining these mechanisms that influence success. This lack of definition may reflect the complexity of obesity. As such the next chapter will reflect on this complexity by drawing on the Socio Ecological Model of health to develop recommendations for clinicians, commissioners and policy makers. The layers of individual, environmental and policy level interventions arguably require a combination approach to maintain change and achieve success following bariatric surgery. The discussion chapter will combine the themes of this scoping review with the findings of the empirical data developed through this study to highlight new areas of knowledge which this study adds.

Chapter 8: Discussion of study findings and the existing literature

8.1 An overview of the thesis so far and introduction to this chapter

This thesis aimed to answer the research question - what influences whether bariatric surgery is successful for patients? In order to answer this question the study set out to address four aims: 1) clarify what success meant to a patient; 2) explore the support needs of bariatric patients and their experiences of the care pathway pre and post-surgery; 3) identify the mechanisms that determine whether success is achieved; and, 4) identify the implications of the findings for clinicians, policy makers and commissioners in order to enhance the chances of success of bariatric surgery. This final section of the thesis is structured around key issues that have emerged from the findings in order to address these aims.

The interviews undertaken in this study and the findings of the literature review affirm the disparities in the outcomes of bariatric surgery. In terms of the clinical outcomes (weight loss and reduced comorbidities), bariatric surgery works for some and not for others, as demonstrated by the experiences of the participants in this study. Furthermore, the extent to which the surgery is perceived to have worked varies between people (hence the need to define success). As there is no uniform response in the outcomes of bariatric surgery, we need to look inside the metaphorical black box to try and ascertain what is really happening.

The findings highlighted a variety of themes. For the purposes of this discussion chapter, the most salient are those that provide additional evidence to that reviewed in the existing literature and lead the development of recommendations that are relevant to clinicians, commissioners and policy makers. These will be discussed under headings based on the four thesis aims. In addition, each section will draw on the novel longitudinal aspect of this study, thus highlighting the temporality of issues at play across the patients' bariatric surgery journeys.

8.2 Aim 1: Clarify what success after surgery means to a patient

From a policy and clinical perspective, success is measured through a reduction in weight and levels of comorbidity. However, the patients' perspective of success is more complex. Pre-surgery, perception of success was largely based on reducing the burden of obesity on everyday life. Participants described how they expected their life to change through their broader expectations of 'normality' regarding: weight; appearance; reduced pain; improved mobility; activities of daily living; eating and activity behaviour; employment opportunities; social life; interaction with the environment; and emotional resilience following surgery. This is in agreement with Groven, Råheim, & Engelsrud (2015) and Knutsen et al (2013) who described the desire to live a normal life and be free from the desperate situation people found themselves in.

Clarification of success is further complicated as patients' perceptions change over time. This study found that significant changes to weight, improvements to comorbidities, physical, psychological and social consequences were reported by three months post-surgery, as found by Jensen et al (2014) and Pories et al (2016). New findings from the longitudinal aspect of my study highlight a multitude of outcomes demonstrating success by two years post-surgery. The variety of these longer-term outcomes indicate that whilst weight loss and improved health are undoubtedly a measure of success, other factors are equally important and that reaching the aspiration of normality signified the most salient outcome of bariatric surgery for participants.

A key finding of my research was the view of normality that participants held pre-surgery did not necessarily remain the same post-surgery. Pre-surgery, participants reported wanting to be like others who had, for example, a normal weight, appearance and relationship with food. Yet by two years post-surgery participants were beginning to realise that the psychological, social and physical consequences of surgery would challenge this aspiration of normality. These consequences were, in particular: the emergence of excess skin; changes in the dynamics of close

relationships; new health problems; fear of weight regain; and loss of the control from the physiological effects of the surgery. It was by two years post-surgery that this realisation dawned and that these challenges were something that would require lifelong effort and adjustment in attitudes and behaviours.

To my knowledge, the findings of this study are the first to provide insight into the temporality of the wider ideas of success that participants described before and after surgery. The measures of success that were reported by participants here were more complex and nuanced than medical markers. The complexity (but not the temporality) of success is discussed in other studies; Jumbe and Meyrick (2018) refer to the need to widen the scope of the patients' measure of success to include social and psychological factors.

Tools to measure QoL are commonly used in studies and by services to demonstrate successful outcomes and change beyond weight loss. The use of the QoL measures in this study demonstrated improvements in QoL pre- to post-surgery. Despite this, from the patients' perspective, a change in a score on a scale was not reflective of the multitude of ways in which they viewed their lives to have changed. This may be a missed opportunity to motivate and support bariatric surgery patients with behaviour maintenance activities along their journey. Moreover, as these changes are not routinely recorded in clinical practice, they are not used to highlight the benefits that bariatric surgery has for individuals and the wider health and economic systems.

8.3 Aim 2: Explore the support needs of bariatric surgery patients and experiences of the care pathway pre- and post-surgery

Support needs exist where there is a barrier to the success of bariatric surgery which cannot be easily overcome by the individual. These support needs are interrelated but fall under three broad headings: psychological, social and physical. Many of these needs have been reported elsewhere in this thesis and in other existing literature. This study adds to the literature by highlighting the temporality of these needs and how they change along the bariatric surgery journey.

8.3.1 Psychological support needs

The psychological support needs identified by participants in this study reflect those reported in existing literature. Pre-surgery patients seek control to manage emotional eating (Engström et al, 2011). Shame, low self-worth and self-esteem are also commonly reported by people with morbid obesity. Following surgery, these feelings remain for some people, yet the shame of obesity may be replaced with the shame of requiring a medical procedure to lose weight and the shame of weight gain following initial loss post-surgery. Post-surgery the needs focus on the psychological impacts of excess skin, appearance and body dysmorphia following weight loss (Ogden, Ratcliffe, & Snowdon-Carr, 2019). These psychological needs may be compounded by unrealistic expectations of the outcomes of surgery (see Homer, Tod, Thompson, Allmark, & Goyder (2016)).

8.3.2 Social support needs

Whilst bariatric surgery is a medical intervention performed at the individual level, its success relies on significant behavioural changes to eating and activity behaviours. These behaviours are influenced by the networks within the social or interpersonal system (Atwood et al, 2018). This study and existing literature highlight some of the support needs that exist and need addressing to enable individuals to make changes to behaviours. Patients have a need for information to enable them to understand the outcomes of surgery, the changes they should make and the journey through the services within the obesity pathway. Emotional support needs include managing the reactions from other people in response to surgery and weight loss and the emotional responses to changes in diet (Atwood et al, 2018; Jones et al, 2016). Finally, there is a support need to provide motivation or action to change food and physical activity behaviours (Parretti et al, 2019).

8.3.3 Physical support needs

Pre-surgery some participants in this study required physical support to manage their day to day lives and health conditions. This is common in the lives of people with morbid obesity (Engström et al, 2011). Following surgery, some people reported new health problems or challenges to daily life that did not exist pre-surgery (Groven,

Galdas, et al, 2015). Furthermore, the onset of excess skin also created new health and mobility problems that required support (Groven, Råheim, & Engelsrud, 2013; Throsby, 2012). Mechanisms exist within and surrounding the pathway to address the support needs. However, these mechanisms have the potential to create barriers which individuals must negotiate such as access to physical activity and body contouring surgery. The services within the obesity care pathway need to be able to recognise these mechanisms in order to influence the chance of successful outcome of bariatric surgery (see recommendations 9 and 10).

8.4 Aim 3: Identify the mechanisms that determine whether success is achieved

Despite guidance specifying the need to commission a tiered pathway where services are targeted based on clinical need, it is unclear how effective the pathway is at improving clinical outcomes. This research is the first longitudinal qualitative study exploring experiences of patients who attend different services of the tiered obesity pathway. This study did not seek to evaluate or provide evidence on the clinical effectiveness of the pathway but aimed to identify some of the mechanisms that may influence the potential of successful outcomes for patients who were supported by the services involved.

8.4.1 The care pathway pre- and post-surgery

The tiered obesity pathway exists to ensure that people with morbid obesity receive support to enable them to lose weight and maintain weight loss. HCPs help the person to access this specialist support. Some HCPs, primarily GPs, were not aware of the pathways to accessing bariatric surgery, with participants having to visit their GP multiple times before being referred to specialist support. Patients perceived that HCPs were not always aware of the local services available. This could be explained by the lack of clarity in national guidance of the responsibility for commissioning obesity services at the time the study was undertaken. A working group report developed during the data collection period sets out the organisations responsible for commissioning each element of the pathway (Aronov & Kaner, 2014). This may have

some impact on improving the local structures and increasing the knowledge of available services across the wider HCP community.

The tier three and four services are provided by MDTs which include HCPs who have experience of working patients with morbid obesity. This study highlighted how the HCPs from these services offered support in a non-judgemental way. For many of the participants this was the first time they had felt valued. This is important as negative judgemental attitudes of HCPs towards people with obesity are commonly reported. Engström et al, 2011 and Owen-Smith et al (2017) cited GPs as having a judgemental attitude towards obesity and no concern with the struggles that people with obesity face with losing weight or indeed how to help them. This was also a finding of the study reported here; prior to referral to tier three services some participants reported that some HCPs blamed obesity for other illnesses and were disrespectful of their previous attempts at losing weight.

Despite primary care initiating referrals to tier three and four services, there exists a potential lack of understanding of those working outside of the obesity pathway regarding the physiological and psychological implications of bariatric surgery and the follow up care and monitoring bariatric patients require. As a result, the care received for new or existing health conditions following surgery varied amongst participants. The findings here in part act as a response to one of the recommendations of the commissioning guidance (The Royal College of Surgeons of England, 2014) which suggests more research is required to highlight the knowledge of GPs, dietitians and primary care staff on how to manage patients post-surgery and if required develop training materials.

Whilst communication between tier four and primary care existed, participants often had to follow up with their primary care provider to initiate routine monitoring for example for vitamin and mineral deficiencies. This underlines the need for improved communication across the pathway between services and with patients. Reinforcing the pathway of care and keeping patients abreast of the responsibilities of both

themselves and HCPs may change the perception of patients to one of being supported in a more seamless journey.

8.4.2 Support Networks

Support networks are crucial to addressing the psychological, social and physical support needs of an individual pre- and post-surgery. Bariatric patients access support through three main sources: HCPs, peers and family and friends. These networks need to respond to the changing needs of bariatric patients pre- and post-surgery. In this study, networks provided a positive mechanism to address support needs but were also a source of potential conflict and challenge to successful outcomes.

The obesity pathway sets out guidance to provide specialist support from tier three and four services in the lead up to surgery. Tier three HCPs provided emotional and informational support which resulted in trusted relationships to facilitate behaviour change. However, once referral to tier four was made, support from tier three ended and participants reported being stuck between the services in the pathway and unsure who to access for support. These limitations to support following weight management interventions were also highlighted in a systematic review by Skea, Aceves-Martins, Robertson, De Bruin, & Avenell (2019). The overlap of care between services may be restricted by the commissioning responsibilities of different organisations. Collaboration between these organisations may help to recognise and act on the need for a more seamless and person-centred journey between the different services. This will better support patients during critical times for making behaviour changes in preparation for surgery.

Guidance states the requirement of interventions to address psychological support needs. The findings of this study along with other UK and international work challenge the extent to which this provision is available (Jones et al, 2016; Owen-Smith et al, 2017; Parretti et al, 2019). A recent study by Owers, Halliday, Saradjian, & Ackroyd (2017) reported the lack of standardised support offered by tier four HCPs and highlighted some of the areas that should be included in pre-operative education

to address psychological support needs of patients. There exists an unmet need in terms of accessing psychological support and even where it was available lengthy waiting lists were in place. An important barrier in the provision of psychological interventions is the lack of guidance detailing what should be offered pre- or post-surgery (Ogden et al, 2019).

However, recent guidance endorsed by the British Obesity Metabolic Surgery Society (BOMMS) has been produced by Ogden et al (2019) which highlights a stepped care model of psychological support provided pre-surgery and six to nine months post-surgery. Currently it is unclear how and when this guidance will be adopted or included in local service specifications. Whilst this guidance is welcomed, the findings of this study and a systematic review by Coulman et al (2017) show the need for a longer term follow up. Psychological support needs remained at two years post-surgery and were arguably more sought after. By this point the physical control of eating initially provided by the surgery was waning, discharge from tier four care back to general practice was imminent and at the same time came the realisation that the behaviours required were for life. Moreover, the shame from obesity reported pre-surgery was replaced with the shame of weight loss following surgery and was reinforced from family and friends and requires strategies to manage.

Bariatric peers were an important and regularly accessed mechanism for emotional, informational and tangible support pre-surgery and in the immediate months post-surgery, also a finding of Atwood et al (2018). Peer support supplemented the divisions created where existing interpersonal relationships with family and friends were strained by critical views of the surgery, jealousy of weight loss and impacts on relationships. In the longer-term contact with peers dwindled as individuals adjusted to their lives of new normality.

The commissioning guidance encourages services to facilitate peer support groups. The methods used to connect people included online and face-to-face. All mechanisms had positive and negative consequences. The online support groups were not facilitated by HCPs and other studies have criticised their use (Atwood et al,

2018; Das & Faxvaag, 2014). My study supports this finding and highlights some challenges and examples of social media support groups being used to sabotage efforts to be physically active, bullying, criticism of HCPs and encouragement to find methods to consume food that were against clinical guidance. Therefore whilst moderated online support groups may be time intensive for clinicians they also provide a far reaching, accurate and accessible source of support to larger numbers of people than face-to-face support groups may do (Das & Faxvaag, 2014).

Interpersonal relationships with family and friends challenge outcomes. Family and friends were not consistently involved along the journey and as such the emotional support needs of participants in this study were often unmet. Family and friends lacked understanding of the clinical benefits and appropriate levels of weight loss, levels of activity required for health and, changes to portion sizes and limitations on volumes of food. In this study and others, family and friends were sometimes also a positive source of support where their expectations of the impacts of the surgery were managed (Aramburu Alegría & Larsen, 2017). This suggests a requirement for family and friends to be a central part of the bariatric surgery journey and the need to be included at pre- and post-surgery clinical appointments.

8.4.3 Excess Skin

Excess skin can be an unwanted outcome following significant weight loss. The findings of my research mirror some of the growing evidence which show the negative impacts of excess skin. Excess skin can exacerbate existing support needs leading to physical problems such as infections and discomfort (Groven, Galdas, et al, 2015), psychological issues associated with body image and identity and social consequences leading to isolation and relationship breakdowns (Gilmartin, 2013).

The findings of this study in relation to the consequences of excess skin were like those of others found in the systematic review by Coulman et al (2017). The longitudinal findings of the research add to this knowledge by highlighting how the narrative alters from pre-surgery expectations to post-surgery reality of excess skin and how this can impact on perceived success of surgery. Pre-surgery excess skin was

not a major concern; it was viewed as better than living with the daily burden of obesity. Post-surgery, issues were reported as being severe and much worse than expected pre-surgery. Excess skin has a profound effect on daily life and inhibited the overall perception of successful surgical outcomes for some. This change in narrative is important and suggests the need for additional support along the bariatric journey to manage the psychological, physical and social support needs that arise as excess skin develops.

Following surgery (from three months), participants sought mechanisms to reduce the likelihood and manage the onset of excess skin and used self-management strategies which included increasing levels of physical activity and applying skin creams. Yet for some, body contouring surgery was reported as the only option to rectify this new problem. Body contouring surgery following massive weight loss is reported as having significant benefits on emotional wellbeing, quality of life and physical function (Klassen, Cano, Scott, Johnson, & Pusic, 2012; Tremp et al, 2015; van der Beek, 2015). Yet the criteria set in England's guidelines for surgery (BMI < 30kg/m², stable for 12 months) (British Association of Plastic Reconstructive and Aesthetic Surgeons 2017) were reported by participants in this study as being almost impossible to meet given the amount the excess skin itself weighed. This highlights a conflict between the individual and public policy levels of the SEM which has the potential to act as a negative influence on surgical outcomes. As a result, privately funding or seeking cheaper surgery abroad, albeit recognising the health risks, was a future option to reverse the negative consequences experienced. The findings of this study highlighted the need for body contouring surgery to be part of the obesity treatment pathway and not the next challenge to face with HCPs in order to access support (as many did to access bariatric surgery in the first place). This supports previous work by Knutsen et al (2013) and Magdaleno et al (2011) who reported that skin surgery should be the next step in the weight loss journey following surgery.

8.4.4 Physical Activity and Exercise

Physical activity and exercise are known key mechanisms to aiding weight loss and weight loss maintenance. Policy and commissioning documents (NHS England, 2016;

NICE, 2014a; The Royal College of Surgeons of England, 2014) state a need for physical activity and exercise to be incorporated into service provision. The guidance is not explicit in what or how exercise should be offered, and this study highlights how this guidance leads to disparities in the provision of commissioned services.

Exercise opportunities were not always included within services, and where exercise was provided it was restricted to a short time frame (12 weeks) and only at tier three. Tier four MDTs did not include exercise specialists or interventions to increase exercise adherence; the only advice was provided by existing members of the team such as dietitians and nurse specialists. Therefore, some patients having surgery might not have received any specialist exercise support or advice. Services focus their efforts on encouragement to attend community-based activity, however generic provision is unlikely to address the psychological, social or physical support needs of people with morbid obesity. This finding is reinforced in the work of Dikareva et al (2016) who also identified additional barriers and support needs of people with morbid obesity in accessing barriers to non-specific exercise interventions.

The commissioning guidance (NHS England, 2016; The Royal College of Surgeons of England, 2014) also recommends the provision of support groups for surgery patients to assist adherence to behaviours. Previous work has reported the benefits of social support on physical activity participation Zabatiero (2016). However, the experiences of participants in the study reported in this thesis highlighted the potential for negative consequences of these support groups in relation to exercise and physical activity. Inactive support networks had a negative influence on activity behaviours. This challenged the participants' aspiration of normality as it signified a new factor which reinforced the continued difference between themselves and those closest to them. Social media was also commonly accessed by bariatric patients for support. However, it also appeared to influence exercise and activity behaviours as posts about the negative implications of physical activity on health and financial benefits discouraged participation.

The socio-economic status of some participants meant exercise was perceived to be unaffordable and inaccessible thus compounding efforts, which supports the work of Beltrán-Carrillo et al (2019). Therefore, longer term specialist exercise interventions are required to support patients' pre-surgery and beyond to maintain their lifestyle change in an environment that facilitates their financial, psychological social and physical needs.

Summary of aims 1, 2 and 3 – presented as theory

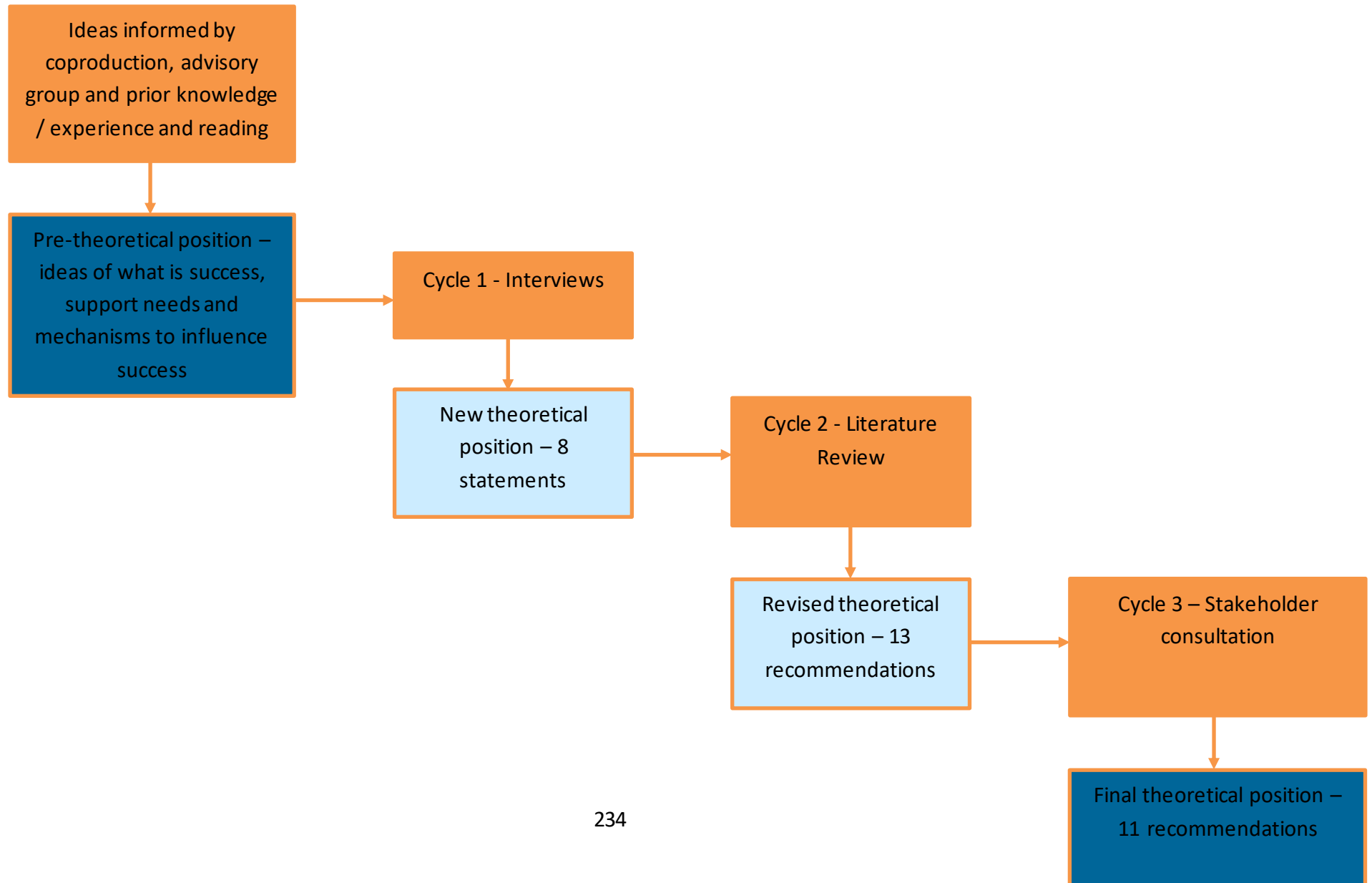
Bariatric surgery patients have a range of psychological, social and physical support needs that need addressing in order to influence the likelihood of achieving successful outcomes. These successful outcomes are measures determined by the patients themselves and not solely by clinical outcomes. There are mechanisms at play such as the obesity service pathway, excess skin, physical activity and exercise and support networks that may have positive or negative impacts on the support needs and thus influence success. These mechanisms feature across the layers of the SEM. The recommendations that follow highlight opportunities across the systems surrounding the individual that may influence success.

8.5 A review of the realist methodology

The realist method can be thought of as consisting of a spiral of theory development and testing. In this study the method consisted of spirals, each one building, and refining theories of what might influence whether bariatric surgery is successful for patients. Figure 5 explains these spirals of theory testing and development. The pre-theoretical position was developed from ideas, experiences and knowledge of myself and members of the advisory group. These ideas informed the development of the interview schedules which were the initial theories about what would influence success. These theories were tested through a first cycle of data collection - the interviews. At the end of that process and through analysis of the data there was a set of new theories and ideas. These ideas were structured around the eight statements and summarised in chapter six – summary of findings. The second cycle of testing was through the literature review where I wanted to see whether the ideas and theories that I had reached (see summary in chapter 6) were reflected in other

research that has been done, here I was looking for literature which added to or challenged my ideas. At the end of this process there was a new theoretical position based on two sets of data collection – the original data from interviews and the literature. The results of cycle one and two are merged and presented in the discussion and recommendations chapters (chapter 8 and 9). The final stage of theory testing - cycle 3 – was completed through the consultation with clinical, commissioning and policy stakeholders. The final stages are presented as recommendations which are based in the theories of what constitutes and will influence success.

Figure 5. Cycles of theory development in the research using a realist informed approach



8.6 Reflexive discussion of methods

This section presents my reflections on the methods used in the study, challenges and learning across the research journey and on how my professional experience interacted with my role as the researcher. Reflexivity is a method of ensuring rigour and quality in qualitative research (Dodgson, 2019). Describing contextual differences and similarities between the researcher and the participants, increases the understanding of the work and the credibility of the findings (Berger, 2013).

8.6.1 Methods of the study and participant responses

The longitudinal nature of the study meant that I met the respondents several times; as such we got to know each other, and the interview situation became increasingly relaxed and familiar over time. This also meant that participants shared detailed and personal accounts of their childhood, day-to-day lives, fears and personal details of their relationships. At times, some of these details were upsetting and supervision sessions provided a support network for me as the researcher to discuss concerns I had. Nonetheless, I feel incredibly privileged to have been a part of the participants' journeys of weight loss and to listen to how their lives changed and the experiences they had. A number of participants commented that they saw our meetings and their involvement in the study as part of their overall weight loss journey to a new life and the discussions; in particular, the photographs they shared helped them to reflect where they had come from and think about what it meant to them.

At times participants discussed some of their behaviours, particularly in relation to their diet and physical activity, which I knew went against guidance; I felt it difficult to remain in my role as a researcher and not as a public health specialist and offering suggestions on changes they could make. Often on these occasions I would use prompts to encourage the participant to check with a HCP that what they were eating or doing was reasonable.

Participants were offered the choice of having someone to accompany them at the interview. Dyadic interviews were undertaken with some participants and their

spouses (P2, 4 and 7). These interviews were not analysed any differently to participant only interviews as the dyad was not the focus of this study. Not every interview with these participants was undertaken as a dyad. However, the influence of these interviews was noticed and that these participants commented about the influence of their partners over their diet both positively and negatively. The nature of the comment changed depending on whether they were alone or not.

Some respondents proudly displayed their bodily changes during post-surgery interviews. In an interview situation, the participant's assessment of the interviewer's appearance and attitudes might affect moral judgments (Radley & Billig, 1996). Power relations can be created during an interview situation. I acknowledged this by emphasizing reflexivity, for example, regarding body size. As I do not live with obesity, I was concerned about how my appearance might affect the interview situation and responses from participants. When preparing for interviews, I reflected on my own attitudes toward obesity, and became aware of a fear of unintentionally harming the sensitivity of the respondents because of sceptical attitudes toward bariatric surgery. This might have affected the spontaneity and interaction that took place in the interviews and I recognise that these relations might have affected the interviews in ways that are impossible to fully comprehend (Al  x & Hammarstr  m, 2008).

8.6.2 Photovoice

The Photovoice method was an important and insightful element of the study. The number of photographs shared by the participants ranged from zero to 96. When the data collection for this study was undertaken not all the participants had access to smart phones and hence used the digital cameras provided through the study. In the interviews where participants preferred not to take any pictures or shared only a few images, the interviews were guided by the topic guide. The reasons for not taking photographs varied; some participants indicated from the outset that they would be happy to take part in the study but did not wish to take photographs of themselves or their environments. Others had agreed to take photographs but did not always manage to take any; this sometimes reflected the nature of people's lives and the time required for taking the photographs. This may highlight a consequence of using

the Photovoice methods outside of their traditional group based participatory research methods (Baker & Wang, 2006). In this study the Photovoice methods were used to generate additional insight to that gathered through interviews and it was stated from the outset that not taking part in the Photovoice element would not exclude participants from the study. Whilst there are undoubtedly positive reasons for using Photovoice it did seem that solely relying on this approach with these participants would have excluded some people from the study. In this sample this would have excluded two participants. Interestingly, these were two who did not perceive themselves to reach a successful outcome and one might speculate that their reluctance to take photographs reflected their feelings about the outcome.

In some interviews, participants had taken lots of photographs. In these interviews the photographs provided the structure of the interview, and as such gave the power of the interview to the participants (Woolford et al, 2012). By photographing their everyday experience of obesity and post-surgery lives, participants were able to share important insights into how their daily life is experienced through their own eyes and through this I was able to view the participants' home and local environments and their social networks. The Photovoice approach allowed participants to discuss these and provided a mechanism through which they could reflect on their recovery. Furthermore, other studies have found using photographs to explore meanings is a therapeutic, and positive experience for participants (Balmer et al, 2015; Edmondson et al, 2018)

The use of Photovoice methods within a longitudinal study highlights some additional interesting findings in how the content of the photographs changed over the time of the study and participants surgery journey. This is useful to demonstrate the extent of the changes in a person's life that goes beyond clinical measures of success. Examples of temporality are now provided from each stage of data collection.

Pre-surgery - photographs were generally taken of the participants' space and environment from inside the home. Often, they showed the gadgets they used to keep social connections with the outside world, or the challenges that their daily life within

their home had on them, including furniture and also the amount of medication they needed to stay alive. Images were rarely of the participants themselves and those that were shared highlighted the participants' shame and embarrassment over their appearance and body shape. A few participants commented that taking the photographs of themselves for the study was particularly challenging but also provided some motivation for their prospect of future weight loss. Photographs were always accompanied by a narrative that highlighted the negative experience or feeling they had of their current life and situation.

Three months and nine months post-surgery - the focus of space and environment changed to the outdoors and were shared in a positive vein of what things they could now accomplish and enjoyed, and the future rather than the negative explanations given pre-surgery. Full body shots from different angles and selfies had been taken to celebrate the changes to appearance. Participants described using the photographs as a motivational tool and had taken pictures of themselves in clothes that no longer fitted them or with their old clothes next to smaller ones to depict the change in size. Not all the images depicted positive experiences; sometimes graphics were used to present how they felt. This was an innovative way of using imagery to provide more detail about their thoughts and experiences that they may have struggled to share using only verbal methods. This also demonstrates engagement with the research process that may be better than that achieved from interviews alone.

Two years post-surgery - at this interview I offered all participants to review the pictures they had taken throughout the study and asked them to revisit the photographs originally taken. It was the first time that some had looked at the photographs since they were originally taken. One participant referred to it as an opportunity for celebration of their journey. Revisiting the photographs generated negative and positive reactions - some of shame as to what they looked like pre-surgery and disgust in themselves to pride and happiness out how far they had come and how their life had changed. Participants were offered the opportunity to have all their pictures printed and given to them in an album. All the participants who had taken pictures requested this and reported that they would use the images as a motivational tool should they start to gain

weight. This is a useful policy implication of the findings in demonstrating the potential use of photographs in routine clinical appointments.

I attempted to remain objective and interested throughout the process of viewing the photographs and listening to the participants' descriptions of them. At times I was genuinely amazed with the level of thought and effort some participants had made in seeking and providing images to explain their feelings and experiences.

Whilst I found the use of photographs during the interview process insightful and humbling, in a couple of cases there were some challenges like those identified in other research. One participant shared (n= 84 to 96) photographs across the interviews and on occasions this number was difficult to work with and affected the flow, a problem also found by Edmondson, (2013) and Packard (2008). I sometimes found I was challenged in giving my full attention to the narrative whilst absorbing the image and trying to keep a focus on the interview schedule to ensure I had covered everything I needed to in order to be in line with interviews where photographs were not included. Furthermore, for this participant the interview lasted between 87 and 144 minutes.

8.6.3 Challenges along the way

During the interviews some participants raised issues that made me concerned about their welfare. In pre-surgery interviews two participants discussed a history of being sexually abused. In these circumstances they went on to report that they had talked about these experiences with HCPs either within the obesity services or specialist mental health support. However, in one follow up interview, a participant disclosed some feelings which I interpreted as the potential for a serious mental ill health issue. Following this interview, I contacted my academic line manager to confirm that they agreed that I should contact the MDT which the participant was supported by and mention my concerns to HCPs. We agreed my concerns were enough to raise and I referred the patient back to the clinical psychologist and nurse specialist. On this occasion I hadn't mentioned to the participant that I wanted to ask the MDT to make contact as I knew at the time that the psychology service had a long waiting list and I did not want to raise hope or expectation that they would be seen quicker if the

service deemed my concerns to be unfounded. Yet, following the HCP contact the participant was referred to the clinical psychologist. The participant spoke about their additional support at the follow up interview. The consent form did allow for me to break anonymity where such concerns were raised.

8.6.4 My professional role

When this study was initiated and developed, my role was one of a commissioner of weight management services in a local authority; reforms of the health and social care system had begun and commissioning responsibilities of organisations were changing (e.g. responsibility for public health transferred to local authorities from Primary Care Trusts). The local area in which I worked had a national profile in developing the tiered model for weight management services but had done little evaluation or primary research. Therefore, the influence of the interventions on reducing levels of obesity was unclear.

In my role I was responsible for the obesity portfolio and commissioning of weight management services which included tier two and three provision. I supported clinicians and service managers to develop the patient pathways between the services and latterly wrote the service specifications for tiered weight management services and commissioned and managed the service contracts (including setting and reporting key performance measures). The specifications had to meet NICE guidance and the local health, budget and social priorities of the area. I commissioned and managed the contract for one of the providers from which some of the participants within the study attended prior to accessing bariatric surgery. Therefore, I knew many of the members of the MDTs that participants discussed during the interviews and often had to lead contract meetings with them. The anonymity of participants and staff always had to be protected despite this dual role. Whilst the service providers knew I was undertaking the research it was made clear that the research was not an evaluation of the provider and any feedback from the findings was directed through the advisory group and academic outputs.

As part of my Masters post-graduate study, I conducted a longitudinal evaluation of the perceived outcomes of tier 2 weight management services; therefore, I had some understanding of the challenges that individuals faced in accessing and engagement. Following my move into academia (part-time) I led a series of coproduction events with clinical, commissioner and community partners who raised the challenges of achieving successful outcomes following bariatric surgery. A search of UK studies which looked at the experiences of the bariatric surgery patient pathway revealed no literature and therefore the combination of my professional and research experience with stakeholder interest led to the development of this study.

Realist qualitative researchers aim to develop theories that show the real mechanisms at work and strive to remain objective, or at least transparent, in the collection and interpretation of data. The knowledge I had of the systems and processes of obesity service policy and commissioning will have aided a richer interpretation of the data and is important to consider in the view of my positionality in the research process. Whilst I attempted to remain objective my professional background, the context in which I worked and my knowledge, beliefs and experiences undoubtedly shaped the development of this study. Nonetheless this positively facilitated the engagement of study sites and stakeholders and enabled me to approach the research and develop a research study that would be relevant to the practice of clinicians, commissioners and policy makers. Furthermore, working with the advisory group on analysis of the early themes, and stakeholders to develop the recommendations, allowed the opportunity to ensure I was able to reflexively challenge any beliefs and assumptions, I may have added to the analysis process.

8.6.5 My response to the research process and learning

I feel that the study has had a profound impact on my attitude and empathy towards morbid obesity and the daily battles and challenges people with obesity face. Prior to the study, I was less empathetic to the daily life of a person living with obesity; in my role of a commissioner of weight management services I considered that providing a range of tailored services would offer the support required to help people to make the required changes. After being invited to explore participants' weight loss journey

and the changes to their life, I was able to get insight into the context of peoples' lives and how this allows them to interact with services and pathways and the challenges that they may face.

Undertaking a PhD study has developed my understanding of the research process. This project was my first experience of leading the NHS ethics process, independent scientific review, and presentations at patient and public involvement boards and at an advisory group. I have developed research skills in using NVivo and conducting a structured literature review. I have embraced new methods of data collection through Photovoice. Following the journal publications linked to the thesis, I have been contacted on a number of occasions to review international papers related to bariatric surgery; this has been helpful in keeping abreast of new literature and will almost certainly develop my skills in reviewing and writing future academic outputs. The depth and involvement that is involved in undertaking a PhD whilst working as a researcher and public health specialist and starting a family has tested my organisational and time management skills. All these skills will help me as I continue to become an established researcher.

Chapter 9: Recommendations and conclusions

The final chapter reports the process and outcomes addressing aim four of the study, to 'identify the implications of the findings for clinicians, policy makers and commissioners in order to enhance the chances of success of bariatric surgery'. Bringing the thesis back to its realist informed roots, these recommendations are based in the theories of what constitutes and will influence success.

The development of these recommendations was the result of coproduction, using discussions with colleagues from policy, commissioning and clinical practice. Some of the colleagues were members of the original advisory group for the study. This process was a significant knowledge mobilisation element of the study and important to me both from an academic and professional practice standing. Additional consultation with patients may have helped to inform a patient centred approach to the policy and practice recommendations but access to patient groups was not available at the latter stages of the study. However, discussing the findings with practitioners added value to the research, both in highlighting the challenges shown in the empirical work and implementing the recommendations of that academic work. This element of the thesis began the process of knowledge translation and mobilisation.

The recommendations integrate the element of the Socio Ecological Model (SEM); they represent all the parts of the system which surround an individual in the SEM throughout their bariatric surgery journey. This theoretical framework highlights the multiplicity of parts of the system involved in the journey of a patient pre- and post-bariatric surgery (see figure 2, background chapter).

The chapter concludes with a section on the limitations and strengths of the study, ideas and implications for future research.

9.1 Discussions with practice

Individual and group discussions were held with representatives from the organisations listed below. MDTs were represented by dietitians, nurses and psychological therapists. The meetings were conducted with colleagues whom I knew from my practice and academic careers and who had roles across the weight management service pathway. Initial contact was made via email which provided information about the study and my request to arrange a follow up conversation to discuss the study and ask for feedback on the recommendations. Conversations were undertaken over the phone or in face to face meetings and lasted between 30 and 90 minutes.

Table 14: Roles and organisations met to discuss and develop recommendations

Organisation	Department	Responsibility	Meeting / telephone call
Public Health England	Yorkshire & Humber Regional Centre	Policy	1:1 telephone call with policy lead for obesity
Doncaster Metropolitan Borough Council	Public Health	Commissioner	1:1 meeting in council office with Public Health obesity lead
Rotherham Metropolitan Borough Council	Public Health	Commissioner	Meeting with Public Health obesity lead and Public Health Consultant in council office
Rotherham CCG	Commissioning	Commissioner	1:1 meeting with lead commissioner for bariatric surgery in university building
Sheffield Teaching Hospitals	Bariatric Surgery MDT	Clinical	Meeting at hospital with Bariatric MDT
Doncaster and Bassetlaw Teaching Hospitals	Tier Three and Tier Four MDT	Clinical	Attendance to tier three and four MDT meeting

At the beginning of each discussion I gave a brief summary of the study including the methods and key findings. At each discussion these key themes were reviewed in relation to their originality and how the findings interact and affect policy, commissioning and clinical practice. I shared my emerging ideas of the

recommendations; these were developed and refined following feedback from each meeting as part of this iterative process. In accord with a realist-informed approach, the findings were developed through a theory led framework and finished with the development of theories of how outcomes are generated and associated recommendations.

The SEM has been updated below to reflect the spread of the recommendations.

Figure 5: Revised Socio Ecological Model



The next section summarises this process, to include: the key recommendations from each theme; a summary of the discussion; and the fit of the recommendation within the SEM.

9.2 Recommendations for clinicians, policy makers and commissioners

The SEM suggests that it is the day-to-day interactions between people and their environment that influence health and, as here, level of obesity. Studies by Beltrán-Carrillo et al (2019), Johnson et al (2018) and Lynch et al (2018) used the layers of the SEM to frame their findings and recommendations. The recommendations from this study have also been framed using the SEM and in doing so highlights the interrelations and aids understanding of how the exposures at each level could interact and influence each other

Recommendation 1	The outcome measures of bariatric surgery should include social and psychological factors.
Theme of recommendation	Success from the patient's perspective
Summary of discussion with practice	There was a consensus that measures of surgery should be widened beyond the current focus on clinical outcomes. Clinicians already discuss goals with their patients for example, social and psychological factors, but the reporting of surgery outcomes focusses on weight loss and comorbidities. Clinical measures are shared with services across the pathway; patient led outcomes are not routinely communicated. Mental health is as important an outcome as physical health, yet the current monitoring of surgery outcomes does not reflect this. Neither is quality of life routinely reported making it difficult to compare outcomes beyond the single service. Stakeholders also acknowledged the importance of the wider determinants of health such as employment that may change positively following surgery but which is not routinely recorded. Local authority commissioners are as interested in the long-term outcomes relating to these wider determinants as health outcomes. More recently employment status has been included as a measure in the National Bariatric Surgery Registry. Commissioners and clinicians reflected that wider measures could be included in service specifications and key performance indicator reporting in the future.
Integration in the	Policy

SEM	
Discussion of the SEM	<p>Policy (NHS England, 2016; The Royal College of Surgeons of England, 2014) dictates the measures that are used as indicators of successful outcomes of bariatric surgery. The measures included in these documents are clinically focussed and do not reflect the psychological and social outcomes of bariatric surgery. However, the Commissioning guide: Weight assessment and management clinics (tier 3) (The Royal College of Surgeons of England, 2014) includes a recommendation which highlights the need for a national registry of Tier 3 services and to develop a dataset of relevant outcomes for pre-surgery and surgery. This core set of outcomes could then be measured and reported in all studies of medical work-up for morbid obesity. The findings of this study highlight the need to include agreed measures of psychological and social outcomes in the development of this dataset at a national policy level.</p>

Recommendation 2	Measures of success should be determined by the individual and routinely discussed and reported throughout the obesity pathway.
Theme of recommendation	Success from the patient's perspective
Summary of discussion with practice	<p>Individuals seek surgery to lose weight and improve their health and quality of life. However, colleagues also agreed that the measures of success from the individual's perspective are wider than the clinical measures. Whilst wider goals and outcomes may be discussed they are likely to be in an ad-hoc manner and not always the focus of continued conversation over the course of the pathway. There was acknowledgement that services could more routinely take a person-centred approach through one-to-one appointments and work with patients to determine and support them to achieve their own goals.</p>
Integration in the SEM	Individual
Discussion of the SEM	<p>This level of the SEM is concerned with the knowledge, attitudes and beliefs of the individual; these influence the success of the process from the individual's perspective as well as the behaviour the individual is likely to adopt. Focussing on the</p>

individual would require a person-centred approach to support them to define their own measures of success. The one-to-one pre-and post-surgery appointments could act as the intervention to discuss these measures with the individual throughout the obesity pathway.

Recommendation 3 Develop a clear process of communication between the services of the obesity pathway and primary care to manage expectations of responsibility and improve person centred care.

Theme of recommendation The obesity treatment pathway

Summary of discussion with practice

The stakeholders felt that communication between the obesity services and primary care is challenging and can have an impact on patient outcomes. Since the data collection period of this study improvements have been made to the communication between tier three and tier four services at a local level in some areas; examples include a shared tier three and four MDT. This was thought to be more straightforward in situations where tier three and four services are co located and provided by the same organisation.

Referrals into the tier three services from GPs remain largely reliant on the GP being aware of the tier three service locally. Discharge back to primary care services is challenging; obesity services have difficulty ensuring that primary care HCPs have the information they need to provide long term follow up care and monitoring. New primary care networks may support the flow of communication in the future between the obesity pathway and primary care. In one area an app is being developed where patients will have access to their health records. This may prove useful in providing patients ownership of their care needs and follow up monitoring.

The NHS Long Term Plan has a focus on obesity and there is currently a working group exploring how obesity services are delivered in primary care. There may be a move for GPs to provide access to tier two services or a similar scheme to the Diabetes Prevention Programme; this strengthened link has the potential to improve communication between primary care and the rest of the obesity pathway.

Integration in the SEM	Organisational
Discussion of the SEM	<p>Interventions within the organisational layer of the SEM include communication between services and organisations. The commissioning arrangements of different services and health care providers may cause additional challenges, especially where some tier three services are delivered by non-NHS provider services. A joined-up approach to communication should seek to go across the organisational boundaries of the providers services included in each local obesity pathway.</p> <p>To manage some of the communication challenges, the NHS England (2016) commissioning guide recommends citing the Royal College of General Practice (RCGP) top ten tips for the management of patients after bariatric surgery with all patient discharge letters (Parretti, Hughes, O’Kane, & Woodcock, 2015).</p>

Recommendation 4	Patients should be able to be supported simultaneously across the services in the obesity pathway as a mechanism for behaviour change
Theme of recommendation	The obesity treatment pathway
Summary of discussion with practice	<p>All stakeholders felt that the care provided by different parts of the obesity pathway should overlap and that patients should not be left between services feeling unsupported. Where this is a problem it was thought to be largely due to the local commissioning arrangements as specifications and contracts for each service are predominantly developed and managed by different commissioners within the local area. Commissioners and clinicians welcomed this recommendation and would like to include in service specifications in the future. The overlap between services was starting to happen but varied by postcode.</p>
Integration in the SEM	Organisational
Discussion of the SEM	The link to the organisational layer here refers to the interaction of services involved in the obesity service pathway. Each provider is commissioned by different organisations and as such

reports to different commissioners, has different outcome measures and financial governance arrangements. Obesity pathways should work beyond these commissioning arrangements. A local joined-up approach between commissioners to view the pathway and outcomes measures across the organisations rather than at their independent organisational level may lead to changes in the way's patients can access services within the pathway. The ultimate aim would be to allow simultaneous access to services led by the patients' needs of support rather than being pre-defined by service specifications and patient pathways.

Recommendation 5	Health care professionals from the obesity pathway and primary care require training to understand the physiological and psychological implications of bariatric surgery
Theme of recommendation	The obesity treatment pathway
Summary of discussion with practice	The physiological and psychological support needs and implications of bariatric surgery require understanding to provide the relevant person-centred care to facilitate long term successful outcomes. Anecdotally stakeholders discussed the limited understanding of primary care HCPs in relation to these needs and welcomed the recommendation of specific training. Mechanisms for this training were referred to including primary care 'target' learning time. Wider scale the training could be facilitated through the Integrated Care System network.
Integration in the SEM	Organisational
Discussion of the SEM	The organisational layer of the SEM can include training needs which cross organisational boundaries. In the case of bariatric surgery, the training need is of other HCPs to understand the physiological and psychological implications of bariatric surgery in order to better support patients within their care.

Recommendation 6	Tier four services to provide facilitated access to online and group-based support networks when content can be moderated and controlled.
Theme of recommendation	Support Networks
Summary of discussion with practice	Stakeholders acknowledged the positive role of social media and online forums to create a support system for people to access information pre-and post-surgery. However, they also cited the potential impact of incorrect information accessed through online support groups to be damaging to patient behaviours. The value and need for facilitated online support was recognised and is currently being discussed by commissioners (in a range of clinical areas outside of obesity) and clinicians across the pathway. However, the challenges associated moderating the sites are difficult to overcome in the current climate of reduced capacity, funding and increased demand on services.
Integration in the SEM	Community
Discussion of the SEM	The community level of the SEM can be referred to as the physical community and built environment surrounding an individual, a community of people or an online community of support accessed through weight loss forums and social media. Bariatric peer support groups are recognised as a community to support individuals along their journey pre- and post-surgery. The networks may be led by patients or obesity services and can be face-to-face or online. Peer networks are a source of interpersonal support and this study and other literature highlight the importance of the online community of support for bariatric patients in providing trusted and relevant sources of information. Whilst online communities of bariatric patients are facilitated and used by experts of experience, they are not always facilitated by experts of the subject such as HCPs.

Recommendation 7	Significant family and friends encouraged to attend all pre- and post-surgery clinics to understand expectations and experiences of physical, psychological and social support needs and consequences of surgery and weight loss.
Theme of recommendation	Support Networks
Summary of discussion with practice	All stakeholders agreed that the role of family and friends in supporting patients throughout the obesity pathway is vital. Moreover, the possible negative impact that family and friends can have was recognised; the information provided by such emotional and social networks can be believed over advice from HCPs. Patients are encouraged to attend the pre-surgery seminars with family or friends but being accompanied to routine appointments varies. Stakeholders agreed they could encourage family / friend involvement throughout the pathway.
Integration in the SEM	Interpersonal
Discussion of the SEM	<p>Socio Ecological Models promote the idea that individuals operate within a system. This system includes interpersonal relationships which may impact on health behaviours. It is these behaviours that may have contributed to levels of obesity that led to seeking surgery or indeed may have the potential to influence post-surgery outcomes. These relationships may influence health behaviours such as food and physical activity. Interpersonal groups are friends, family, peers or any groups who share a relationship and offer informal support.</p> <p>Clinicians, policy makers, commissioners need to be aware of the potential effects positive social support may have on individuals going through the surgery journey.</p> <p>Family are the most common target for interventions at the interpersonal level in the context of child obesity services (NICE, 2015a); those delivering adult obesity interventions should recognise the influence of interpersonal relationships on the behaviours of individuals within their care and routinely encourage attendance and engagement of these networks throughout the pathway.</p>

Recommendation 8	Psychological support should be prioritised, resourced and an accessible part of the surgery pathway pre- and post-surgery.
Theme of recommendation	Support Networks
Summary of discussion with practice	<p>All stakeholders stated the requirement for interventions to address psychological needs pre-and post-surgery and agreed this should be prioritised from its current offer. Some stakeholders said that services should be led by psychological services rather than a dietetic / medical led approach. There are practical challenges associated with this. There were differences across the services relating to the current offer of psychological support, some areas offering support to most people engaged with the pathway, others with restricted access dependent in the severity of the need.</p> <p>Challenges to prioritising psychological support included an apparent limited workforce of suitably trained psychologists and reduced operational budgets limiting available spend for psychology services.</p>
Integration in the SEM	Community
Discussion of the SEM	<p>Access to services sits within the community level of the SEM. This recommendation (number 8) is linked to access to services yet it also highlights how the interaction between the different levels of the SEM is vital. Community is nested between the policy and organisational levels. In the case of the obesity pathway, the policy level dictates the inclusion of psychological support delivered by trained HCPs; the organisational level reflects how the organisations deliver these services and the community level covers the access to the services. Psychological interventions are included in the policy and guidance for obesity pathways, yet there is an apparent lack of access to these services. Influences on this access including the availability of a trained workforce and a lack of evidenced based psychological interventions.</p>

Recommendation 9	Exercise support should be prioritised and provided by trained professionals. This support should be included at all stages of the pathway and facilitate access to community-based services which are appropriate and acceptable to the individual.
Theme of recommendation	Physical Activity and Exercise
Summary of discussion with practice	<p>Stakeholders agreed that exercise is not given its due role in the obesity pathway in terms of routinely being delivered by qualified specialists. Conversations around exercise are routinely led by other MDT HCPs who can only offer non-specialist advice to increase levels of activity.</p> <p>Where exercise sessions were included in some tier three sessions within the pathway at the time of data collection, they have since been cut from the service following revised budget. It was recognised that restrictions on budgets were unlikely to change in the immediate future so services may need to think differently on how they could meet this need and relook at existing services / pathways that could be included in future MDT meetings. Support to access community-based facilities could be provided by a wellness / health trainer role as a cheaper alternative to exercise specialists.</p> <p>It was considered important to be able to understand the experiences of patients' exercise and physical activity behaviours pre- and post-surgery in order to address some of the potential barriers they face to being more active.</p>
Integration in the SEM	Community
Discussion of the SEM	<p>The community level of the SEM can refer to the built environment in which individuals live, as well as access to services. Barriers within the environment exist which may prevent engagement with physical activity and exercise. People with obesity may require additional support to navigate these barriers and be more physically active. Physical activity and exercise are a key part of the obesity pathway but are often under resourced in time, expertise and opportunity for access. However, studies which have investigated the impacts of tailored exercise programmes on bariatric patients demonstrated positive results (Wiklund, Olsén, & Willén, 2011). Access to services led by professionals with knowledge and experience of delivering exercise to people living with morbid obesity is required.</p>

Recommendation 10	Morbid obesity surgery and body contouring surgery policy should be aligned so that all patients are physically and psychologically assessed for future body contouring surgery prior to discharge at tier four. Funding for surgery should be made available for all who would benefit.
Theme of recommendation Summary of discussion with practice	<p>Excess Skin</p> <p>All stakeholders acknowledged the value of a recommendation which suggests an integration of obesity surgery and body contouring policy. Clinicians often wrote letters of support for patients to access funding and therefore would value a change in policy. The responsibilities for funding such a change would require a national conversation and action.</p> <p>It was felt that the policy should focus on the physiological and psychological implications of excess skin and detract from the current idea of body contouring surgery primarily being driven by aesthetics.</p>
Integration in the SEM	<p>Policy</p>
Discussion of the SEM	<p>The policy levels of the SEM can highlight disparities in policy which may influence outcomes at the individual level. The policy guidance and service specifications for obesity services do not refer to body contouring surgery or the potential problems of excess skin following massive weight loss. A Commissioning guide: Massive Weight Loss Body Contouring was written by the British Association of Plastic Reconstructive and Aesthetic Surgeons (BAPRAS) (British Association of Plastic & Aesthetic Surgeons, 2017) sets out the suggested new eligibility criteria for body contouring surgery following massive weight loss. This guidance provides evidence of the physical and psychological implications of excess skin. A key recommendation of the BAPRAS guidance is the request for central funding of body contouring surgery and a national referral document to enable primary care to refer their patients for procedures.</p>

Recommendation 11	HCPs need training to recognise the detrimental psychological and physical impacts of excess skin. Support to reduce the potential negative impacts prioritised at appointments.
Theme of recommendation	Excess Skin
Summary of discussion with practice	Clinical stakeholders recognised the potential negative impacts that excess skin may have on patient outcomes. Commissioners were less aware of this but were supportive of the idea of training and inclusion of conversations and appointments.
Integration in the SEM	Organisational
Discussion of the SEM	The obesity pathway includes HCPs from a range of organisations. HCPs from each organisation will take different roles to support individuals throughout their weight loss journey. Training would raise awareness of the implications of excess skin following massive weight loss and provide better support at the individual level.

9.3 Study strengths and limitations

9.3.1 Strengths

A key strength of the study was that it used multiple methods to explore the patient experience of the bariatric surgery pathway. Firstly, adopting a longitudinal approach highlighted the temporality of people's experiences across the pathway and the positive and negative impacts on successful outcomes; as such this thesis provides insight into these experiences and how they change over time. Secondly, the use of modified Photovoice methodology allowed me to gain additional insight using the participants' photographs alongside the interview data. This enabled me to build trust with participants who may be socially isolated and where the topic is sensitive. In this study, the Photovoice methods also gave participants additional ownership and time to consider prior to each interview the information which they wanted to share. The approach resulted in powerful images and accompanied narrative (see more detail on this in section 8.5.2).

From the outset, the focus of the study, design and data collection methods were developed in consultation with an advisory group of stakeholders including policy makers, clinicians, academics and expert patients. This engagement of stakeholders and expert input has maintained the relevance of the findings to practice. Institutional and policy changes related to weight management support and bariatric surgery have occurred over the duration of the study. Taking the research findings back to stakeholders and involving them in the development of recommendations for practice has ensured the thesis has remained relevant with these changes and has begun the process of knowledge mobilisation.

Participants were recruited from two hospital trusts based in two towns. The populations of both towns have similar significant levels of deprivation that reflects the demographics of the relatively deprived population that tends to access NHS-funded bariatric surgery. This supports the transferability of findings to areas with similarly deprived populations. The inclusion of participants undergoing surgery at two hospitals may make the findings more generalisable to other bariatric units.

Moreover, participants were referred to the two hospitals from four different tier three / primary care sources and as such provided a representation of different local pathways. The approach could also be applied to the transition between tier 2 and tier 3 to understand more about the patient journey between other tiers of the weight management pathway.

Loss of participants at later stages of the investigation is a limitation of longitudinal studies, furthermore there is likely to be (a type of non-statistical) bias introduced as those with less positive outcomes are more likely to be lost to follow up (Farrall, Hunter, Sharpe, & Calverley, 2016). The relationship I developed with the participants was almost certainly a factor in ensuring only three patients were lost to follow up. This relationship also enabled me to collect a rich range of data even from those participants who were less happy to reflect on their experience. To protect the confidentiality of participants the hospitals were not made aware of who was participating on the study (unless the participant disclosed this themselves). If participants details had been shared it would have been interesting to see if those were lost to follow up experienced any worse outcomes than those who continued to engage with the study.

9.3.2 Limitations

The sample contained only four men; this reflected the gender balance of the population accessing bariatric surgery services and the advisory group fed back that the sample of participants was reflective of the population that access bariatric surgery in the two hospitals. The relatively small sample size presents challenges with generalising the findings to other settings or populations beyond those of the study (Lincoln & Guba, 1985). However, some of the findings from the study highlighted differences in experience and expectations between the ages and genders of the participants involved. A larger convenience sample including more of these groups would offer more insight into the relevance and generalisability of these differences. Furthermore, as the cohort were all white British the findings could not provide any insight into the cultural implications of surgery beyond that group.

This study focuses on patients' experiences and expectations. It would be useful to expand this research to include HCPs and examine their views on the patient journey, expectations and the findings regarding weight-related stigmatisation, and support required post-bariatric surgery.

Not all participants engaged with the Photovoice methods. The use of cameras and sharing of photographs was down to the choice of the individual participants. Those participants who did not engage may not have spent much time prior to the interview preparing their thoughts of the experiences and issues that they wanted to share.

9.4 Ideas and implications for future research

This thesis addressed an important research question and raises several issues worth follow up investigation. Many of these issues can be structured around the recommendations identified in section 8.5. A sample of these recommendations have been developed into future research questions and ideas.

First and foremost is the need to continue with the longitudinal realist informed approach used in this study but to follow up with participants for a longer period. A follow up from pre- to five- or ten-years post-surgery would highlight longer term outcomes of surgery. This would also allow for key mechanisms of success that have been identified such as communication between HCPs and the impacts of support networks to be explored longer term. As such the research question could be: *What are the key mechanisms influencing long term (five / ten year) outcomes of bariatric surgery and how do they change from pre- to post-surgery?*

Two recommendations refer to the outcome measures of success to be wider than clinical measures and determined by the patient. These measures could be routinely collected by clinicians and discussed with patients at each appointment and shared between services with patient records. A feasibility study working with commissioners and clinicians across the obesity pathway could coproduce a

reporting system to record and monitor the types of measures that patients report. A DELPHI approach could be taken to achieve consensus with clinicians, commissioners and policy makers for a new set of outcome measures. Ultimately this would aim to establish: *Does the inclusion of patient-led measures of success improve long term clinical outcomes?*

The development of an intervention trial to include longer term access to exercise specialists or additional one to one support delivered by a health trainer / wellbeing worker to facilitate access to community exercise would be assessed to determine levels of engagement and longer-term changes in physically activity pre-and post-surgery. Some areas may be delivering this within the tier three / four service, However, without the commitment of commissioners and clinicians to financially resource the intervention this would require significant resource and planning to include the intervention and staffing into service delivery. The research question could be: *What impact does access to longer term specialist exercise support have on post-surgery physical activity behaviours?*

A randomised feasibility study could explore the effects of training GPs and other HCPS about the physiological and psychological implications of bariatric surgery on patient experience. The study could include a cohort of patients under the care of GPs who have not undertaken such training and a cohort of patients whose primary care professionals have been trained. The research question could be: *Does training in the implications of bariatric surgery for patients make patients feel better supported and receive improved and non-judgemental health care following their surgery?*

This study used qualitative methods to highlight the experiences of a small number of patients who were supported by more than one service of the obesity pathway. Further studies could aim to understand the impact of the obesity pathway on clinical outcomes and the savings of the pathway for the NHS, social care and wider economy. Firstly, a larger scale review of clinical measures could be undertaken by reviewing weight at different points along the pathway for example, as people

enter a tier three service and again at discharge post tier four. A cost benefit analysis using individual level data and outcomes would aim to determine the cost effectiveness of the pathway and the impacts of the pathway if more of those eligible accessed bariatric surgery.

Finally, accessing body contouring surgery was reported as being problematic as a result of the eligibility criteria (based on BMI) in current policy. The use of shape measurement and 3D imaging equipment may be a tool that could be used to develop an alternative measure of BMI. The 3D images could provide detailed evidence of body shape and weight maintenance that could be used to support applications for corrective surgery as they would not have the problem of including the weight of excess skin, as current BMI criteria do.

9.4 Conclusion and contribution to knowledge

To conclude I will return to the overall research question: ‘what influences whether bariatric surgery is successful for patients?’. Individual experience of obesity and expectation of life post-surgery determines the way in which patients will measure the success of bariatric surgery. The results of this study show that patients have a range of psychological, physical and social support needs. The ability to address these needs through appropriate and available mechanisms influences the level of success from a patient perspective.

This is the first longitudinal study exploring patient experience of the obesity pathway and comprised longitudinal qualitative interviews, quality of life measures and modified Photovoice methods. Together these provided insight and understanding of the evolving interplay of patients’ experiences and expectations across pre- and post-surgery periods. The longitudinal approach meant the relationship between myself as the researcher and the participants evolved over the course of the study; for most participants, I was viewed as part of their journey.

The quality of life measures showed improvement over the duration of the study; but this data alone does not show the fuller reality of patients' experiences revealed by the interviews. The Photovoice methods handed power of the research process to the participants by enabling them to plan what they wanted to share prior to the research taking place.

The study found that changes in overall quality of life and achieving normality are equally as important as meeting clinical objectives to patients. This concurs with existing evidence identified during the literature review process. Whereas the unique longitudinal nature of this study shows that patients' view of normality changed from pre-surgery, to three months, nine months and two years post-surgery. This finding has important implications for clinicians involved in the obesity treatment pathway; they should be aware of critical points in the bariatric patients' journey when they may need additional support beyond regular follow-up monitoring of weight and co-morbidities.

Overall, this study used a realist approach to explore why bariatric surgery is successful for some people and not for others. This is the first longitudinal study exploring patient experience of the obesity pathway and thus opening the 'black box' along the surgery journey. The use of innovative Photovoice techniques to capture the journey of weight loss through bariatric surgery has highlighted the burden of obesity on day to day life and the mechanisms that exist to support patients. The temporality of patients experiences and needs across their weight loss journey and how these needs might influence outcomes of bariatric surgery have been recognised. The recommendations of the study highlight how clinicians, commissioners and policy makers need to work across the socio ecological system in order to support patients to define and achieve success.

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Appendix 1. NICE Criteria for accessing bariatric surgery

Bariatric surgery is a treatment option for people with obesity if all of the following criteria are fulfilled:

- They have a BMI of 40 kg/m² or more, or between 35 kg/m² and 40 kg/m² and other significant disease (for example, type 2 diabetes or high blood pressure) that could be improved if they lost weight.
- All appropriate non-surgical measures have been tried but the person has not achieved or maintained adequate, clinically beneficial weight loss.
- The person has been receiving or will receive intensive management in a tier 3 service.
- The person is generally fit for anaesthesia and surgery.
- The person commits to the need for long-term follow-up.

Source: (NICE, 2019)

Appendix 2. Changes in the Bariatric Surgery Pathway 2012 to present (June 2020)

Commissioning arrangements	Year	National Obesity Surgery Eligibility Criteria	Commissioning Responsibility / Lead and Funder for Bariatric Surgery	Local Eligibility Criteria to access Bariatric Surgery	Other information
1 - Study initiation	2012	<p>NICE CG43 (2006) criteria:</p> <ul style="list-style-type: none"> BMI of 40kg/m² or more. BMI between 35 kg/m² and 40 kg/m² where other significant co morbidities exist that could be improved by weight loss and when other appropriate non-surgical measures have failed to achieve or maintain clinically suitable weight loss for a period of at least six months. BMI of more than 50 kg/m² where surgical intervention is considered appropriate. 	Yorkshire & Humber (Y&H) Specialised Commissioning Group (SCG) on behalf of the 14 Y&H Primary Care Trusts.	<p>7 PCT's in Y&H followed the NICE criteria / 7 followed restricted NICE criteria (BMI of 50kg/m² or a BMI of 45kg/m² with a significant co morbidity).</p> <p>The decision of which criteria to follow made at the PCT level.</p> <p>All South Yorkshire PCT's used the restricted criteria.</p>	<p>Obesity management pathway in local area with local MDT who referred to surgical MDT. Surgical MDT consists of:</p> <ul style="list-style-type: none"> Consultant Surgeon Bariatric Nurse Specialist Dietitian Clinical Psychologist <p>The surgical care pathway for Y&H included three stages:</p> <ul style="list-style-type: none"> Specialist MDT assessment Provision of bariatric surgery Specialist post-operative and long term support
2 - Participant recruitment	2013	<p>NICE CG43 (2006)criteria:</p> <ul style="list-style-type: none"> BMI of 40kg/m² or more. BMI between 35 kg/m² and 40 kg/m² 	NHS England	Restricted NICE criteria followed in each SY area.	New tiered weight management pathway (see figure 1)

		<p>where other significant co morbidities exist that could be improved by weight loss and when other appropriate non-surgical measures have failed to achieve or maintain clinically suitable weight loss for a period of at least six months.</p> <ul style="list-style-type: none"> • BMI of more than 50 kg/m² where surgical intervention is considered appropriate. 		<p>(BMI of 50kg/m² or a BMI of 45kg/m² with a significant co morbidity)</p>	<p>Responsibility for commissioning split across Local Authorities, Clinical Commissioning Groups and NHS England. Pathway is not mandatory.</p> <p>See Table 4 for additional information on the weight management pathway in each area involved in recruitment to the study.</p>
3 - Data analysis and thesis write up	2016 – (present) June 2020	<p>Based on NICE CG189 (2014) with additions:</p> <ul style="list-style-type: none"> • BMI of 40kg/m² or more, or between 35 kg/m² and 40kg/m² or greater in the presence of other significant diseases. • Treated in a Tier 3 specialist weight management service. • This will have been for a duration considered appropriate by the MDT (previous requirement was for 12-24 months). • Patients with BMI > 50 attending a specialist obesity service, this period should include the stabilisation and assessment period prior to obesity surgery (previous requirement was a minimum of 6 months). 	Clinical Commissioning Groups (CCGs)	<p>Each area has taken a different approach to fulfilling the commissioning requirements of the NHS England Commissioning Guidance for CCGs</p> <p>https://www.england.nhs.uk/wp-content/uploads/2016/05/appndx-7-obesity-surgery-guid.pdf</p>	<p>Continuation of the tiered model approach with changes in responsibility for funding and commissioning. CCGs fund Tier 4 Tier 1, 2, 3 services commissioned and funded by Clinical Commissioning Groups (CCGs). Population prevention / health promotion measures and strategies funded from local authorities.</p>

Appendix 3. Ethics and Research Governance



Health Research Authority

NRES Committee Yorkshire & The Humber - Leeds East

Yorkshire and Humber REC Office
First Floor, Millside
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Telephone: 0113 3050108

Facsimile:

08 May 2012

Mrs Catherine Homer
Qualitative Researcher
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Centre for Health and Social Care Research
Sheffield Hallam University Montgomery House
32 Collegiate Crescent Sheffield
S10 2BP

Dear Mrs Homer

Study title: Expectation and Experience of the Bariatric Surgery
Pathways in South Yorkshire
REC reference: 12/YH/0194

The Research Ethics Committee reviewed the above application at the meeting held on 01 May 2012. Thank you for attending to discuss the study.

Ethical opinion

The Committee asked what the role of the photographs were for the study. You explained that the photographs will be used as part of photo voice methodology, which has been used in other studies to guide the interviews. The Committee asked why the photographs will be published if they are being used to facilitate discussion. You advised that the photographs which will be published will only be used for illustrative material only and consent would be sought for this.

The Committee explained that as the photograph will be used as stimulant materials by the participants, the patient's own children can be within the photographs, however these images would need to be blanked out if the photograph was published.

The Committee asked if the photographs will be published exclusively for this study. You advised that this would be the case. Members queried how long the photographs will be kept. You advised that the photographs would be downloaded at the interviews and then wiped at the end of the interview. Those photographs which may be published will be kept with the rest of the data for 7 years.

Members queried if those participants who do not wish to take photographs will be excluded from the study. You advised that they would still be able to take part in the study without photographs being taken. The Committee advised that this should be outlined in the Participant Information Sheet.

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting

documentation, subject to the conditions specified below.

Ethical review of research sites

NHS Sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations

- 1. A statement needs to be included within the Participant Information Sheet explaining that patients can still participate in the study if they do not wish to have photographs taken.**

It is responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

You should notify the REC in writing once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. Confirmation should also be provided to host organisations together with relevant documentation

Approved documents

The documents reviewed and approved at the meeting were:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Covering Letter		
Evidence of insurance or indemnity		22 March 2012
Investigator CV		22 March 2012
Letter of invitation to participant		22 March 2012
Interview schedule pre surgery	1	12 March 2012

A Research Ethics Committee established by the Health Research Authority

Photovoice safety guidelines pre surgery	1	12 March 2012
Interview schedule 3 months post surgery	1	13 March 2012
Photovoice safety guidelines 3 months post surgery	1	12 March 2012
Photovoice safety guidelines 9 months post surgery	1	12 March 2012
Interviews schedule 9 months post surgery	1	13 March 2012
Participant Consent Form	1	12 March 2012
Participant Information Sheet	6	19 March 2012
Protocol	9	19 March 2012
Questionnaire: EQ-5D-5L		
Questionnaire: Impact of weight on quality of life		
REC application		22 March 2012
Referees or other scientific critique report		12 March 2012

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

Further information is available at National Research Ethics Service website > After Review

12/YH/0194	Please quote this number on all correspondence
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With the Committee's best wishes for the success of this project

Yours sincerely



Dr Carol Chu
Chair

Email: jade.thorpe@nhs.net

*Enclosures: List of names and professions of members who were present at the meeting and those who submitted written comments
"After ethical review – guidance for researchers"*

Copy to: Ms Erica Wallis



Health Research Authority

NRES Committee Yorkshire & The Humber - Leeds East

Yorkshire and Humber REC Office
First Floor, Millside
Mill Pond Lane
Meanwood
Leeds
LS6 4RA

Telephone: 0113 3050108

Facsimile:

08 May 2012

Mrs Catherine Homer
Qualitative Researcher
Sheffield Hallam University
Centre for Health and Social Care Research
Montgomery House
32 Collegiate Crescent
Sheffield
S10 2BP

Dear Mrs Homer

Full title of study: Expectation and Experience of the Bariatric Surgery
Pathways in South Yorkshire
REC reference number: 12/YH/0194

Thank you for your email of 8th May 2012. I can confirm the REC has received the documents listed below as evidence of compliance with the approval conditions detailed in our letter dated 08 May 2012. Please note these documents are for information only and have not been reviewed by the committee.

Documents received

The documents received were as follows:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Participant Information Sheet	7	08 May 2012

You should ensure that the sponsor has a copy of the final documentation for the study. It is the sponsor's responsibility to ensure that the documentation is made available to R&D offices at all participating sites.

12/YH/0194

Please quote this number on all correspondence

Yours sincerely

Miss Jade Thorpe
Committee Co-ordinator

E-mail: jade.thorpe@nhs.net

Copy to: Ms Erica Wallis



Health Research Authority
NRES Committee Yorkshire & The Humber - Leeds East

North East REC Centre
Room 002
TEDCO Business Centre
Viking Industrial Park
Rolling Mill Road
Jarrow
NE32 3DT

Tel: 0191 428 3561

16 December 2013

Mrs Catherine Homer
Qualitative Researcher
Centre for Health and Social Care Research
Sheffield Hallam University Montgomery House
32 Collegiate Crescent Sheffield
S10 2BP

Dear Mrs Homer

Study title: Expectation and Experience of the Bariatric Surgery Pathways in South Yorkshire
REC reference: 12/YH/0194
Amendment number: Minor Amendment 1 - Extension of Study 31/12/14
Amendment date: 16 December 2013
IRAS project ID: 99583

Thank you for your letter of 16 December 2013, notifying the Committee of the above amendment.

The Committee does not consider this to be a "substantial amendment" as defined in the Standard Operating Procedures for Research Ethics Committees. The amendment does not therefore require an ethical opinion from the Committee and may be implemented immediately, provided that it does not affect the approval for the research given by the R&D office for the relevant NHS care organisation.

Documents received

The documents received were as follows:

Document	Version	Date
Covering Letter	Email from Catherine Homer	16 December 2013
Notification of a Minor Amendment	Minor Amendment 1 - Extension of Study 31/12/14	16 December 2013

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

12/YH/0194:	Please quote this number on all correspondence
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Yours sincerely



Kerry Dunbar
REC Assistant

E-mail: nrescommittee.yorkandhumber-leedseast@nhs.net

Copy to: *Ms Erica Wallis, STH NHS Foundation Trust*



Health Research Authority

NRES Committee Yorkshire & The Humber - Leeds East

Room 002
Jarrow Business Centre
Rolling Mill Road
Jarrow
Tyne and Wear
NE32 3DT

Tel: 0191 4283548

20 October 2014

Mrs Catherine Homer
Qualitative Researcher
Sheffield Hallam University
Centre for Health and Social Care Research
Sheffield Hallam University Montgomery House
32 Collegiate Crescent Sheffield
S10 2BP

Dear Mrs Homer

Study title: Expectation and Experience of the Bariatric Surgery Pathways in South Yorkshire
REC reference: 12/YH/0194
Amendment number: Amendment number 1, July 2014
Amendment date: 11 September 2014
IRAS project ID: 99583

The above amendment was reviewed the Sub-Committee in correspondence.

Ethical opinion

The members of the Committee taking part in the review gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

Approved documents

The documents reviewed and approved at the meeting were:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Notice of Substantial Amendment (non-CTIMP)	Amendment number 1, July 2014	11 September 2014
Other [Summary of Amendment to Protocol]	1	01 September 2014
Other [Participant Letter]	2	01 September 2014
Participant information sheet (PIS) [DBH]	5 (for reference only)	12 March 2012
Participant information sheet (PIS) [STH]	5 (for reference only)	12 March 2012
Research protocol or project proposal	11	01 October 2014

Membership of the Committee

The members of the Committee who took part in the review are listed on the attached sheet.

R&D approval

All investigators and research collaborators in the NHS should notify the R&D office for the relevant NHS care organisation of this amendment and check whether it affects R&D approval of the research.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at <http://www.hra.nhs.uk/hra-training/>

12/YH/0194:	Please quote this number on all correspondence
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Yours sincerely



pp

Dr Rhona Bratt
Chair

E-mail: nrescommittee.yorkandhumber-leedseast@nhs.net

Enclosures: List of names and professions of members who took part in the review

Copy to: Ms Erica Wallis, STH NHS Foundation Trust

Jemima Clarke, Sheffield Teaching Hospitals NHS Foundation Trust

CLAHRC SY Independent Scientific Review sign off

NIHR CLAHRC for South Yorkshire

Applicant: Catherine Homer

Title: Expectation and Experience of the Bariatric Surgical Pathway in South Yorkshire

Proposal Reference number: OB-ISR.5.25012012

Has proposal been Peer Reviewed?

Yes No

Has inequalities theme commented or otherwise contributed?

Yes No

Has or will the protocol been submitted for external funding?

Yes No

If yes, to which organisation?

Is a response to referee's comments required prior to approval by the executive?

Yes No

Director's sign off

Signature.....  Date.....12/03/2012.....
Name.....Professor Stuart Parker, Associate Director of NIHR CLAHRC SY

Doncaster Bassetlaw Hospitals Trust Research Governance approval letter

Doncaster and Bassetlaw Hospitals

NHS Foundation Trust

Doncaster Clinical Research

Joint Research Office with NHS Doncaster and
Rotherham Doncaster and South Humber NHS Foundation Trust
Tel: 01302 366666 Ext: 4708
Email: doncasterclinicalresearch@dbh.nhs.uk

Doncaster Royal Infirmary
Armthorpe Road, Doncaster
South Yorkshire DN2 5LT

10 August 2012

CONFIDENTIAL

Katie Kirk
Specialist Nurse Practitioner
Ward 20, Doncaster Royal Infirmary
Armthorpe Road
Doncaster
South Yorkshire
DN2 5LT

Tel: 01302 366666
Fax: 01302 320098

Minicom: 01302 553140
(only for people who are deaf)

www.dbh.nhs.uk

Dear Katie ,

Study Title: Weight Loss Surgery: Through the Patients' Eyes
Chief Investigator: Mrs Catherine Homer
Sponsor: Sheffield Teaching Hospitals NHS Foundation Trust
DBHft Reference: 0487/2012/NCT
REC Reference: 12/YH/0194

I am pleased to inform you that the above project has now been given authorisation to commence within Doncaster & Bassetlaw Hospitals NHS Foundation Trust. For your information, the project reference is **0487/2012/NCT**. I would be grateful if you could quote this number in any further correspondence with this department.

Permission is granted on the understanding that the study is conducted in accordance with the Research Governance Framework, ICH GCP (where applicable) and NHS Trust Policies and Procedures.

Documentation

Your authorisation has been granted based on submission of the following documentation:

- Study Protocol (Version 9 dated 19 March 2012)
- IRAS REC Form (Submission code: 99583/306862/1/549 signed on behalf of Sponsor on 22 March 2012)
- IRAS SSI Form (Submission code: 99583/323761/6/815/150963/243752 signed by Katie Kirk on 16 May 2012)
- CV of Catherine Homer (undated)
- Invitation Letter (no version, undated)
- Participant Information Sheet (Version 7 dated 08 May 2012)
- Participant Consent Form (Version 1 dated 12 March 2012)
- Checklist for Pre-Interview Visit (Version 1 dated 12 March 2012)
- Interview Schedule - Pre Surgery (Version 1 dated 12 March 2012)
- Interview Schedule - 9 Months Post Surgery (Version 1 dated 13 March 2012)
- Interview Schedule - 3 Months Post Surgery (Version 1 dated 13 March 2012)
- Questionnaire - EQ-5D (Version 2 dated 2009)
- Questionnaire - Impact of Weight on Quality of Life (IWQOL-Lite)
- Photovoice: Safety Guidelines and Task Information Pre Surgery (Version 1 dated 12 March 2012)
- Photovoice: Safety Guidelines and Task Information 9 Months Post Surgery (Version 1 dated 12 March 2012)
- Evidence of Compliance of Approval Conditions from Leeds (East) Research Ethics Committee (dated 08 May 2012)
- Favourable Ethical Opinion from Leeds (East) Research Ethics Committee (dated 08 May 2012)

Permission is only granted for the activities for which a favourable opinion has been given by the Research Ethics Committee and that have been authorised by the MHRA, where applicable.

Please note that approval is limited to the dates stated on the research application form and that you are obliged to notify the Research Governance Department of any adverse events that arise during the course of the project. You are also obliged to inform us if your project deviates in any way from the original proposal / documentation you have submitted. This may result in the suspension of your project until changes have been agreed with the Trust.

The Research Sponsor, or the Chief Investigator, or the local Principal Investigator, may take appropriate urgent safety measures in order to protect research participants against any immediate hazard to their health or safety. The Research Governance office must be notified that such measures have been taken. The notification must include the reasons why the measures were taken and the plan for further action. The Research Governance office must be notified in the same timeframe as notifying the Research Ethics Committee and any other regulatory bodies.

Amendments

This approval covers the document versions stated above; any revised documents must be submitted for approval by the Research Ethics Committee and other regulatory bodies, where applicable, in accordance with guidance in the Integrated Research Application System (IRAS). If the study has been adopted onto the NIHR Portfolio, any amendments to the study must be reported to the Lead CLRN. In addition, all amendments must receive separate approval from Doncaster & Bassetlaw Hospitals NHS Foundation Trust.

Permissions

This letter authorises you in principle to undertake research within the Trust. However, it is your responsibility to ensure that individuals appropriate to your work have no objections to your studies. This department accepts no liability for non co-operation of staff or patients.

Contracts

It is your responsibility to ensure you have sufficient indemnity to undertake this project. In addition, it is also your responsibility to ensure that letters of access / honorary contracts are in place where necessary.

Good Clinical Practice training

In accordance with ICH GCP guidelines and the UK Statutory Instruments, all key personnel involved in a Clinical Trial as part of the research team, must have completed GCP training within the last three years. It is your responsibility to ensure the research team have received this training. For information regarding upcoming GCP training courses, please contact the Research Governance team.

Auditing

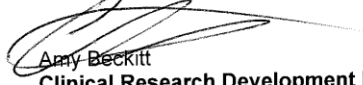
I would strongly urge you to maintain an accurate and up to date site file for your documentation, as the Trust randomly audits projects to assess compliance with the relevant legal frameworks and legislation. If your study is selected, you will be notified in writing not less than two weeks prior to the required submission date of documentation. In addition, where monitoring and auditing procedures are carried out by the Sponsor, you will be required to cooperate, where appropriate.

Monitoring

In order to ensure adequate monitoring of ongoing studies, the Research Governance department will send through periodic monitoring forms which require completion by the Principal Investigator or delegated individual. These will be in two formats. The first is a monthly letter requesting recruitment information. The second form is an annual study progress report. These forms need to be completed and sent through to the Research Governance department as a condition of the approval of this study.

I would like to take this opportunity to wish you well with your project. If you have any questions or if I can be of any further assistance to you, please do not hesitate to contact me.

Yours sincerely



Amy Beckitt
Clinical Research Development Manager

cc Catherine Homer
Qualitative Researcher for CLAHRC Obesity Theme
Centre for Health and Social Care Research Sheffield Hallam University
Montgomery House
32 Collegiate Crescent
Sheffield
S10 2BP

Sheffield Teaching Hospitals Research Governance approval letter

Ref: STH16456/JC

Sheffield Teaching Hospitals 
NHS Foundation Trust

Date: 05 Feb 15

Ms Liz Govan
Nurse Specialist in Bariatric Surgery
3rd Floor, Nurses Home
Northern General Hospital
Sheffield NHS Teaching Hospitals Foundation Trust
Sheffield
S7 5AU

Dear Ms Govan

Substantial Amendment Letter of Continued NHS Permission

STH ref: STH16456

NIHR CSP ref: Not applicable

REC ref: 12/YH/0194

MHRA ref: Not applicable

Study title: Expectation and Experience of the Bariatric Surgical Pathway in South Yorkshire

Chief Investigator: Mrs Catherine Homer, Sheffield Hallam University

Principal Investigator: Liz Govan, Sheffield NHS Teaching Hospitals Foundation Trust

Sponsor: Sheffield NHS Teaching Hospitals Foundation Trust

Funder: NIHR CLAHRC for South Yorkshire – Obesity Theme

Amendment Ref: Amendment number 1

Amendment Date: 11 September 2014

Thank you for submitting the following documents:

Document	Version/date
Yorkshire & The Humber - Leeds East favourable ethical opinion	20 Oct 14
Notice of Substantial Amendment (non-CTIMP)	11 September 2014
Summary of Amendment to Protocol	V1.0, 01 Sep 14
Participant Letter	V2.0, 01 Sep 14
Research protocol or project proposal	V11, 01 Oct 14

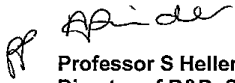
These have been reviewed by the Research Department who have no objection to the amendment and can confirm continued NHS permission for the study at STH.



Chair: Tony Pedder OBE Chief Executive: Sir Andrew Cash OBE



Yours sincerely



Professor S Heller
Director of R&D, Sheffield Teaching Hospitals NHS Foundation Trust
Telephone +44 (0) 114 22 65934
Fax +44 (0) 114 22 65937

CC: Mrs Catherine Homer, Sheffield Hallam University

Appendix 4. Participant covering letter from Bariatric Nurse Specialist



Dear

You have invited to take part in a research project 'Weight Loss Surgery: Through the Patients' Eyes'¹. The project is being led by a researcher from Sheffield Hallam University.

The project aims to explore the expectation and experiences of patients having bariatric surgery at Sheffield Teaching Hospitals and Doncaster Bassetlaw NHS Trust. The research will develop a better understanding of patients experience throughout the bariatric surgery journey.

The overall aim is to inform the development of the bariatric surgery pathway in order to better support future patients undergoing bariatric surgery in South Yorkshire.

Please take as much time as you like to read the information enclosed with this letter and think about taking part. If you are interested in taking part complete the reply slip attached with this letter and return it in the envelope provided to the researcher (Catherine Homer) as soon as possible. Once Catherine receives your form she will contact you to discuss the project in more detail and see if you are still happy to take part.

Yours Sincerely

¹ The project is funded by the Obesity theme within SY Clahrc (Collaborations for Leadership in Applied Health Research Care – South Yorkshire).

Appendix 5. Participant Information Sheet



Participant Information Sheet

Weight Loss Surgery: Through the Patients' Eyes

We are inviting you to take part in a research study. Before you decide whether to take part it is important that you understand why the research is being done and what it will involve. Please read the following information carefully and discuss it with friends and family if you wish. Take time to decide whether or not you wish to take part. Do feel free to contact us if there is anything that is not clear or if you would like more information. Contact details are at the end of this sheet.

Why are we doing the project?

Overweight and obesity rates are increasing in the UK. The NHS has to make decisions about what treatments should be provided for people who are obese and overweight and how they should be delivered. Bariatric surgery is a recommended treatment for some adults who are obese. There has been little research to explore the expectations and experiences of patients before, during and after bariatric surgery. We would like to hear about your experience leading up to, during and following your bariatric surgery.

The findings will inform the delivery of future services.

The research is being led by researchers from Sheffield Hallam University who work in the Obesity Theme of the SY Clahrc (Collaborations for Leadership in Applied Health Research Care – South Yorkshire)

Why have I been chosen?

You have been approached about this study because you are a patient who has been referred to Sheffield Teaching Hospitals / Doncaster Bassetlaw Hospitals to have bariatric surgery. We hope to recruit 15 patients like yourself to take part in the study.

Do I have to be involved in the project?

No – whether you take part or not is entirely up to you. If you would prefer not to take part, you do not have to give any reason, no one will mind and it will not impact on your treatment. If you choose to take part you can still leave the study at any time, and no one will mind.

What will taking part involve?

If you are interested in taking part you need to complete and return the reply slip enclosed with the covering letter. You will then be contacted by Catherine Homer (researcher) who will explain the project to you in more detail. If you agree to participate in the study, the researcher will either visit you at home or a convenient place for you to discuss the project and what is involved. A week after the first contact the researcher will return to visit you and if you still wish to be involved in the project

you will be asked to take part in the first interview. Some people request for a family member/ carer to be present during the interviews which is fine.

You will be interviewed three times: before surgery, three months after surgery and then finally again at nine months.

As part of the project you will be asked to take some pictures before each interview. This will be known as a 'Photovoice Task'. At the first visit the researcher will bring along a camera which will be yours on loan throughout the project. Included with this will be the manufacturer's instructions for use. A task sheet linked to the study will be given to you and you will have the time to go through this together. Before each interview you will be asked to take photographs about different things that help to explain the meaning of surgery to you. In the interviews, you and the researcher will discuss the pictures you have taken.

If you decide you would like to take part in the interviews but not with the Photovoice tasks this is fine, please let the researcher know at the first visit.

Before each interview you will also be given two short questionnaires. These questionnaires should take no more than 10 minutes to complete and if you wish you will also be able to discuss your answers to these at each interview. These questionnaires will give the researchers an indication on how you rate your quality of life. It is OK if you prefer not to answer all the questions on the questionnaires.

In the interviews you will be asked questions about your experience of bariatric surgery including support, quality of life, and any changes as a result of the surgery.

Each interview will be digitally recorded. This will help the researcher concentrate on what you are saying and avoid having to take notes while you are talking. The recordings will then be transcribed (written out), but the information will be made anonymous. This means any names or information that makes you identifiable will be removed. The researcher will check that the recording and the written transcript are the same and then will erase the recording. The interviews will last approximately 30 to 40 minutes.

All the interviews will follow the same format as the first with the researcher asking you to complete two short questionnaires and discuss some photographs. The researcher will contact you about ten weeks after your surgery date to: confirm you are still happy to be involved in the project; send out the photo task and questionnaires; and, set an interview date. You will have the opportunity to withdraw from the study at this time if you chose to. The final interview will take place nine months following your surgery and the researcher will contact you about eight months after your surgery to arrange this.

What are the possible disadvantages and risks of taking part?

We do not anticipate that there are any risks in taking part. You will not be under any pressure to answer questions or talk about topics that you prefer not to discuss and you can choose to stop the interview at any point. If the researcher identifies any

medical or psychological concern as part of the interview, they will contact your consultant or specialist nurse in the Multi-Disciplinary Team at Sheffield Teaching Hospitals.

What are the possible benefits of taking part?

There are no direct benefits to taking part, although some people enjoy the opportunity to take part in discussions of this nature. However, at the end of the project you will be given a photo album with photographs you have taken as part of your journey through the surgery pathway.

What if something goes wrong?

It is extremely unlikely that anything will go wrong as a result of taking part in this study. However if you wish to complain, or have any concerns about the way you have been approached or treated during the course of this study, the normal National Health Services complaints mechanisms are available to you in the first instance you should contact the Trust's Patient Services Team on 0114 271 2400 /01302 553140

Alternatively please contact:

If you have any queries or questions please contact:

Principal investigator: Catherine Homer, c.homer@shu.ac.uk or 0114 225 5815
Sheffield Hallam University, Faculty of Health and Wellbeing

If you would rather contact an independent person, you can contact Peter Allmark (Chair Faculty Research Ethics Committee) p.allmark@shu.ac.uk; 0114 225 5727

Will my taking part in this study be kept confidential?

The recordings and notes from any discussion you take part in and the photographs will be held in a safe place and only the research team will have access. The information from the recordings will be typed onto a computer, which will have a password. The names of all the people who have taken part will be removed, so individuals will not be recognised. At the end of the project, all personal identifiers will be removed from the typed interviews within three months of the end of the project. The results of the study will be written up in the form of a project report and circulated to relevant local and national organisations and presented at conferences. The photos are yours to keep. Reports and presentations will only include photographs with identifiable images of yourself or family / friends if you have given formal consent. No photographs with children under 16 years other than your own children should be taken. You will be informed of the results of the study if you wish in the form of a summary report. The project will also be submitted for publication in academic and health care journals.

The only personal data we keep for longer than this will be your signed consent form. We have to keep this for seven years from the end of the project so we will keep it separately in a secure file for this length of time.

What will happen to the results of the research study?

What we learn from this project will be used to develop recommendations for NHS staff and commissioners to inform the current patient pathways for bariatric surgery in South Yorkshire. We hope this will support patients to maximise potential benefits of bariatric surgery.

Who is organising and funding the research?

An experienced research team from Sheffield Hallam University are carrying out the project. The project funding comes from the Obesity Theme within the South Yorkshire Collaborations for Leadership in Applied Health Research Care. This study has been reviewed and approved by a National Research Ethics Service Committee.

Who has reviewed this study?

All research in the NHS is looked at by an independent group of people called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given a favourable opinion by Leeds East Ethics Committee.

What if I have questions or concerns after reading this sheet?

Please feel free to contact the research team if there is anything you need answered. We will be happy to talk to you.

Catherine Homer
Qualitative Researcher
Centre for Health and Social Care Research
Sheffield Hallam University
Montgomery House
32 Collegiate Crescent
Sheffield
S10 2BP
Tel: 01114 2255815
Email: c.homer@shu.ac.uk

Appendix 6. Consent Form

Participant Id:

CONSENT FORM

Weight Loss Surgery: Through the Patients' Eyes

General Population Interviews

Name of Researcher:

Please initial

box

1. I confirm that I have read and understand the information sheet dated _____ for the above study and have had the opportunity to ask questions.	
2. I understand that my participation is voluntary and that I am free to withdraw at any time from the discussion researcher, without giving any reason. My care and legal rights will not be affected.	
3. I agree to my discussion being recorded using a digital recorder or hand written notes for the purposes of the research. I understand that I may ask for recording to be stopped at any time.	
4. I agree to take part in the Photovoice tasks and will follow the safety guidance on the task sheet. I understand that the camera will be loaned to me for the duration of the study and will be returned to the project team after the final interview. I understand that the pictures will only be used in final reports and dissemination with my permission and I can request for them not to be used.	
5. I agree to the use of extracts from my discussion being used in published reports and presentations resulting from the research. I understand that all personal details will be removed and I will not be identified in any published work.	
6. I agree to take part in the above study	

Name of research participant

Date

Signature

Name of person taking consent
(if different from researcher)

Date

Signature

Researcher

Date

Signature

1 copy for participant; 1 copy for researcher

Consent extension letter

Dear,

I hope you are well. Thank you for your current involvement in the weight loss surgery study. The information you have provided me so far has been extremely interesting and valuable to both me and the service providers. It has also meant that I have now been able to start my PhD studies (a PhD is a University course that results, if successful, in the student being given a doctoral award). I am writing to ask your permission to use the information you have provided in my PhD studies. I would also like keep in touch with you up to two years after your surgery date. This will be done through two ways:

- The questionnaires you are used to completing at about 18 months after your surgery
- A final interview, questionnaires and photos (if applicable) at two years after your surgery.

The format of the interviews and questionnaires will be what you are used to. If you would like a copy of the original information sheet about the study please contact me by phone on 0114 2255815, email at c.homer@shu.ac.uk or indicate on the reply slip. To confirm whether you would like to continue on the study and agree to me using the previous discussions we have had I would be grateful if you could complete the following four questions and return the slip to me in the pre-paid envelope provided. If you would not like to have any further involvement with the research please still complete and return the slip below. If I don't receive anything within the next month I will contact you by phone just to remind you.

Best Wishes,

Catherine

	Please tick	
	YES	NO
I agree to the information I have already given through interviews, photographs and questionnaires being used as part of the researchers PhD studies.		
I am happy to be contacted by post at approximately 18 months after my surgery to complete the two quality of life questionnaires		
I am happy to be contacted to take part in a final interview and photographs (if applicable) and complete the questionnaires at		

approximately two years following my surgery		
I would like another copy of the original participant information sheet		

Signed

_____ Date _____

If your contact details have changed please supply any new information:

Appendix 7. Interview Schedules



Interview Schedule: Pre-surgery Weight Loss Surgery: Through the Patients' Eyes

Overview of the purpose of the project

Explain about voluntary nature of consent, ability to withdraw at any time, consent procedure.

Check the participant agrees to have the discussion recorded.

Verify consent at appropriate times throughout the interview.

Photovoice task

Go through the photographs together asking the participant to explain why and what they have taken the pictures of. The interview summary below can be used to cover areas that may not have been covered during the discussions on the photographs or as prompts to discussion when looking at the photographs.

Interview Theme

History of weight

- Tell me about your previous attempts to lose weight
- Tell me how your weight impacts on your daily life

Decision to have surgery

- Describe what made you choose bariatric surgery to help you lose weight - medical condition, QoL, self-esteem, body image, last resort
- What services have you been involved with / to see before deciding to have surgery?
- How did these services help you decide to have bariatric surgery?

Expectations of Surgery

- Do you feel you know everything you need to about the procedure and what to expect afterwards?
- Tell me if you think there are any risks with the surgery?
- How do you think the surgery will impact on your life?
- How do you think your diet / physical activity behaviours will change after surgery?
- What expectations about the outcomes have you got from the surgery?
- How do you think your current environment (where you live and work) will impact on the success of your surgery?

Support

- From the health services you have been in touch with so far, have you had the support you needed?

- What else would you have liked available?
- How much do you think you will need the MDT / GP support after the surgery?
- Have you got any support outside of the health profession? Family / friends?
- Do you think these people will maintain their support after your surgery? and how do you expect them to do this?

Personal Goal

- What personal goals do you have for the future as a result of the surgery?

Demographics

- Age
- Gender
- Weight / BMI before surgery
- Weight loss goal
- Marital status
- Postcode
- Number of people living in the house and relationship to participant
- Occupation
- Employment status
- Education level (age leaving school, highest level qualification)
- Children, age of children and proximity to parents

SYBSP: Checklist for interview

Participant ID **OP**

Date of Interview:

Go through list before and during interview, tick box when task done and complete form as appropriate.

1. Check participants understand study and what participation involves.

Consent form x 2.

One for participant

One for research file

Collect extra completed consent forms if others present during interview

2. Download photographs onto project lap top and delete from camera memory card

3. Collect completed questionnaires

EQ-5D-5L

IWQOL-Lite

4. Any other important details or notes?



Interview Schedule: 3 Months Post Surgery

Weight Loss Surgery: Through the Patients' Eyes

Overview of the purpose of the project

Explain about voluntary nature of consent, ability to withdraw at any time, consent procedure.

Check the participant agrees to have the discussion recorded.

Verify consent at appropriate times throughout the interview.

Photovoice task

Go through the photographs together asking the participant to explain why and what they have taken the pictures of. The interview summary below can be used as a prompt to go over areas that may not have been covered during the discussions on the photographs.

Interview Theme

Experience of Surgery

- How have you felt since the operation?
- Are there things you have learnt which you would have liked to have known before consenting to the surgery?

Experience of changes to your life so far

- What changes have you noticed since the surgery?
- What changes have you made to your life since the operation?
- Has the operation changed how you feel about yourself and your body image?
- How has your quality of life changed since the operation compared to life before?
- How do you feel about the next few months?
- How do you think your current environment (where you live and work) will impact on the outcomes of your surgery?
- Has the operation changed how you feel about food?

Support

- How do you feel about the support you are getting from the health service?
- Has the support you have had met your expectations?
- Is there any further support you would like?
- Tell me about the support you are getting from your family and friends.

Personal Goals

- Have the goals you had before the surgery changed?
- Are you on track to meet them?
- Have you got any concerns about how maintaining new behaviours and changes to your lifestyle?

Demographics

- Any changes to the demographics recorded pre surgery
- Current weight / BMI
- Weight loss goal / target weight

SYBSP: Checklist for interview

Participant ID

Date of Interview:

Go through list before and during interview, tick box when task done and complete form as appropriate.

- 1. Verbally check participants still consent to being involved in study**
- 2. Download photographs onto project lap top and delete from camera memory card**
- 3. Collect completed questionnaires**
EQ-5D-5L
IWQOL-Lite
- 4. Any other important details or notes?**



Interview Schedule: 9 Months Post Surgery

Weight Loss Surgery: Through the Patients' Eyes

Overview of the purpose of the project

Explain about voluntary nature of consent, ability to withdraw at any time, consent procedure.

Check the participant agrees to have the discussion recorded.

Verify consent at appropriate times throughout the interview.

Photovoice task

Go through the photographs together asking the participant to explain why and what they have taken the pictures of. The interview summary below will act as a prompt to go over areas that may not have been covered during the discussions on the photographs.

Interview Theme

Experience of Surgery

- How have you felt since we last met?
- Are there things you think you would have liked to have known before starting your surgery journey?
- Reflecting on your whole experience what have been the positives and negatives?

Experience of changes to your life so far

- What changes have you noticed since the surgery?
- Have these changes met your expectations?
- What changes have you made to your life since the operation?
- Has the operation changed how you feel about yourself and your body image?
- How has your quality of life changed since the operation compared to life before?
- How do you feel about the next few months?
- How is your current environment (where you live and work) impacting on your diet and physical activity levels?
- Has the operation changed how you feel about food?
- Has the operation changed how you feel about your activity levels?

Support

- Are you still in regular contact with services?
- How do you feel about the support you are getting from the health service?
- Has the support you have had met your expectations?
- Have you been involved with different services since your surgery?
- Is there any further support you would like?
- Tell me about the support you are getting from your family and friends.

Personal Goals

- Have the goals you had since we last met changed?
- Are you on track to meet them?
- Have you got any concerns about how maintaining new behaviours and changes to your lifestyle?
- When you think about the future, how does it make you feel?

Demographics

- Any changes to the demographics recorded pre surgery
- Current weight / BMI
- Weight loss goal / target weight

SYBSP: Checklist for interview

Participant ID OP

Date of Interview:

Go through list before and during interview, tick box when task done and complete form as appropriate.

- 5. **Verbally check participants still consent to being involved in study**
- 6. **Download photographs onto project lap top and delete from camera memory card**
- 7. **Collect completed questionnaires**
EQ-5D-5L
IWQOL-Lite
- 8. **Any other important details or notes?**



Interview Schedule: 2 Years Post Surgery

Weight Loss Surgery: Through the Patients' Eyes

Overview of the purpose of the project

Explain about voluntary nature of consent, ability to withdraw at any time, consent procedure.

Check the participant agrees to have the discussion recorded.

Verify consent at appropriate times throughout the interview.

Photovoice task

Go through the photographs together asking the participant to explain why and what they have taken the pictures of. The interview summary below will act as a prompt to go over areas that may not have been covered during the discussions on the photographs.

Go through a selection of photos from previous interviews and talk about any changes to the types / numbers of photographs.

Go through a selection of previous photographs and ask how they feel when they see old pictures of themselves.

Interview Theme

Experience of Surgery

- How have you felt since we last met, which was 9 months after your surgery?
- Are there things you think you would have liked to have known before starting your surgery journey?
- Reflecting on your whole experience what have been the positives and negatives?
- Are you happy with your current weight?
- How long have you been at this weight?
 - If your weight has plateaued when did this happen?

Experience of changes to your life so far

- Thinking back to how you felt prior to your surgery can you remember how you expected life to change?
- How has having the surgery met these expectations?

- How has the surgery changed how you feel about your
 - Health
 - Confidence / self-esteem
 - Body image / excess skin
 - Employment
 - Family and friends
 - Future
- How has your quality of life changed since the operation compared to life before?
- How does your current circumstances where you live and work impact on your lifestyle - physical activity / diet?
- Has the operation changed how you feel about food and the types of food you eat?
 - Are you finding it easy / hard to maintain changes to eating habits?
 - Portion sizes?
 - Past eating behaviours returning?
 - Following diet advice provided?
 - Complying with vitamin supplements?
- Has the operation changed your activity levels?
 - Are you finding it easy / hard to maintain any changes?

Support - Health Care

- How do you feel about the support you have been given by the health service since your surgery?
 - Has the level of input been about right, not enough, too much?
- Are you still in regular contact with services or have you been discharged?
 - How are you in contact with the service?
 - Are you anxious about being discharged?
 - Do you know where to go to get support now?
- Have there been any crucial times where you have needed to contact health services or when you would have liked to have had more contact?
- Has the support you have had met your expectations?
- Do you think the additional support you received from the tier 3 services / your GP helped you to prepare for the surgery?
- If you could change anything in the support you have received pre and post-surgery what would it be?

Social support

- Where are you getting any support you may need?
- Tell me about the support you are getting from your family, friends or work colleagues.
 - Positive
 - Negative
- Have you noticed any changes in these relationships since your surgery?
- How much do you think the support you have had from these people have helped you on your surgery journey?

Personal Goals

- When you think about the future now, how does it make you feel?
- Prior to your surgery, do you remember setting any personal goals?
- Have you met them?
- From where you are now, what is it that made it a successful / unsuccessful procedure (dependent on individual participant situation)

Demographics

- Any changes to the demographics recorded pre surgery
- Current weight / BMI
- Weight loss goal / target weight

SYBSP: Checklist for interview

Participant ID **OP**

Date of Interview:

Go through list before and during interview, tick box when task done and complete form as appropriate.

9. Verbally check participants still consent to being involved in study

10. Download photographs onto project lap top and delete from camera memory card

11. Collect completed questionnaires

EQ-5D-L

IWQOL-Lite

<input type="checkbox"/>
<input type="checkbox"/>

12. Any other important details or notes?



Health Questionnaire
English version for the UK

Under each heading, please tick the ONE box that best describes your health TODAY

MOBILITY

- I have no problems in walking about
- I have slight problems in walking about
- I have moderate problems in walking about
- I have severe problems in walking about
- I am unable to walk about

SELF-CARE

- I have no problems washing or dressing myself
- I have slight problems washing or dressing myself
- I have moderate problems washing or dressing myself
- I have severe problems washing or dressing myself
- I am unable to wash or dress myself

USUAL ACTIVITIES (*e.g. work, study, housework, family or leisure activities*)

- I have no problems doing my usual activities
- I have slight problems doing my usual activities
- I have moderate problems doing my usual activities
- I have severe problems doing my usual activities
- I am unable to do my usual activities

PAIN / DISCOMFORT

- I have no pain or discomfort
- I have slight pain or discomfort
- I have moderate pain or discomfort
- I have severe pain or discomfort
- I have extreme pain or discomfort

ANXIETY / DEPRESSION

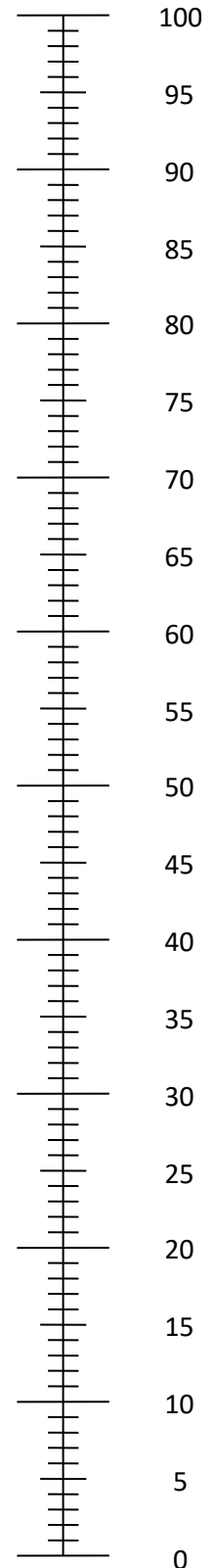
- I am not anxious or depressed
- I am slightly anxious or depressed
- I am moderately anxious or depressed
- I am severely anxious or depressed
- I am extremely anxious or depressed

We would like to know how good or bad your health is TODAY.

- This scale is numbered from 0 to 100.
- 100 means the best health you can imagine.
0 means the worst health you can imagine.
- Mark an X on the scale to indicate how your health is TODAY.
- Now, please write the number you marked on the scale in the box below.

YOUR HEALTH TODAY =

The best health
you can imagine



The worst health
you can imagine

Appendix 9 IWQOL Lite

Impact of Weight on Quality of Life (IWQOL-Lite)

Please answer the following statements by circling the number that best applies to you in the past week. Be as honest as possible. There are no right or wrong answers.

Physical Function		ALWAYS TRUE	OFTEN TRUE	SOMETIMES TRUE	RARELY TRUE	NEVER TRUE
1.	Because of my weight I have trouble picking up objects.	5	4	3	2	1
2.	Because of my weight I have trouble tying my shoelaces.	5	4	3	2	1
3.	Because of my weight I have difficulty getting up from chairs.	5	4	3	2	1
4.	Because of my weight I have trouble using stairs.	5	4	3	2	1
5.	Because of my weight I have difficulty putting on or taking off my clothes.	5	4	3	2	1
6.	Because of my weight I have trouble with mobility (getting around).	5	4	3	2	1
7.	Because of my weight I have trouble crossing my legs.	5	4	3	2	1
8.	I feel short of breath with only mild exertion.	5	4	3	2	1
9.	I am troubled by painful or stiff joints.	5	4	3	2	1
10.	My ankles and lower legs are swollen at the end of the day.	5	4	3	2	1
11.	I am worried about my health.	5	4	3	2	1
Self-esteem		ALWAYS TRUE	OFTEN TRUE	SOMETIMES TRUE	RARELY TRUE	NEVER TRUE
1.	Because of my weight I am self-conscious.	5	4	3	2	1
2.	Because of my weight my self-esteem is not what it could be.	5	4	3	2	1
3.	Because of my weight I feel unsure of myself.	5	4	3	2	1
4.	Because of my weight I don't like myself.	5	4	3	2	1
5.	Because of my weight I am afraid of being rejected.	5	4	3	2	1
6.	Because of my weight I avoid looking in mirrors or seeing myself in photographs.	5	4	3	2	1
7.	Because of my weight I am embarrassed to be seen in public places.	5	4	3	2	1

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 Direct all correspondence to Ronette L. Kolotkin, Ph.D., Obesity and Quality of Life Consulting.
 email: rkolotkin@yahoo.com; fax: 959-493-9925
 IWQOL-Lite-English for UK FINAL version 14-12-05

Sexual Life		ALWAYS TRUE	OFTEN TRUE	SOMETIMES TRUE	RARELY TRUE	NEVER TRUE
1.	Because of my weight I do not enjoy sexual activity.	5	4	3	2	1
2.	Because of my weight I have little or no sexual desire.	5	4	3	2	1
3.	Because of my weight I experience physical difficulties during sexual activity.	5	4	3	2	1
4.	Because of my weight I avoid sexual encounters whenever possible.	5	4	3	2	1

Public Distress		ALWAYS TRUE	OFTEN TRUE	SOMETIMES TRUE	RARELY TRUE	NEVER TRUE
1.	Because of my weight I experience ridicule, teasing, or unwanted attention.	5	4	3	2	1
2.	Because of my weight I worry about fitting into seats in public places (e.g. theatres, cinemas, restaurants, buses, or aeroplanes).	5	4	3	2	1
3.	Because of my weight I worry about fitting through aisles or turnstiles.	5	4	3	2	1
4.	Because of my weight I worry about finding chairs that are strong enough to hold my weight.	5	4	3	2	1
5.	Because of my weight I experience discrimination by others.	5	4	3	2	1

Work (Note: For those not in paid employment, answer with respect to your daily activities.)		ALWAYS TRUE	USUALLY TRUE	SOMETIMES TRUE	RARELY TRUE	NEVER TRUE
1.	Because of my weight I have trouble getting things done or carrying out my responsibilities.	5	4	3	2	1
2.	Because of my weight I am less productive than I could be.	5	4	3	2	1
3.	Because of my weight I feel that I don't receive appropriate pay raises, promotions or recognition at work.	5	4	3	2	1
4.	Because of my weight I am afraid to go for job interviews.	5	4	3	2	1

Appendix 10. Photovoice Tasks



Weight Loss Surgery: Through the Patients' Eyes

Photovoice: Safety Guidelines and Task Information Pre Surgery

Welcome and thank you for agreeing to participate in this research study
In preparation for your first interview, we would like to ask you to take some photographs!

What next?

- You will be loaned a digital camera, however if you prefer you can use your own
- A researcher from the team will show you how to use the camera and how to charge its battery. You will be left with the manufacturer's instructions for the camera as a reminder.
- We would like you to take pictures throughout the study period from now until nine months after your surgery. A researcher will contact you approximately eight weeks after your surgery and then again eight months after to arrange time for your next interviews and to give you your next photograph tasks
- As you are taking photographs you may want to write some notes to remind yourself of why you have taken the pictures so we can talk about them during the interviews

Safety and Photography

It is important to remind you of a few safety rules when participating in the study

- Do NOT take pictures while you are in hospital or in medical settings, including taking pictures of patients (such as at a consultant appointment, support group, or even in the hospital canteen)
- Do NOT take pictures of someone without their permission - make sure you ask permission before taking the photographs
- Do NOT go into unfamiliar or poorly lit areas to take pictures
- Trust your 'gut' feeling and leave any area where you feel uncomfortable
- Do NOT leave your camera in plain sight where it could be stolen
- Be mindful of your surroundings when taking pictures - make sure you are watching where you are walking and who is walking around you
- Do NOT take pictures of minors (people under the age of 16 years)

What will happen to the Photos?

- The photographs will belong to you
- At the end of the study the researcher will give you an album including your photographs
- The photographs will only be used in reports with your permission

The photographs will be used to help the research team understand what its like to be a bariatric surgery patient. We would like you to complete your first task before your surgery and your first interview. At the first interview you will have the chance to talk about the photographs you have taken with the researcher.

What is my first task?

We would like to know more about what has led you to want to have bariatric surgery. The following list will help you to think about what you could take pictures of.

- What is your life like now? think about day-to-day life, diet, socialising, getting out and about, physical activity levels and types
- What helped you make your decision to be referred for the surgery? this could include - friends and family support, current health, work, home life
- How you are preparing for the surgery? thinking about the support you have and the and environment in which you live.
- How do you expect your life to change after the surgery? goals personal achievements, diet, activity, social support, work, health

Now you are set to take some photographs! The researcher will see you in a week's time to talk about your photographs and for your follow up interview

If you have any questions about this task, lose your camera, or would like to talk about the research project before your interview, please contact Catherine Homer on 0114 225 5815 or c.homer@shu.ac.uk

After your interview you will be left with the camera and details of the second task.



Weight Loss Surgery: Through the Patients' Eyes

Photovoice: Safety Guidelines and Task Information 3 Months Post Surgery

Hello again and thank you for agreeing to continue participating in this research study. In preparation for your second interview, we would like to ask you to take some more photographs!

What next?

- You will still have a digital camera or be using your own if you chose to
- If required the researcher will re show you how to use the camera and how to charge its battery. You will be left with the manufacturer's instructions for the camera as a reminder.
- Details of the second task are over the page, you can use this information as a guide for what to take pictures of
- Your second interview will take place three months after your surgery and we would like you to take picture as soon as you feel ready to after your surgery in the lead up to your second interview
- As you are taking photographs you may want to write some notes to remind yourself of why you have taken the pictures so we can talk about them during the interviews

Safety and Photography

It is important to remind you of a few safety rules when participating in the study

- Do NOT take pictures while you are in hospital or in medical settings, including taking pictures of patients (such as at a consultant appointment, support group, or even in the hospital canteen)
- Do NOT take pictures of someone without their permission - make sure you ask permission before taking the photographs
- Do NOT go into unfamiliar or poorly lit areas to take pictures
- Trust your 'gut' feeling and leave any area where you feel uncomfortable
- Do NOT leave your camera in plain sight where it could be stolen
- Be mindful of your surroundings when taking pictures - make sure you are watching where you are walking and who is walking around you
- Do NOT take pictures of minors (people under the age of 16 years)

What will happen to the Photos?

- The photographs will belong to you
- At the end of the study the researcher will give you an album including your photographs
- The photographs will only be used in reports with your permission

The photographs will be used to help the research team understand what it's like to be a bariatric surgery patient. We would like you to complete your second task after your surgery before your second interview. As before at this second interview you will have the chance to talk about the photographs you have taken with the researcher.

What is this task?

We would like to know more about how you are getting on since having your surgery. The following list will help you to think about what you could take pictures of.

- What is your life like now? think about day-to-day life, diet, socialising, getting out and about, physical activity levels and types
- Do you think you made the right decision to have the surgery? think about the support you have had from friends, family and health services, changes to your health and quality of life
- Are there any things you can do now you didn't / couldn't before? think about how active you are, home and work life, changes to your diet, body image

Now you are set to take some more photographs! Catherine will see you approximately three months after your operation to talk about your photographs and for your second interview.

If you have any questions about this task, lose your camera, or would like to talk about the research project before your interview, please contact Catherine Homer on 0114 225 5815 or c.homer@shu.ac.uk



Weight Loss Surgery: Through the Patients' Eyes

Photovoice: Safety Guidelines and Task Information 9 Months Post Surgery

Hello again and thank you for agreeing to continue participating in this research study. In preparation for your third interview, we would like to ask you to take some more photographs!

What next?

- You will still have a digital camera or be using your own if you chose to
- If required the researcher will re show you how to use the camera and how to charge its battery. You will be left with the manufacturer's instructions for the camera as a reminder.
- Details of the third task are over the page, you can use this information as a guide for what to take pictures of
- Your third interview will take place nine months after your surgery and we would like you to take picture in the lead up to this interview
- As you are taking photographs you may want to write some notes to remind yourself of why you have taken the pictures so we can talk about them during the interviews

Safety and Photography

It is important to remind you of a few safety rules when participating in the study

- Do NOT take pictures while you are in hospital or in medical settings, including taking pictures of patients (such as at a consultant appointment, support group, or even in the hospital canteen)
- Do NOT take pictures of someone without their permission - make sure you ask permission before taking the photographs
- Do NOT go into unfamiliar or poorly lit areas to take pictures
- Trust your 'gut' feeling and leave any area where you feel uncomfortable
- Do NOT leave your camera in plain sight where it could be stolen
- Be mindful of your surroundings when taking pictures - make sure you are watching where you are walking and who is walking around you
- Do NOT take pictures of minors (people under the age of 18 years)

What will happen to the Photos?

- The photographs will belong to you
- At the end of the study the researcher will give you an album including your photographs
- The photographs will only be used in reports with your permission

The photographs will be used to help the research team understand what its like to be a bariatric surgery patient. We would like you to complete your third task after your surgery before your third interview. As before at this third interview you will have the chance to talk about the photographs you have taken with the researcher.

What is the third task?

Similar to the second task we would like to know more about how you are getting on since having your surgery. The following list will help you to think about what you could take pictures of.

- What is your life like now? think about day-to-day life, diet, socialising, getting out and about, physical activity levels and type
- Do you think you made the right decision to have the surgery? think about the support you have had from friends, family and health services, changes to your health and quality of life
- Are there any things you can do now you didn't / couldn't before? think about how active you are, home and work life, changes to your diet, body image

Now you are set to take some more photographs! Catherine will see you approximately nine months after your operation to talk about your photographs and for your follow up interview

If you have any questions about this task, lose your camera, or would like to talk about the research project before your interview, please contact Catherine Homer on 0114 225 5815 or c.homer@shu.ac.uk



Weight Loss Surgery: Through the Patients' Eyes

Photovoice: Safety Guidelines and Task Information 2 Years Post Surgery

Hello again and thank you for agreeing to continue participating in this research study. In preparation for your final interview, I would like to ask you to take some more photographs!

What next?

- You will still have a digital camera or be using your own if you chose to
- If required the researcher will re show you how to use the camera and how to charge its battery. You will be left with the manufacturer's instructions for the camera as a reminder.
- Details of the final task are over the page, you can use this information as a guide for what to take pictures of
- Your final interview will take place two-years after your surgery and we would like you to take picture in the lead up to this interview
- As you are taking photographs you may want to write some notes to remind yourself of why you have taken the pictures so we can talk about them during the interview

Safety and Photography

It is important to remind you of a few safety rules when participating in the study

- Do NOT take pictures while you are in hospital or in medical settings, including taking pictures of patients (such as at a consultant appointment, support group, or even in the hospital canteen)
- Do NOT take pictures of someone without their permission - make sure you ask permission before taking the photographs
- Do NOT go into unfamiliar or poorly lit areas to take pictures
- Trust your 'gut' feeling and leave any area where you feel uncomfortable
- Do NOT leave your camera in plain sight where it could be stolen
- Be mindful of your surroundings when taking pictures - make sure you are watching where you are walking and who is walking around you
- Do NOT take pictures of minors (people under the age of 18 years)

What will happen to the Photos?

- The photographs will belong to you
- At the end of the study the researcher will give you an album including your photographs
- The photographs will only be used in reports with your permission

The photographs will be used to help the researcher to understand what it's like to be a bariatric surgery patient. I would like you to complete your final task before your final interview. As before at this final interview you will have the chance to talk about the photographs you have taken with the researcher.

What is the final task?

Similar to the third task we would like to know more about how you are getting on since having your surgery. The following list will help you to think about what you could take pictures of.

- What is your life like now? think about day-to-day life, diet, socialising, getting out and about, physical activity levels and type
- Do you think you made the right decision to have the surgery? think about the support you have had from friends, family and health services, changes to your health and quality of life
- Are there any things you can do now you didn't / couldn't before? think about how active you are, home and work life, changes to your diet
- What are your thoughts about the future? think about your health, body image, relationships, maintaining any changes to your diet you might have made or any changes to your physical activity levels

Now you are set to take some more photographs! Catherine will see you approximately nine months after your operation to talk about your photographs and for your follow up interview

If you have any questions about this task, lose your camera, or would like to talk about the research project before your interview, please contact Catherine Homer on 0114 225 5815 or c.homer@shu.ac.uk

Appendix 11. Coding Framework example pre-surgery

1. Why I live with obesity	1.1 Childhood
	1.2 Life course
	1.3 Environment
	1.4 Behaviours
	1.5 Physiological / psychological makeup
2. How I have tried to lose weight	2.1 Medication
	2.2 Diets
	2.3 Physical activity
	2.4 Commissioned weight management services
	2.5 Technology
	2.6 Previous attempts to access bariatric surgery
3. How I accesses bariatric surgery	3.1 Experience of others
	3.2 Own doing
	3.3 HCPs
4. Why I need bariatric surgery	4.1 Feeling judged
	4.2 Psychological health
	4.3 Risk
	4.4 Last resort
	4.5 Improve Health
5. How my life will change after bariatric surgery	5.1 Future
	5.2 Physical consequences of losing weight
	5.3 Psychological consequences of losing weight
	5.3 Social consequences of losing weight
	5.4 Other consequences
6. Things that will help me to achieve success	6.1 Environment
	6.2 Networks
	6.3 Commissioned weight management interventions
	6.4 Personal motivation
7. Things that will prevent me from achieving success	7.1 Environment
	7.2 Networks
	7.3 Fear
	7.4 Practicalities of the weight management service
	7.5 Expectations of change

Appendix 12. IW-QOL-Lite scoring sheet

IWQOL-Lite Scoring

Raw scores for each scale are computed for each of the five scales only if a minimum of 50% of the items for that scale are answered, and for the total score only if 75% of the answers for all items are completed. (The required number of minimum responses is: Physical Function=6 of 11; Self-Esteem =4 of 7; Sexual Life=2 of 4; Public Distress=3 of 5; Work=2 of 4; Total=24 of 31.) In computing raw scores, we use a pro-rated system for handling missing data. To calculate the raw score for any scale or total score, the procedures are as follows:

1- Determine if the minimum number of items are answered for that scale. The required number of minimum responses is: Physical Function=6 of 11; Self-Esteem =4 of 7; Sexual Life=2 of 4; Public Distress=3 of 5; Work=2 of 4; Total=24 of 31.

Example 1: If an individual answered 5 of 11 Physical Function questions, the Physical Function score would be considered missing and coded as 999.

Example 2: If an individual answered 26 items on the entire scale, a valid score would be calculated for the IWQOL-Lite total.

2- Take the average of the valid items for that scale. Compute the average for the valid responses to items for that scale where 1="Never True" and 5="Always True". The average must be a number between 1 and 5. For example, if the respondent answered "3" on every item of the Physical Function scale, the mean would be 3.

Example 3: An individual answered the 11 Physical Function questions as follows (9 indicates missing question): 2, 3, 2, 4, 9, 2, 2, 3, 4, 9, 5. The individual answered 9 of 11 questions, with an average of 3.0 (27/9).

Example 4: An individual answered the 5 Public Distress questions as follows: 3, 1, 3, 4, 3. The individual answered 5 of 5 questions with an average of 2.8 (14/5).

3- Multiply that average by the total number of items for that scale. The total number of items on IWQOL-Lite scales are as follows: Physical Function=11, Self-Esteem=7, Sexual Life=4, Public Distress=5, Work=4, Total=31). Round to the nearest whole integer. For example, if the mean of the Physical Function scale is 3.0, then you would multiply $3.0 \times 11 = 33$.

Example 5: From the Physical Function answers in Example 3, multiply the average (3.0) times the number of total questions in the Physical Function scale (11) and round to the nearest whole integer: $3 \times 11 = 33$ (no need to round). This is the Physical Function Raw Score.

Example 6: From the Public Distress answers in Example 4, multiply the average (2.8) times the number of total questions in the Public Distress scale (5) and round to the nearest whole integer: $2.8 \times 5 = 14$ (no need to round). This is the Public Distress Raw Score.

Round to the nearest whole integer.

For example, here is the code for calculating total score:

```
***** Compute TOTAL Score.
count misstot = IWPF1 TO IWRK4 (9,missing,sysmis).
do if (misstot lt 8).
compute IWTOT = rnd((sum(IWPF1 TO IWRK4 )/(31-misstot))*31).
end if.
if (misstot ge 8) IWTOT = 999.
var lab IWTOT 'Impact Total Score (Brief)'.
mis val IWTOT (999).
```

Here is the code for calculating the individual scales of the IWQOL-Lite:

```
***** Compute PHYSICAL FUNCTION Score.
count misspf = IWPF1 TO IWPF11 (9,missing,sysmis).
do if (misspf lt 6).
compute IWPF = rnd((sum(IWPF1 TO IWPF11 )/(11-misstpf))*11).
end if.
if (misspf ge 6) IWPF = 999.
var lab IWPF 'Impact Physical Function (Brief)'.
mis val IWPF (999).
```

We have been converting the IWQOL-Lite raw scores to the more familiar 0 (worst) to 100 (best) scoring using the following formulae:

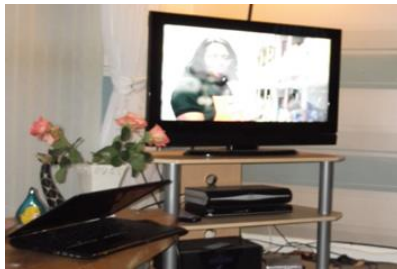


1. Subtract the raw score (as calculated above) from the maximum score for each scale (Physical Function=55, Self-Esteem=35, Sexual Life=20, Public Distress=25, Work=20, Total=155).
2. Divide that difference by the range for each scale (Physical Function=44, Self-Esteem=28, Sexual Life=16, Public Distress=20, Work=16, Total=124).
3. Multiply that total by 100.

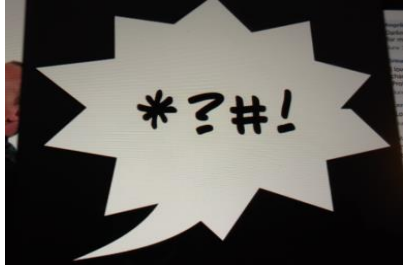


Example 7: From the Physical Function answers in Example 5, subtract the raw score (33) from the maximum score for Physical Function (55) and divide that result by the range for Physical Function (44) and multiply the result by 100: $(55 - 33)/44 = .50 \times 100 = 50$.




Example 8: From the Public Distress answers in Example 6, subtract the raw score (14) from the maximum score for Public Distress (25) and divide that result by the range for Public Distress (20) and multiply by 100: $(25 - 14)/20 = .55 \times 100 = 55$.




An easy way to check the scoring is to enter a record with all 1's and a second record with all 5's. The first record should have all transformed scores equal to 100 and the second record should have all transformed scores equal to 0.




Appendix 13 - Pre-surgery Photovoice and quotes



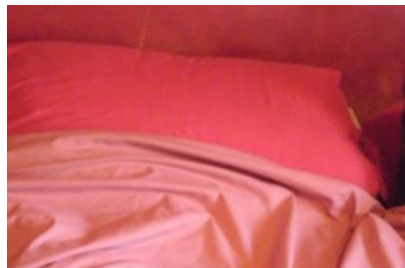
Photo No.	Participant No.	Section of thesis	Quote	Photograph
<u>1</u>	5	Chapter 3.1.3 Why I live with obesity: Behaviours	<i>"That was just my television and my laptop from where I usually sit, so I think I spend too much time sat here watching my television so that's why I took that one."</i>	
<u>2</u>	3	Chapter 3.1.3 Why I live with obesity: Behaviours	<i>"that's just where I sit most of the time, it has my computer near me, any paperwork I need is usually always at the side of me..... my computer's always here. That's my lifeline to outside world."</i>	
<u>3</u>	3	Chapter 3.2.4 How I've tried to lose weight: Commissioned Weight Management Services	<i>"I couldn't, about a year ago, a year to six months ago I couldn't even walk that distance from my back door down to the front gate. So that's how bad my hips were before I went to Healthy Weight Solutions. I think I was only walking about less than 200 steps a day, just tottering about here there and everywhere, so that's what that one is. Now this is from my gateway and I've built up every day to be able to walk to the end of the road and back. And that's with what they've, my physios and everything have given me little tasks each day to do."</i>	



4	17	Chapter 3.4.1 Why I need bariatric surgery: Feeling judged	<p><i>"I fight, I argue back, which I shouldn't I know but. Why shouldn't you? Well I'll get into trouble won't I really? And it's not worth my career to be fair, because I have to be police checked. So it is very difficult and I just think, you know, I'm very much open to equal opportunity and everyone's who they are and it doesn't really matter and everything else and I'm just noticing more and more that everyone has a more vocalised opinion than keeping it to their selves."</i></p>	
5	6	Chapter 3.4.1 Why I need bariatric surgery: Feeling judged	<p><i>"That one is for somebody to walk in my shoes every day and see what I have to put up with, the gestures that you get off people saying oh fat this, fat that, and also that it's hard. It's hard to diet; it's hard to lose weight; and you do struggle and people look at you as if you eat junk food all the time, and that might not be the case."</i></p>	
6	11	Chapter 3.4.2 Why I need bariatric surgery: Psychological health	<p><i>"Look at my face; I look like a peanut head....I'm looking at that picture and I'm thinking I look like a big, I do, I look like, what do you call him, him out of Monsters Inc., scary feet. I do, I look like him looking down the stairs. I look massive."</i></p>	



7	12	Chapter 3.4.2 Why I need bariatric surgery: Psychological health	<p><i>“So I tend to if I’m at home slob around in a nighty and take all my underwear off, because I’m more comfier. I’m a lot more comfier, so there again I’m in my nighty in my house, so that’s what I tend to do a lot now is hide in my house, because I don’t work and I’ve got the little one. And I don’t look nice, got my nighty on again.”</i></p>	
8	16	Chapter 3.4.2 Why I need bariatric surgery: Psychological health	<p><i>“That’s a pair of my jeans, and I’ve taken it on that stool for the real reason is I was trying to show how wide that footstool was but obviously my jeans hang off it. What does that make you? Just how massive they are isn’t it? Right. That’s how I feel anyway, clothes are just massive.”</i></p>	
9	4	Chapter 3.4.2 Why I need bariatric surgery: Psychological health	<p><i>“Well I thought I’d take a photo to show you how I look. Not a pretty sight.”</i></p>	




<p><u>10</u></p>	<p>7</p>	<p>Chapter 3.4.2 Why I need bariatric surgery: Psychological health</p>	<p><i>“Well, I says to my husband, I says I’m going to go and sit at the table making sure that I’m covered. Do you know what I mean, because he was going to take one in there and I went no! No, I don’t want it taking in room, I says, I’ll go sit on other side at the table, I says, and take a picture of me there. Because I felt I’m half covered, I’m more respectable to look at.</i>”</p>	
<p><u>11</u></p>	<p>17</p>	<p>Chapter 3.4.3 Why I need bariatric surgery: Risk</p>	<p><i>“Because he [dad] has to take two lots of insulin, so that’s a long acting one, and then the next picture is one that he has to take after food... he’s been doing it for about a year, eighteen months. So yeah so it’s just something that I see and I think I don’t want that. And it is a risk, I’m putting myself more at risk of that being the way I am.”</i></p>	
<p><u>12</u></p>	<p>11</p>	<p>Chapter 3.4.5 Why I need bariatric surgery: Improve health</p>	<p><i>“as I’m coming downstairs, I’ve got my back to where the bannister is at the wall and I’m, I come down so I’ve got a solid thing to slide down. So I know when I’m coming down I’m stable. So if I do go, I can like, and hold on, you know what I mean, I’ll lean against it.”</i></p>	



<u>13</u>	12	Chapter 3.4.5 Why I need bariatric surgery: Improve health	<i>“the bath, I struggle more and more and more to get in and out of the bath, it’s so hard, and then I can’t lay in the bath because I have to lay with my arms on top of me and I struggle. And many a time one of the kids will want to get in with me, and it’s a nightmare. And when I get out they’ll say oh don’t get out because the water disappears. And I really really struggle to get out of the bath, and that’s why I took that one.”</i>	
<u>14</u>	4	Chapter 3.4.5 Why I need bariatric surgery: Improve health	<i>“You’ve got a picture of all the tablets I take. They’re the tablets. They’re basically, what do you call it, keep me alive. They’re heart tablets, skin tablets which the psoriasis was severe that effect now, but that’s hopefully on the mend. I’ve got thyroid problems, and those are there. The warfarin for the heart, diabetes, the diabetes tablets are there like, you know. I went to the doctor, well the CPAP consultant, he told me I had oedema, and since then I’ve been given water tablets, which have helped eventually. So I wish I’d have had them earlier like, you know, but they’re basically, I’m trying to think what the others are for like, you know. The ramipril - that’s for the heart, you know. Another is the cholesterol.”</i>	
<u>15</u>	9	Chapter 3.4.5 Why I need bariatric surgery: Improve health	<i>“that is a photograph of all the medication and equipment that I have to take every day. And that’s something else that this treatment will get rid of a lot of those, like the injections....So I’m hoping to do away with all that medication, which it’s a pain every morning. I’m 61, I get forgetful, sometimes I forget to take my tablets, if I get up feeling great, and then it’ll dawn on me when I start to feel terrible later on in the day, I think oh no I’ve not had my tablets. And so like you’re dashing about having these tablets and injections, and then it throws your routine out</i>	




			<i>and it's a bind, it is a bind."</i>	
<u>16</u>	17	Chapter 3.5.1 How my life will change after bariatric surgery: Future	<i>"My goddaughters I'm doing it for them as well, especially my little [name], because I want to be here and see her get married and everything else and so yeah, I want to do that".</i>	
<u>17</u>	1	Chapter 3.5.2 How my life will change after bariatric surgery: Physical consequences of losing weight	<i>"That's a picture of my right knee, and at the moment that's the most painful part. I've always had trouble with my knees, but it's aggravated by the weight, and losing weight will cause the pain to be a lot better."</i>	
<u>18</u>	12	Chapter 3.5.2 How my life will change after bariatric surgery: Physical consequences of losing weight	<i>"This is my bed. There's a few things with my bed...I like to get into bed at night and I can like, when you first get in and you relax and you read a magazine, but when you get there I'm not comfy all night. I can't remember the last time I had a long night's sleep where I didn't get disturbed or hitting with snoring, or I'll wake myself up with the snoring it's that loud, or having to turn. So no, I'd love a good night's sleep when I can turn, I can actually turn in my bed."</i>	

<p>19</p>	<p>9</p>	<p>Chapter 3.5.2 How my life will change after bariatric surgery: Physical consequences of losing weight</p>	<p><i>"That's my bath; you think why has she took a picture of her bath? Because I find it difficult to get in and out of the bath, really really difficult. And my daughter used to have to come down for me to get in and out of bath to help, and it's embarrassing. And to get in the bath I have to sit on the back ledge and slide down holding the rails. To get out of it I have to turn over onto my front and push myself up on one leg. And it's a nightmare. But I just love having a bath rather than the shower, I just love a bath. That's why my bath's there, just like I say the weight I'm hoping is going to make it easier so I can just get in and out the bath as normal, just like a normal person, we'll see."</i></p>	
<p>20</p>	<p>9</p>	<p>Chapter 3.5.5 How my life will change after bariatric surgery: Other consequences of losing weight</p>	<p><i>"I'm so excited about this bariatric treatment because I'm going to get into that dress, and I will get into it."</i></p>	



<p><u>21</u></p>	<p>17</p>	<p>Chapter 3.5.5 How my life will change after bariatric surgery: Other consequences of losing weight</p>	<p><i>"Cardigans constantly get told by my husband to put a cardigan on, so I want to not be able to wear them. I feel comfortable but then he will say put a cardigan on, aren't you cold, and then I start thinking is it because of my arms. Is it because of my back, is it because of back fat, you know what I mean? So that's something that I want to wear cardigans for comfort and confidence not as a hiding away thing".</i></p>	
<p><u>22</u></p>	<p>17</p>	<p>Chapter 3.5.5 How my life will change after bariatric surgery: Other consequences of losing weight</p>	<p><i>"Oh that's bikini. I actually don't think I'll ever be able to wear one of them, because they're skin, but it's on the agenda it'll be nice, you know."</i></p>	


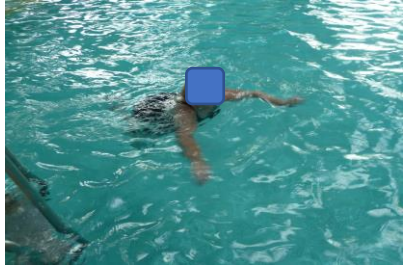

<p><u>23</u></p>	<p>17</p>	<p>Chapter 3.5.5 How my life will change after bariatric surgery: Other consequences of losing weight</p>	<p><i>"Oh sexy underwear only certain underwear that I feel comfortable in I wear, whereas sort of like some things I wouldn't. So that is something that I'd like to wear eventually, but again I'm worried about the skin. So that's why it's quite long as a basque, because then it'd still cover my stomach."</i></p>	
<p><u>24</u></p>	<p>3</p>	<p>Chapter 3.6.1 Things that will help me achieve success: Environment</p>	<p><i>"This is my car, if it wasn't for that I don't know what I'd do because I wouldn't be able to get out and about. So that's been a big boost to me being able to get the [motability] car."</i></p>	
<p><u>25</u></p>	<p>17</p>	<p>Chapter 3.6.4 Things that will help me achieve success: Personal motivation</p>	<p><i>"That's the gym, my gym I go to, so that's like two to three times a week, so that's my life now, and I don't expect that to change..... so that's something that is always going to be going really ongoing."</i></p>	



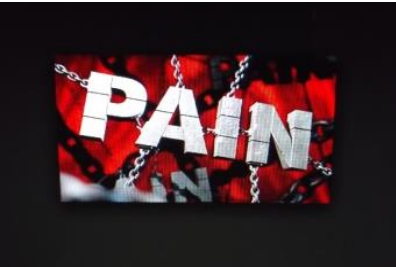
<p>26</p>	<p>17</p>	<p>Chapter 3.6.4 Things that will help me achieve success: Personal motivation</p>	<p><i>"Oh that's my mush. I know well obviously it's preparing for surgery, because I need to start eating more mush, but it's when I cook stuff in slow cooker I cook more, so then I blend it into a soup for work next day. So that's what I do now, but it's something that I am going to obviously be doing, you know, when I've had it anyway and it's preparing to get like I am going to be eating this and trying new flavours and adding things in and being a bit creative. So I just think if I get into routine that it's sort of like everyday life now, when it happens it's not going to be such of a big shock, because I've got that many other things that's going to shock me with stuff I think that if I prepare."</i></p>	
<p>27</p>	<p>9</p>	<p>Chapter 3.6.4 Things that will help me achieve success: Personal motivation</p>	<p><i>"Blender, right I bought that ready, as soon as they told me that I could have the bariatric bypass and all about the foods and blending and that, I went out and I bought the blender ready. So that's in waiting."</i></p>	




<p><u>28</u></p>	<p>17</p>	<p>Chapter 3.6.4 Things that will help me achieve success: Personal motivation</p>	<p><i>"Oh that's a size 16 dress, something like that to be able to wear a size 16, because I've never worn a size 16, I don't know what it, you know, I looked at it and I thought I'll never fit in that ever. Is that a motivation thing then? Yeah, very much so."</i></p>	
<p><u>29</u></p>	<p>9</p>	<p>Chapter 3.6.4 Things that will help me achieve success: Personal motivation</p>	<p><i>"It's something to look back on and think I don't want to go there again, if you can understand that. Yeah. It's like if I could blow that photo up and put it on that wall at back, I don't think I'd eat much ever again."</i></p>	
<p><u>30</u></p>	<p>14</p>	<p>Chapter 3.6.4 Things that will help me achieve success: Personal motivation</p>	<p><i>"the reason why I've taken them are because really I want to keep looking at myself so that I keep getting motivated. Because I don't like how I look, and when I'm walking in town I seem to avoid passing windows and things like that where I can see my reflection. But I've got to face up to what I look like."</i></p>	



Appendix 14 - Three- and nine-months post-surgery Photovoice and quotes




Photo No.	Participant No.	Section of thesis	Quote	Photograph
<u>1</u>	18	Chapter 4.1.2 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight	<i>"That's the bus, first time on the bus in two years I got on, so that was quite an interesting journey in because I've not travelled by public transport much, I'd use the car because of my mobility and for me to walk to the bus stop at the end of all them two rows, I wouldn't have been able to, but I've actually done that now, I've actually been on a bus today."</i>	
<u>2</u>	16	Chapter 4.1.2 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight	<i>"The last time I walked up there [P16 partner] had to wait for me for ages, he wouldn't hold my hand or wouldn't walk at my pace. He's got long legs and I've got little stumpy ones haven't I, and this time I walked up ages before him."</i>	



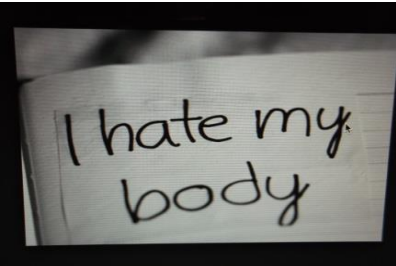
3	8	Chapter 4.1.2 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight	<i>"That's the garden, because we do quite a lot of things in there, and me and the boys will play. We play football quite a lot."</i>	
4	9	Chapter 4.1.2 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight	<i>"Right, I've joined gym, I swim, aquafit and spa at the Dome, so that is me this morning having my morning swim. I go four days a week. Last time I tried swimming I couldn't walk for three weeks afterwards..... And that's just me doing something that I couldn't do three months ago."</i>	
5	12	Chapter 4.1.2 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight	<i>"Yes, I try and go three or four times a week. I do different things, I do aqua Zumba on a Tuesday, Wednesdays I do Zumba with weights and then I try and fit a swim in or and the gym session as well round the week, so I try and do all of them. So how are you finding doing all that then? I really enjoy it."</i>	


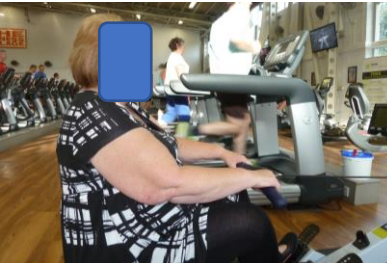

6	17	Chapter 4.1.2 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight	<i>"Crossing the legs. I can do that and I do that a lot more often than before and it is a lot more comfortable than it has been. So where I'd never do it, now I can."</i>	
7	17	Chapter 4.1.2 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight	<i>"These are the medications I'm still on. So I'm still on tramadol, lansoprazole, that's my vitamin and my paracetamol. So obviously I will have to take my vitamins forever, which I know that anyway. I've had my B12 injection which killed and apparently it don't get any easier. It stings like hell when it goes in. and hopefully the other three I'll come off but seeing it's now three months on and I'm still taking tramadol and paracetamol, it's quite upsetting really, because I don't want to be."</i>	
8	17	Chapter 4.1.2 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight	<i>"Pain, back pain, boob pain, side pain, back pain, shoulder pain, stomach pain. Always in frigging pain. And I've never been like that, so that's irritating me to hell."</i>	


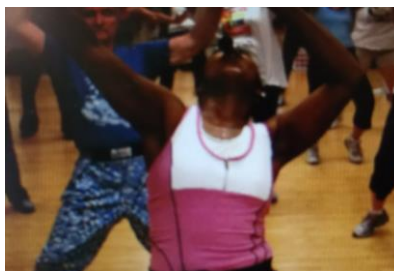

<p><u>9</u></p>	<p>17</p>	<p>Chapter 4.1.2 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight</p>	<p><i>"And I do feel all I do is eat, drink, eat, drink, eat, drink, and I have to tell myself to eat and drink which before I never did."</i></p>	
<p><u>10</u></p>	<p>13</p>	<p>Chapter 4.1.3 How my life has changed after bariatric surgery: Psychological consequences of the surgery and losing weight</p>	<p><i>"I don't have a jumper on in that either, because I would have had a big cardigan covering my arms and everything up. I've got big arms, but I'm not that bothered anymore because if somebody asks anything I'm like well, I'm on my way, getting better."</i></p>	
<p><u>11</u></p>	<p>17</p>	<p>Chapter 4.1.3 How my life has changed after bariatric surgery: Psychological consequences of the surgery and</p>	<p><i>"Hello, my name is, today I feel fat. Because that's what I do feel most of the time. I still see myself fat, when I look in the mirror. I need to get rid of my belly. "</i></p>	




		losing weight		
12	17	Chapter 4.1.3 How my life has changed after bariatric surgery: Psychological consequences of the surgery and losing weight	<i>"I sat here and said if I get to an 18 I'll be chuffed, if I get to a 16, I'll be buzzing, 14 is just something I never even dreamed of. The majority of my clothes are a 14, and I'm moaning that I want to be a 12. And my fear is where do I stop? Am I then going to go I want to be a ten, and work hard to be a ten? Well can I ever get to an eight? I've kind of gone the opposite way, and that's quite a bit scary."</i>	
13	17	Chapter 4.1.3 How my life has changed after bariatric surgery: Psychological consequences of the surgery and losing weight	<i>"That's my paranoia picture because I think everyone's looking at me. So that's me, but it's in my head, I know it's in my head, but I still feel like all these eyes are looking at me and it's like argh. But you didn't think... I couldn't give a monkey's before. So do why you think that? No. I mean like I spoke to my manager about it and she said it's because you've not told people. If you tell people you won't be bothered because you're not keeping any secrets and you will know about it and that's why."</i>	



<p><u>14</u></p>	<p>18</p>	<p>Chapter 4.1.4 How my life has changed after bariatric surgery: Social consequences of the surgery and losing weight</p>	<p><i>"So that's the pub that we've actually more recently started walking to on an evening, sit outside, had a couple of cups of coffee and that's really linked into the social thing that some of the strategies I've been putting in to try and not to be as normal as possible but it is quite challenging to be fair, but we have done it, we have walked to that pub and we've actually been out into public life and that's lovely."</i></p>	
<p><u>15</u></p>	<p>16</p>	<p>Chapter 4.1.4 How my life has changed after bariatric surgery: Social consequences of the surgery and losing weight</p>	<p><i>"That's the girls from work, we've always been quite close all of us, work with them, but they were saying now that I'm one of their gang. And that's another thing that kind of messes with my head at times. They've always been pretty four from work, always been successful four from work, always gone out together, now all of a sudden I'm going out with them." (P16)</i></p>	
<p><u>16</u></p>	<p>13</p>	<p>Chapter 4.1.5 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"That's one of the pictures, I'm wearing my hair down, I've got my makeup on, I've got a nose stud in and everything."</i></p>	




<p><u>17</u></p>	<p>17</p>	<p>Chapter 4.1.5 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"this were the dress that obviously I couldn't get into at all and I think there's one of the back. Here's side. I think there's one at the back as well. As you can see, I can't even get it up, whereas now I were pulling it up all night."</i></p>	
<p><u>18</u></p>	<p>17</p>	<p>Chapter 4.1.5 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"That is to represent the size of my knickers. Because one photo I remember taking was one in little knickers, and that's how much difference it is from my knickers when I first started to now. It's actually quite a lot when you think about it. They're still not small enough, but they are different. But I can't wear the ones that I wanted to wear, because of my skin. So I have to wear sort of big briefs, which don't look too bad, but they're not the knickers I wanted to be able to wear and buy."</i></p>	
<p><u>19</u></p>	<p>17</p>	<p>Chapter 4.1.5 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"Yeah, I hate my body. It's horrible, I don't like it. I don't like looking in the mirror. I don't, I think it just looks like I've melted."</i></p>	




<p><u>20</u></p>	<p>17</p>	<p>Chapter 4.1.5 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"That's to represent obviously like sex doesn't really happen, because I'm too paranoid, too worried, too thinking about everything else, than actually enjoying it kind of thing, but then I'm like well I've got to give in because what if he goes somewhere else, someone with a nice body?"</i></p>	
<p><u>21</u></p>	<p>9</p>	<p>Chapter 4.2.2 Things that are helping me to achieve success: Behaviour change</p>	<p><i>"Yeah, and then there's my favourite, that's my favourite, rowing machine, because that it seems to ease my leg and it's pulling my arms, it's just a nice glide and it's like rocking on your knee. And I get off that and I'm like not bad at all for walking. At one time I couldn't have got up off of that, even though it's so far down. It does take me a bit, sometimes I have to lean onto top bit, but I do it."</i></p>	
<p><u>22</u></p>	<p>12</p>	<p>Chapter 4.2.2 Things that are helping me to achieve success: Behaviour change</p>	<p><i>"I think that's why I like aqua Zumba so much because it's a lot more bigger women that go to aqua Zumba rather than go to Zumba. And when you're underwater people can't see what you're doing so you jump around a lot more."</i></p>	



<u>23</u>	12	Chapter 4.2.2 Things that are helping me to achieve success: Behaviour change	<i>"that's just me walking, well not me, it's a picture of somebody walking, just because I've got into walking a lot more and I can walk a lot further. Before when I walked anywhere, once I got tired or had enough that were it, but now I think the tiredness and the aching is helping my body because it's obviously pushing myself."</i>	
<u>24</u>	18	Chapter 4.2.2 Things that are helping me to achieve success: Behaviour change	<i>"I've been negotiating with my friend to go and start the Zumba. That's like a poster of the Zumba, which that's my next objective I've set now. I'll be starting in three weeks' time, so I'm psyching up for that. Never considered it, I couldn't do it two years ago, it wouldn't have been on my radar, so that's another objective that I've set, to do that. So I'm really excited about that one."</i>	
<u>25</u>	17	Chapter 4.2.2 Things that are helping me to achieve success: Behaviour change	<i>"Cheese, got to keep having cheese, protein, things like that at all times, so I've got to be very aware of that. Is that something you'd have a lot of before? No not really because cheese to me is fattening. Yeah I suppose when you've been thinking about dieting and stuff it feels like a contradiction. Yeah if you're dieting it's like whoa hang on, yeah, don't have that, yeah definitely. I wouldn't have had cheese before."</i>	

<p>26</p>	<p>17</p>	<p>Chapter 4.2.2 Things that are helping me to achieve success: Behaviour change</p>	<p><i>"Eggs, again protein."</i></p>	
<p>27</p>	<p>17</p>	<p>Chapter 4.2.2 Things that are helping me to achieve success: Behaviour change</p>	<p><i>"So Quorn is a new thing. Never ate Quorn before, full of protein, got to keep eating it. And how are you finding that? I don't mind. I don't mind Quorn actually. I think people have mentioned Quorn actually. Sounds like they- Yeah I've had it before but I wouldn't purposely go out and buy it, whereas now if it's on offer or whatever I will buy it and think oh I'll do something with that because it's better for me. So I'm very aware now that I need to be having protein in my food. So like when I'm going out and feeling tired and I say I need some fish or chicken."</i></p>	
<p>28</p>	<p>17</p>	<p>Chapter 4.2.2 Things that are helping me to achieve success: Behaviour change</p>	<p><i>"Fruit, veg and my proteins. I have to be very aware of what I'm trying to have and not having too many carbohydrates because it's just going to bung me up, so less pasta and more of that stuff. So I'm a lot more aware of that now. Not saying I always make the right choice, but I am more aware of it."</i></p>	




<p><u>29</u></p>	<p>13</p>	<p>Chapter 4.2.3 Things that are helping me to achieve success: Drivers of personal motivation</p>	<p><i>"Because I need to remind myself every now and then as well that look, you have got far."</i></p> <p>Right, is that when you're feeling like you're not kind of...</p> <p><i>"When the skin's getting me down or anything like that, doing something like this will help, just seeing where I was and where I am now."</i></p>	
<p><u>30</u></p>	<p>17</p>	<p>Chapter 4.3.1 Things that are preventing me from achieving success: Networks</p>	<p><i>"A psychologist, I've been referred to one of them, that's what that's on about. Sat there in a chair, someone taking notes, listening to me babble on, and it's not going to do anything but that's what they've said....why don't you go and talk to someone about it, and things like that. Alright then. And then you get all like well there's a couple of months, by the time a couple of months, I don't know, probably will have topped myself, cured myself, one or the other. So, but everything takes time, I guess."</i></p>	


<p>31</p>	<p>17</p>	<p>Chapter 4.3.1 Things that are preventing me from achieving success: Networks</p>	<p><i>"My lactulose which no one told me about which I had to start using. And is that, you carried on? Well [surgeon] says not to use anything but my GP says to use something so again it's contradicting."</i></p>	
<p>32</p>	<p>13</p>	<p>Chapter 4.3.2 Things that are preventing me from achieving success: Behaviour change in order to comply or not with post-surgery recommendations</p>	<p><i>"I know how important drinking is and especially drinking water so I've been trying to find flavoured drinks and I've got smoothies for breakfast because it's kind of a meal at the same time because it's not just liquid. Oh I forgot, the picture of my favourite food, cheese strings. I can't have enough cheese strings. It's a good source of protein which you need so."</i></p>	
<p>33</p>	<p>12</p>	<p>Chapter 4.3.2 Things that are preventing me from achieving success: Behaviour change in order to comply or not</p>	<p><i>"Dinner plates, I struggle because I've been told a few times at hospital, I still kept using bigger plates. But then in my head I kept wanting to clear it, so I've made myself ill a couple of times doing that, even though it's. So trying to eat too much. Yeah, even though it's healthy food because, and I know I'm full, but before I were full, so it's trying to get in my head now that I have to use a side plate instead of a big plate. When I'm plating all the rest of them up, and I still think those side plates are too small, even</i></p>	



		with post-surgery recommendations	<i>though I can't finish it. So I struggle with plates still, with clearing it."</i>	
34	17	Chapter 4.3.3 Things that are preventing me from achieving success: Excess skin	<i>"These are my arms that I hate. I hate them. To me they're just horrendous. Oh god that's awful. I just think what is that. But you see if I took that away, look how skinny my arms would be then. That is like a normal arm. That is just like a penguin wing. So I didn't expect it to be as bad as that I think. I don't know what I expected. I was kind of gearing myself up for it, but when you see it, it's different. So I don't like my arms."</i>	
35	17	Chapter 4.3.3 Things that are preventing me from achieving success: Excess skin	<i>"Oh back skin. That is not my back. Obviously not. But when I lay in bed now, like this bit of skin touches this bit of skin and I hate it. Right, because you can feel it. And I can feel it touching and it's awful and I didn't think I'd have back skin. So that's worrying me. What if that gets worse and will it go and that's why I need to go back to gym. So all these again added to anxiety as well because that's something I didn't expect."</i>	
36	17	Chapter 4.3.3 Things that are preventing me from achieving success: Excess skin	<i>"I didn't think they'd [arms] be as bad as they are. Same as my boobs, I thought they'd get a bit smaller, but I didn't think they'd be as bad as they are. It's awful."</i>	



37	17	Chapter 4.4 Additional findings from statements 1-4 of the framework	<i>"So that was 12 o'clock the night before my jelly diet. I went out and had a kebab and everything else before, and I were eating chocolates until three minutes to twelve"</i>	
38	17	Chapter 4.4 Additional findings from statements 1-4 of the framework	<i>"I made up all these jellies because I was panicking that I were going to be hungry, and I knew that that's the only thing that I could eat."</i>	


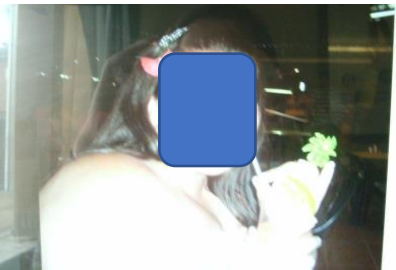

Appendix 15 – Two years post-surgery Photovoice and quotes

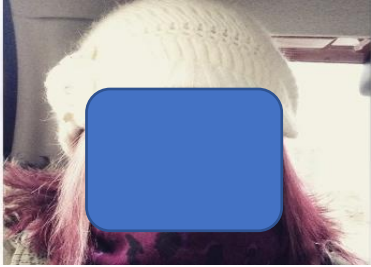

Photo No.	Participant No.	Section of thesis	Quote	Photograph
<u>1</u>	12	Chapter 5.1.1 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight	<i>"Chairs, I took that before you came actually. When I'm at work, especially this weekend, it was a massive game and you could fit loads of people, and you have to squeeze through all the tables and chairs. Still to this day I look at tables, to squeeze through chairs and think can I squeeze through there? And I think yeah I can. And it still giggles to me that I can actually fit through all the chairs and squeeze them all. And silly little things like that amuses me. And every time I think I can fit through there."</i>	
<u>2</u>	16	Chapter 5.1.1 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight	<i>"before I would never sit in a booth. Okay. Because my belly would touch the table. And [male] always chooses to sit in a booth. And I can remember once when I first got to know [P16 partner] about sounding off, and I'm not saying it's because of my fat belly, I hate sitting in booths! And then at Christmas we'd got a choice of a table or a booth, and [male] says to me well I really like sitting in booths. And I went you know what, it's your Christmas treat so we'll sit in a booth rather than. Yeah, and you were all right with it. Yeah, because my belly doesn't touch the table now does it?"</i>	
<u>3</u>	17	Chapter 5.1.1 How my life has changed after bariatric surgery: Physical consequences of the surgery and	<i>"When we got up to the top they said right they needed the lightest people. And out of 15 people I was the lightest. And I was a bit like oh great. And then because my dad was heavier, there was someone else that was above me, but I wanted to go down with my dad, we couldn't go on first. And it just made me realise a bit that I am below average now, which is different. I've gone from being above average to being overweight and a big</i>	



		losing weight	<i>one, to not being in middle but I'm actually small now.....So yeah that was a strange feeling really. And my mum said, she said you do realise you couldn't have done that before. I said what do you mean? And she went they wouldn't have let you on. I said why? She goes you were too heavy. She goes that is something that you wouldn't have ever experienced because you were too heavy. She goes and now you can do whatever you want. And I never thought about that really, because I didn't."</i>	
4	17	Chapter 5.1.2 How my life has changed after bariatric surgery: Psychological consequences of the surgery and losing weight	<i>"I love that outfit, and I love going out in it, and I do get attention when I go out in it. And I feel really confident and good and sexy and things in that, so I do really like that."</i>	



<p>5</p>	<p>17</p>	<p>Chapter 5.1.2 How my life has changed after bariatric surgery: Psychological consequences of the surgery and losing weight</p>	<p><i>"this was an aqua massage. And again this was something else I'd done. This is when I went to York with my husband. I wouldn't have never done because I wouldn't have fit in that hole, and I would have been like I can't do it. And I was like oh look at that. Oh no, it was in London sorry that one. And he was like well do you want to go? And normally I'd be like no don't get on that, don't embarrass yourself, everyone will be looking at you. And it was like well we'll have a go then. And he was like yeah go for it. So I went on that and that was quite nice and a weird experience. But it was just something where I'd not, again not thought about will I fit, will I won't, and did something quite random. And that was in the middle of a shopping mall. You know, it's not something that was like in a shop, everyone can walk past and see you doing it. And I just did it."</i></p>	
<p>6</p>	<p>17</p>	<p>Chapter 5.1.2 How my life has changed after bariatric surgery: Psychological consequences of the surgery and losing weight</p>	<p><i>"I stood on scales and I'd reached it, and I was like I can't believe I've done it, and then burst into tears. And it was like I felt really sad because I thought yeah I've done it, but it's not over is it, because you've got to keep there. So it's not like you save up for a handbag and you skimp yourself for six months, a year whatever, and you finally get it and you think great, and then you've got all your money back and it's brilliant because you don't have to save anymore. But this is like being on hamster wheel, you never get off. And all the time you're thinking about what you're eating, and you've got to go to the gym and you've got to exercise, and you've got to do all these things because otherwise I'm going to end up exactly like I was before."</i></p>	



7	12	Chapter 5.1.3 How my life has changed after bariatric surgery: Social consequences of the surgery and losing weight	<i>"We went, this is, my husband's from Wales, Llantwit Major, and we went climbing along the rocks and down to the beach and jumping about, which I would never have done before. I'd have sat up top and watched them. Where this time I could actually climb along the rocks with the kids and explore and things. And it was nice, it was a good time, good memory."</i>	
8	3	Chapter 5.1.3 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight	<i>"Look at the size of my belly. And my legs - look at my legs! I think two of them could make one of them, couldn't they? Yeah! Crikey! My word!" (Pre-surgery picture)</i>	

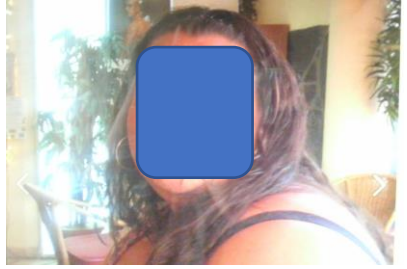

<p>9</p>	<p>7</p>	<p>Chapter 5.1.3 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"Jesus, look at them. Is that when you were going to do some exercise? F: I look like a sumo wrestler don't I? Were you going to RIO or something at that point? F: Yeah. You see you don't realise until you see yourself how bad you do look. I know, oh my god." (3 months post-surgery picture)</i></p>	
<p>10</p>	<p>12</p>	<p>Chapter 5.1.3 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"I don't believe it was me, I don't recognise that person anymore. Where before like a year ago I'd look in mirror and I didn't recognise this person, because that was me for years. Where now it's actually when I'm looking in the mirror this is me now and I don't recognise that person. And it's strange to look at that person there now, because I don't know who she is." (pre-surgery picture, shared at 2 year interviews)</i></p>	
<p>11</p>	<p>17</p>	<p>Chapter 5.1.3 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"And this one was a good representation of what people see and what I see. So whereas when I'm out and about I'm really thin and all with hair done and a dress on and everyone's like oh my god, and I go get a lot of attention when I go out..... And then the middle one is what people say day to day when I go to work. And the last one is what I see every day, slouchy and bigger than everything else, and still not nice looking and getting old and saggy and things like that. So that's, I want to be thinking about what other people see, but I don't. And I'm hoping that will improve I think."</i></p>	

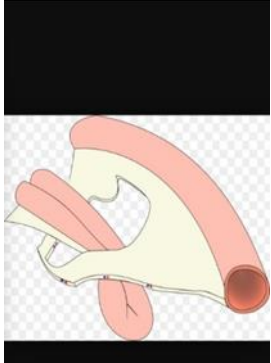
<p><u>12</u></p>	<p>13</p>	<p>Chapter 5.1.3 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"So they were your pre-surgery ones. Funny how there was no photos of me. Wow. Why do you think that was? Because it was pre-surgery. I still don't like photos of me, but we're still wanting selfies everywhere. Like I take them all the time"</i></p>	
<p><u>13</u></p>	<p>16</p>	<p>Chapter 5.1.3 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"That's a pair of work trousers that I found, I only found them the other day, size 28. And on the inside of leg they've rubbed that much because they were even too tight on me."</i></p>	

<p><u>14</u></p>	<p>17</p>	<p>Chapter 5.1.3 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"That is the black trousers that I have kept taking photos of since the beginning that I still keep. And my skinny fit jeans that I got, and just to show the difference really. Because them black trousers were fitted when I was bigger, and they're jeans that I fit into now, and it's a bit like wow."</i></p>	
<p><u>15</u></p>	<p>12</p>	<p>Chapter 5.1.3 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"People keep giving me dresses and clothes now, and my step daughter, she is always small and now when she comes I'm now smaller than her, which I quite like. So she keeps giving, this is the dress that she gave me the other day, and I tried it on, size 10 and it fit perfect. So I had to take a picture."</i></p>	

<p><u>16</u></p>	<p>5</p>	<p>Chapter 5.1.3 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"I've got my little dress on! I wear dresses. I've never worn a dress in my flaming life and that's all I wear now."</i></p>	
<p><u>17</u></p>	<p>12</p>	<p>Chapter 5.1.3 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight</p>	<p><i>"Shoes, I've never worn heels in my life, and now I've got shoes and I've got heels. See that's my flats before. So now when I go out I actually wear heels, and I don't feel self-conscious or I'm going to fall. So yeah, I look at heels now and borrow my mum's heels because I only have one pair. But I've never worn heels in my life. And they're quite some heels as well aren't they? I know, and it's my ankles. Where before my ankles, because of my weight I couldn't wear them, and I can even dance in them now"</i></p>	

<p><u>18</u></p>	<p>17</p>	<p>Chapter 5.2.1 Things that are helping me to achieve success: Networks</p>	<p><i>"This is a fun run that I did, and it was 5k and I actually managed to get all my friends and my family, well all my friends to do it. So her that was pregnant, she did it. My other friend did it and her kids. My mum did it, and then someone else that I do mud runs with. My uncle and his daughter did it, and it was around Weston Park. And it was just hilarious good fun, but then exercising. And it's the first time where the people that I really care about and live came together collectively and shared something I enjoy, which is exercising, being messy and grubby and getting into it all. And we all came together to do it, which is unusual really. And it was good, really good."</i></p>	
<p><u>19</u></p>	<p>17</p>	<p>Chapter 5.2.1 Things that are helping me to achieve success: Drivers of personal motivation</p>	<p><i>"Gym, just showing how important it is, and that was gym in hotel. So even after we'd gone, because he'd said I've booked a hotel and it's got a gym in it if you want to go. So at half past seven after a drunken evening, I was in there. And it just sort of like did I really need to go? But I kind of think I did. But I'm there on cross trainer giving it like this, and we were on I think 13th floor and gym was on third and I'd walked all the way down the stairs, and all the way upstairs because I never go in lift. So it just shows how committed I am to keeping the way I am really."</i></p>	

<p>20</p>	<p>12</p>	<p>Chapter 5.2.1 Things that are helping me to achieve success: Drivers of personal motivation</p>	<p><i>"That's me, just to remind me. I do have pictures everywhere. And Facebook, I put pictures on now of me, but then I keep pictures like that, and my friends keep saying why do you keep putting them photos on, that's not you now. And I'll say because I have to keep reminding myself that that was me. And all these compliments that people give to me I don't want to ever go back there. So I do keep putting photos on of me to remind me."</i></p>	
<p>21</p>	<p>17</p>	<p>Chapter 5.3.3 Things that are preventing me from achieving success: Excess skin</p>	<p><i>"this is a photo of my bra with my boobs, because I don't have any now.....And it really upsets me, and it's something that I'm really devastated about really. It doesn't make me feel like I'm a woman anymore, and I didn't think that would happen to the severity that it has. And it makes me feel disgusting and I can't wear certain clothes because I need to have, it needs to be certain ways that it goes to hide different parts.....Swimming is really difficult, I've had to get a swimming costume that's actually got boob shape already in, and it's quite firm. So it looks like I've got bigger boobs than I have. And I need certain bras with padding, and not every bra fits. And when I was measured, I let someone measure me at the end, and they were like it's hard to know what size you are, you're this or that, and you're cup size this or that, all I can say is keep trying. So I was no further forward, and it's just devastating really because that's a major thing that's happened through surgery. And in a way that is where I think I wish I'd not had it done."</i></p>	

22	17	Chapter 5.3.3 Things that are preventing me from achieving success: Post-bariatric surgery complications	<i>"An internal hernia and a twisted bowel. And the reason is because I've lost all my weight. And I could have dropped dead at any time, and he said I'm very lucky... basically there's pockets of fat inside you, and when you lose weight holes appear because your fat disappears. So there's more space inside your body, and your bowel sometimes drops through one of these. And it is, it's one in a 100 people that get it from this surgery," (P17)</i>	 <p>The diagram shows a cross-section of the abdominal cavity. A segment of the small intestine (colored pink) is shown passing through a hole in the abdominal wall (colored yellow). The segment of the intestine that has passed through the hole is twisted, illustrating a twisted bowel. The hole in the abdominal wall is an internal hernia. The diagram is set against a white background with a grey grid pattern.</p>
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Appendix 16 - Additional explanatory quotes

Chapter 3: Pre-Surgery

3.1 Why I live with obesity

3.1.1 Why I live with obesity: Childhood

"I've always been big, I don't know anything thin, I don't know any different. So it's not like I can say when I was a size 12 and I used to do, I don't know that." (P17)

"I've been overweight since I was a child.....I mean I've just never known not to be fat, I've always been fat." (P5)

"I remember my mum always going to Slimming World and trying to help us, because both me and my sister are both big girls.... when we're at home we weren't allowed no biscuits or crisps or anything in the house whatsoever, so when I left home you haven't got your mum there then to tell you you can't have them, so I think that made it worse." (P12)

"Or when I was younger I had to finish and clear my plate, and even if you're full to bursting I still have to clear my plate, which I've now I think over the years realised I don't have to. I don't make my kids do it" (P12)

"I had a horrendous childhood. Horrendous, bullying, name calling, had to cross the road to avoid a gang of people." **"All weight related?"** "Oh god yeah, again 1970s, can you imagine, '69, '68, Twiggy era, there was horrendous peer pressure at that point." (P18)

"I don't think mother liked me being fat, I think she was disappointed that I was fat, because she was fat all her life as well, and she always nagged me about it. (P18)

"And then got sexually abused at seven, so I use weight as a 'if I'm fat then nobody will look at me, nobody will." (P16)

"I've been going to [name of local organisation] which is for people that's been sexually abused. And ...that happened to me numerous times when I was younger." (P14)

3.1.2 Why I live with obesity: Life course

"I've noticed it for the last ten, fifteen years now. But it's gradually got worse over the last five, five or six years." (P11)

"I should have maybe have took things into hand years ago, but as I say, it crept up on me. You know, it really did and I go well I can't be bothered, you know what I mean, and it's terrible." (P4)

"But I noticed it started creeping on a lot more and a lot thicker and a lot faster when I had hysterectomy." (P11)

"And then 2009 in the November I took poorly at work, and they didn't understand why it was so bad. I went from being able to do my normal daily routine to noticing that I was wincing when I was getting up and down out of my chair and not being able to bend down to get the files and things like that. And within three weeks I couldn't walk, I was like completely bed ridden." (P3)

"So yeah, side effects of everything seem to have been putting weight on. My contraception injection, that was a side effect. I tried two different types of tablets, antidepressants, that was a side effect. I had iron deficiency, side effect from that was putting weight on. Everything had a side effect of putting weight on." (P13)

"It seemed to have got a pattern that every year this depression just come over me, it's been happening for the last few years now. And last year at this time I was so low I just, because my knees, because that's my problem, my knees, I was in that much pain and I felt that rotten about myself, you just start thinking, that emotional because you don't talk about your problems, because who wants to know. You're fat, it's your own fault, do something about it, get on with your life. But when you feel that low it's not easy. See and then you don't talk about it because it makes you cry and then you feel like a silly cow because you're crying. And it's only because you know it's your weight and it's your own fault, and that's what I do, I blame myself all the time. And it is my fault and I know it's my fault, and I hate crying because it makes me look so weak and pathetic." (P5)

"I left my family home, set up myself and I think that's when my weight started going on. I don't know if it was comfort eating or what it was at the time. I weren't making regular meals then; it was more takeaways and things like that, so I think that's how the weight gradually went on." (P3)

"I moved on my own when I was 18, yeah 18/19, something like that, I moved on my own but I was still working at Burger King, and I think that's when it started going downhill to be honest. Lived on my own, made my own money, my dinners were just the Burger King food because I didn't buy any food home, and it was the going out and the, as you do when you're that age on your own. And that's when I started putting weight on properly." (P13)

"I was driving 30,000 miles a year as well on top of what job I was doing, so you were sedentary in that you were sat down driving as well so that wasn't good for me. And

of course I didn't do the sport that I was doing when I was doing it, because I used to play tennis two or three times a week when I lived up here, but of course I only played at the weekends when I came back, so that was it." (P10)

"It's normally when I've had a really hard day at work and I've worked loads of hours and I come home and I just feel rubbish..... like oh god or when I've gone to work early, done a full day, finished work late, gone to gym, because I've got to go to gym, so that's like a chore, then come home and then I've got to try and cook something and you just feel like oh what's point? Then all you want to do is just go in fridge and eat, because you can't be bothered, so I'll just go and eat." (P17)

"you get into a relationship and you start to feel comfortable, and you're cooking for two and you tend to eat more. You get out of that relationship, you're on your own, so you're not so interested in food and you eat totally different. Like I'd get by on beans on toast or a tin of soup, something like that. But get back into a relationship and it's big cooked dinners every day and dinners get bigger and bigger, by the time you know it you're eating the same sized plate as what fellow is, and the weight creeps on." (P9)

"I did really, really well, felt really confident, then my divorce happened, well it got to a major part of the divorce and it got really complex and horrible and that all fell by the wayside, because life happened. And I've kind of not managed to lose weight since then, if I have, it's been half a stone and then I've generally put a stone back on." (P1)

"I got in a bad relationship and I got it into my head that if I put my weight back on he'd go away because nothing seemed to work to make him go. So I put my weight back on and he didn't go." (P9)

"And then we had a lot of deaths, one after the other, in about a year we had about four or five deaths, you know, all close, and that gave me depression, so I sort of comfort ate." (P2)

3.1.3 Why I live with obesity: Behaviours

"That was just my television and my laptop from where I usually sit, so I think I spend too much time sat here watching my television so that's why I took that one." (P5)

"that's just where I sit most of the time, it has my computer near me, any paperwork I need is usually always at the side of me..... my computer's always here. That's my lifeline to outside world." (P3)

"I think what it is, I go on a diet, and I lose my weight, then I hit that plateau and I try for a couple more weeks and then I think well that's not working, and then sweet stuff gradually works in." (P2)

"It's always been a yo-yo situation. I've always gone on diets and taken weight off, like two stone off, three stone back on again." (P10)

"I think when it's lunchtime, when it's dinnertime, even if you're not hungry you have to eat, and that's what I've had in my head." (P12)

"Chocolates are my worst enemy..... I used to have like five or six chocolates in a day, but didn't eat breakfast or lunch, just used to skip those because of the chocolate." (P8)

"I mean my problem is I snack, I don't tend to eat a full meal some days, and I'll snack throughout the afternoon instead of sitting down to eat a meal which probably would be better." (P1)

"Yeah, it was literally just having something, having a sandwich, going oh what can I have next, going and raiding cupboards. And then as soon as I'd finished that I'd have a packet of microwave popcorn, what can I have next, go and just literally all the time, just go and eat and eat and eat." (P13)

"I crave at night, I suppose it's boredom I don't know. Probably because I'm sat on my computer watching telly and oh what can I have?" (P5)

"I could eat all day long if I let myself go....I'd have just a few biscuits out the packet, especially if they're ginger nuts, I will eat the whole packet. I can be reading and just dunking, you know, biscuits, and then when I look I think well you've eaten nearly all that packet, but there's only three left, you might as well eat them now. You know I mean like some normal person would think oh you've eaten all them, put them away. No, I'll finish them off and throw the packet away." (P2)

"it's me with portions. We do eat the right food but we eat too much of it." (P11)

"I've never been one for leaving food and wasting and things like that so you've always eaten it. So that might be something of it. I come from the era of just after the war where you didn't waste anything, so if it was cooked you ate it and I think eating for one is very difficult to plan, so that might be part of it." (P10)

"I stopped smoking and I piled a load on then..... I went from like 38 inch waist up to 48 inch waist, and I just can't get it off.....maybe you don't eat as much do you, if you're smoking you have a fag rather than. I used to get up on a morning and before I moved I'd have two fags, and then maybe a bacon sandwich about 10 o'clock and that would be it until about six o'clock done. But I'd have about 50 or 60 fags in between like, but now it's get up food, food, so I think yeah probably substituted food for fags." (P15)

"I'll have been stopped smoking two years in May. I never thought I'd stop because I loved a fag. Every time I felt hungry I'd have a fag, do you know what I mean? I can't

now! I sit there and I think chocolate, fag, chocolate, fag, can't have any, what do I do?." (P7)

"I think you replace it don't you, you have a cup of coffee, I used to have a cig and now I have a biscuit or whatever. It's just habit isn't it, bad habit, but if I've got willpower to stop smoking why haven't I got willpower to lose weight and keep it off? I lose weight but I don't keep it off, I put it back on again." (P5)

"It's easy to stop smoking; you don't have another fag do you? That's it, done, not going to have another fag. Dieting, you've still got to eat, that's the big difference. You can cut cigarettes out altogether because you've not got to fetch them into your daily routine, but you've still got to fetch food in." (P15)

3.1.4 Why I live with obesity: Physiological / psychological makeup

"But it's all about your body as well that won't let you stop eating..... Mine doesn't switch off, I could eat all day, it's weird" (P18)

"The problem with me is the fullness, I have to feel full with my meals.....as the day goes on is when I start wanting food, and when I start I can't stop....I can't deal with [feeling hungry], I hate it. I like, you see I go to the fullness of bursting where I can't move sometimes, and I don't know why." (P12)

"We're all a big family, my daughter's big, and I don't like seeing her big. I didn't want her to be big, but my ex-partner, he's big, he's massive, and it does run in the family and we do struggle to lose weight. So I don't know whether it is in our genes: I've seen pictures of my grandparents and everything, they are big. But I mean so I think genetics, people say oh it's just because you're unhealthy, but sometimes I do think it is down to your genetics, what's in your genes, and a lot of people don't think that, whereas I do." (P6)

"I've always been big. I have a family going back four, five generations to my knowledge who are big. I'm not talking a stone and half heavier, I'm talking big. So there's something in my family I think that we're definitely big people." (P18)

"Just the other time that kids eat completely different to what I would eat, and sometimes I think well why can't I eat what they eat? And [P8's partner] slim but why can't I eat what he eats, but I can't." (P8)

3.2 How I've tried to lose weight

3.2.1 How I've tried to lose weight: Medication

"I've been under the doctor twice. The third time I were under the doctor they put me on orlistat, and that didn't work. I lost the same as I normally do between two and two and a half stone, and then it just comes, you know as though my body says that's it, you're not losing no more, and that slowly creeps back on." (P2)

"I started with diabetes, and I had to go on metformin, and the doctor says you can't have metformin and orlistat together because it sort of works together with one another, you get the same symptoms, and then they sort of block one another out."
(P2)

"I've been on - I had tablets from, is it Xenical, the fat things that go together.....Well, all they did for me really was giving me diarrhoea a lot of the time." (P10)

3.2.2 How I've tried to lose weight: Diets

"I've done Slimming World, I've done WeightWatchers in the past, I've done Slim Fast, and nothing, they give me a short term but then I seem to get to a plateau and completely stop and not lose anymore. I think the most I've ever lost is a stone and I can't seem to get past that, and I don't know why." (P3)

"I'd like go to Weightwatchers or I'd go to Slimming World and I'd lose a bit and then it'd, and then it'd stop there and I'd think well what the bloody hell's up with me because, you know, other times I've lost a bit more." (P11)

"I just gave up in the end. I just decided it's not working, it's just, I ended up losing it and then putting it back on again" (P8).

"I've joined Slimming World, Weight Watchers, I've done it online, I've done it at meetings. And it's like the first week you go great, four or five weeks, when you go the week after that and you've put some on, and then week after you've put a bit more on, and you think I'm not going back. And that's probably where you go wrong, where you should go back and you should continue. But it's so easy to turn round and say well I'm not going back, I've put weight on, I know what she's going to say so you don't go back." (P9)

"it is support but I think the camaraderie's the thing there, you know what I mean." (P11)

"And it's like I'm paying £5 to go in and get weighed, I'll do it myself. Yeah I'm not going to do it myself, I know I don't do it on my own." (P5)

"I've tried to have more vegetables with my food, more salad things, changed the way I've cooked things, like I've bought an Actifry, I've bought a George Foreman grill." (P1)

"We've bought Actifry and we've bought another machine you don't need oil in that."(P7)

"I cut down on, well we've got, we use smaller plates now, less fried stuff." (P4) "No, yeah, I don't fry anything now." (P4, wife)

"Yes, I've tried everything but the problem is I hate feeling hungry. I hate it and it drives me mad and then all day I'm wanting food. It makes me so low and it makes my

life feel like crap because I just, I feel hungry all the time, and that's the worst thing when I try and diet. Even though I've followed like your Slimming World and your WeightWatchers thing, you're never hungry, and people say on there that they're never hungry, but I am. And the portions are not big enough for, when you've had a big plate of veg it's still not enough." (P12)

"Not having it at all. I can't just have, say there's a loaf of bread oh I'll have some toast, I can't just have two pieces, I can beat toaster and waiting for it to, next two to come out. And I'll keep going, so I just, it's easier just to not have it at home, rather than just have a bit, just don't have any." (P15)

"I've gone to low fat butter, well, whatever it is, spread, because I've always had Lurpak, I love Lurpak. I've gone to chuffing low fat butter, I don't have my chocolate anymore, I don't have crisps, I don't have any sweets, I don't have my buns. I have all this low fat stuff and I'm still not losing weight. I've lost two stone I know, but you'd think I'd be thin now wouldn't you?" (P7)

"I just think sometimes you get fed up of dieting, I seriously get fed up of looking at food, having to work out what's got sauces in, what's the calories of that. I used to have like if I ever wanted something a bit nice, have a very delicate starter, fruit or something or bypass it and have a nice sauce and don't have a sweet, and you do it so often you think sod it, I'm sick of doing it. Although subconsciously probably I always will....I'm 53 now, all this foody thing, I've counted it, weighed it, and I think I just got fed up of it."(P18)

3.2.3 How I've tried to lose weight: Physical Activity

"I lost 11½ stone, well I know I went up to over 30 stone, because the scales just kept going around, and I went down from that to 18½ stone in six months by swimming every day, sometimes for two hours or more." (P1)

"I knew, I'd got in my head that if I had fish and chips, I had to do an extra half an hour's swimming, and that's the way I balanced it out. And that seemed to work, because I could eat a big fat bacon sandwich every morning and still lose weight, so I was really happy with that, because I got everything I wanted out of it and the exercise sort of was its own antidepressant. So it worked." (P1)

"Even going to the gym, you know what I mean, it got to the point, I used to love to go to the gym and I had a gym buddy, and I used to say to her..... What happens when I'm not with you or you're not around anymore or you find another job and go somewhere else, and I'm, I said I'm back to square one, I know it's going to creep back on." (P11)

"Went to the gym, went swimming quite a few times. I just felt uncomfortable with it." (P8) **"Because the time at the gym, she was on her own because I didn't go to the**

gym at the time then. So she lost interest, she needs someone there to egg her on, to give her a boost." (P8 partner)

"We decided I'm going to try the gym sessions at Springs Leisure Centre, even though I've always been petrified of gyms. I went for the first session and I was shaking and I was scared but I thought it must just be because it's the first time. Went for the second time and before the class even started, [gym instructor] who were running it, pulled me off and said you can't do this. I didn't realise I was having a panic attack, so that particular time they had, the helper that she had did like a bit of a one to one session with me on the side so I could still do something, but it's just not, you know blood pressure's going to go up through the roof if you keep doing this, so I can't do it." (P13)

"Then I went to hospital for a check-up for my heart and the doctor says you're on iron tablets, you can't do no more gym, exercise or anything like that until you lose your weight." (P2)

"Also previous to that my doctor did refer me to the sports centre to do a medical test, of which they classed me as unfit to do the gym because I couldn't do it. But they recommended me for swimming. So I joined the swimming club and I did 45 minutes..... I got out and I couldn't move for three weeks, all my back seized up, my legs seized up, so mainly because of my knee. And that was it, that was the last of my swimming." (P9)

"it's not as easy as going on a strict diet, putting trainers on and running because I can't for the sake of falling." (P16)

"but she [sister] goes running. I can't do that because of my back. It does stop me doing certain things, which isn't good, it does." (P6)

"I didn't feel comfortable, I really didn't feel comfortable. I know they had groups when it was just women or whatever, but I went once when it was women and then that was busier and there were like loads of young girls and they were all, and everybody's waiting to go on equipment, and you've got this little fat old bird trying to, it's, I just felt, I didn't feel comfortable, I'm not going to do it anymore." (P5)

"a lot of reason why a lot of people won't go to some of these gyms is because of these thin ones..... and you think, oh my God I've got to go on the same machine as him or her and they're going to be watching me and once you start doing it and you're sweating and you can't breathe and they're stood and they're looking at you, you don't go back. I've had that experience and I thought, no, I'm not putting myself through that again. I felt so ashamed. I felt as though I shouldn't have been there. I was in their [thin people] space, and I thought no." (P7)

"I started walking more to get, for the school run instead of taxis, and just trying to do as much as I could myself." (P13)

"although I have started now, I've started going out, just thinking well I'll do what I can do because whatever I do, whether it's nine times round or 90 times round, it's more than I was doing before, so it is going to benefit me." (P16)

3.2.4 How I've tried to lose weight: Commissioned Weight Management Services

"marvellous place, marvellous..... even when you go and do your exercise and that, if you're having problems with owt, you tell them and they work round you so you can still manage to do little bits." (P7)

"I couldn't, about a year ago, a year to six months ago I couldn't even walk that distance from my back door down to the front gate. So that's how bad my hips were before I went to Healthy Weight Solutions. I think I was only walking about less than 200 steps a day, just tottering about here there and everywhere, so that's what that one is. Now this is from my gateway and I've built up every day to be able to walk to the end of the road and back. And that's with what they've, my physios and everything have given me little tasks each day to do." (P3)

"I go to three classes a week now. Well I've been going to two, sometimes three, I go to an aqua fit every week and I go to a circuit class every week, and that's through the Healthy Weight Solutions. And I love it, I love going. I wanted to go last week but I was too ill to go, but I'm going again tomorrow, with me feeling a bit better I'm going back because I do absolutely love it." (P3)

"Since all this has started I have felt a lot better. I haven't felt depressed at all since, and I've found exercise really good." (P5)

"He helped me realise how to exercise and how to look at life differently.... he helped me understand that when people start saying fat cow, just to ignore them, it's their problem and not mine. He helped me realise just because [P8's partner] has a fry up it doesn't mean that you've got to stuff your face. He helped me also with kids. That just because kids have things doesn't mean that you've got to have it. But you can't say to kids you can't have sweeties just because mummy can't them neither, that's wrong. So he did help, he helped quite a lot." (P8)

"what I was eating were wrong, you know with me having sugar, they told me to lose my weight. I were having ordinary cereal, you know that low fat, low sugar cereal, but they said really it says it's lower on the front but it's not, so you've got to look, you know, at ingredients really well. And they gave me a little counter what tells you the best way to work stuff out, like with sugar in it and calories, you know, things like that."

"but it's with [dietitian] has been, she's probably one of the first ones that has not been talking down to me because of my weight. She's literally just said all right, that's this issue, how do we deal with it? So it's not been like why are you like this, you shouldn't be like this, you should be this, you should be that, but she's not been like that at all." (P13)

"[staff] they don't judge you. You go in, you do what you need to do to your ability, they don't judge you at all and they help you." (P7)

"It's the only way you can get surgery, you can't do it without [tier three] I've had to go through the stage, I haven't always found it easy." (P16)

"And she said that, you only get one chance at this, do you want to stop and come back when you're feeling better?" (P5)

"because you have to show commitment once you get to Weigh Ahead, if you don't show that you're committed to doing what they're asking you to do they're not going to refer you for the surgery. And obviously I didn't want anything to hinder that." (P13)

3.2.5 How I've tried to lose weight: Technology

"MyFitnessPal, that's my app on my phone what's calorie counting app and sort of monitors my weight and well you put your weight in and you can monitor it up and down, so that's sort of part of my life now. And there's a graph that shows you up and down so you can monitor yourself. And it's really good, because you can scan food and it'll tell you how much is in it, how many calories. So it's very much that you don't have to sit and add up how much things are and you can just scan them and it tells you and it adds it all up, and it's like oh I've eaten loads of calories at lunchtime I've got to be careful this afternoon." (P17)

"a banana you think well fruit is healthy, you don't think it's got like 100-odd calories in it.....so it's very much now it does make you more aware. And it's also like the Weightwatchers stuff some of that is not always as low in fat as what the other stuff is." (P17)

3.2.6 How I've tried to lose weight: Previous attempts to access bariatric surgery

"I think I'd got to the stage where, I'd been looking at it and a friend had said, why don't you? I says, no, because at the time I couldn't afford it, because I thought, oh God, I've got to pay for this, I won't get it on National Health, and I'd looked at it and it was, well, the gastric band I looked at and that was 5,000 to 6,000 quid and the bypass was £9,000 to £11,000 I think, ooh I can't afford that. So that was partially why I didn't do anything about it."(P10)

"I thought only way I'd get it is to have it done private because I had looked into it, but I could never raise that kind of money to have it done."(P5)

"I'd been asking my doctors the last what, seven, eight year, and they kept saying no, no, you don't meet this one, you haven't got this, you haven't got that."(P2)

"because I tried to get it a few years ago and they said that I didn't qualify for it....I didn't weigh enough."(P8)

3.3 How I accessed bariatric surgery

3.3.1 How I accessed bariatric surgery: Experience of others

"Yeah, I asked a friend of a friend, she'd had a bypass, and she said if she'd have known, she wouldn't have had the bypass because she were really poorly. Now she were in intensive care, when she first had it, and now, how long will it be, it'll be about 12 months, because since she'd had it she's in a wheelchair, because she hasn't got the energy, you know, and complications from it to walk right." (P2)

"My dad's done a gastric band. He had the gastric band put in but he's had to take it now because it got twisted you see, but he had the band put in and he lost a lot of weight". (P8 partner)

"Well her sister has lost loads, but she doesn't take her multivitamins that she should be doing, she'll sit in bed eating crisps, but her excuse is I don't [i.e. she doesn't] eat a lot. So although she dropped from size 34 to a size 16, 18 I think she is, which is absolutely phenomenal, but she's only small she's got really loads of excess skin. So she can't wear short sleeve stuff. She can't wear short skirts because of her legs and things like that. Her dad I look at and it sounds awful, but it doesn't look like he's had anything done. He still looks really big and he's had that done about eight months, and her other friend who's had it done had it done nine months ago and she's bigger than me. I don't know what she weighed before, but I just think, you know, you've had a chance of an opportunity of a lifetime you should be embracing it. But that's my own personal view, I don't know what they're going through and their journey." (P17)

"when I spoke to the lady with sleeve and then she'd put like over two stone back on, and I thought you've gone through all that, had 50% of your stomach lasered off to put two or three stone back on, I thought no." (P9)

"This is [P7's friend]. She came down a couple of days ago. And she were a 22, 24, and she actually got up after these photographs and showed me her stomach how it just hangs, but she puts it in like, and her arm, she was showing me that and the tops of her legs but she says but it's worth it.....And she stood up, she showed me these jeans, size 10, and when she held her stomach in like that, she said I'd get an 8 on." (P7)

"I've met other people in shops and on trips that's had different things done. A couple have had the band, a couple have had the sleeve, one I know has had the bypass, and then going to seminar, to meetings, support groups and seeing all the people that's had different procedures. And that played a massive part in deciding which procedure I wanted". (P9)

3.3.2 How I accessed bariatric surgery: Own doing

"I don't know what really put me to think I'd go and see the doctor and say, look do it, can I do it, but again I'd got to the stage where I was getting out of breath and I think my brother was getting on at me a bit, who is my boss, saying, you've got to do something [P10 name] otherwise you'll be in a box in two years, and you start thinking, I don't want to die, not just yet. So, I went and saw the doctor and he looks at, yeah, he says, you hit the criteria, see what you get, I'll put you in for it." (P10)

"I'd been asking doctors for a couple of years now what do I have to do to be able to get referred for surgery, what is the way that I need to go about it? And they kept saying well you need to call the dietitian first, you need to try this, you need to try that. So I kept saying okay, but no referrals were sent through for anything. So I kept agreeing to what they were asking me to do, but it stopped there. So I didn't know if I had to do it myself or if I had to go through doctors, because obviously I assumed it had to be the doctors because they have to see them doing it, but nobody ever told me anything. When it got to the stage that I just couldn't even put my socks on properly myself, I went back to the doctors going a couple of things, I want my back sorted, get me a referral to physio, I want my weight sorted, whatever you need to refer me to that's going to end up me getting the surgery just do it. And I wouldn't leave the surgery until they'd done it. So yeah, it was literally as bad as that." (P13)

"I asked my doctor, because I'd done a lot of research for bariatric surgery, I'd done it all myself." (P3).

3.3.3 How I accessed bariatric surgery: Health care professionals (HCPs)

"the nurse was, she was concerned, wasn't she? Because like my liver and my kidneys were like yoyos; one minute they'd be alright and the next minute they'd be bad with ulcers and that like. So anyway, what do you call it, he referred us, me, you know". (P4)

"the doctor at the hospital said, I'd obviously said I know I need to lose weight, you don't have to tell me I need to lose weight, but I've tried this, this and this, and he sent a letter to the doctor saying right, can you help, sort of like passed it onto the doctors, say can you help by doing something for this young lady, she can't do it on her own, and she needs help to do it, to diet. So obviously I was passed on through my doctor at the hospital." (P6)

"I asked for a second opinion about these prolapses because I felt the first doctor just wouldn't do it because he wouldn't do it, and he went, no, he says we're frightened of you going asleep and not waking up, he says, but I would suggest you going for your bariatric surgery, he says and then when you've lost your weight come back and we'll reassess it all again". (P7)

"it was coil that I was, I'd just had him and I'd had the post-natal check and she asked me then. **What did she ask you then?** I went in and asked for a coil, and she said we can put that in, that's not a problem, and then we got on about weight and stuff and how you feel generally after having [P8's son]. And it just occurred from there." (P8)

"I weren't expecting it when the doctor said to me have you thought about gastric - I'd already tried. I'd been asking my doctor's where I went, the last what, seven, eight year, and they kept saying no, no, you don't meet this one, you haven't got this, you haven't got that. Whereas this doctor was a new doctor, she'd only been there a couple of months and straight away she says to me well would you like to, have you thought about gastric bypass, which I was so, to be honest gobsmacked. I just thought well I've been trying all this time and you've just asked me." (P2)

"I went to a different doctor, I think she knew. They don't see you though, they don't see us. I read it about, it's not just the illness, it's about your independence, but they weren't really seeing that really. You've got a woman who's saying for god's sake help me, I can't wash my cupboards, I can't dance, they think oh a bit trivial isn't it. But it's not trivial." (P18)

"My GP, she sent a letter off and they sent back saying that it was only Weigh Ahead that could put my name forward, so she contacted Weigh Ahead for me, then they contacted me and said would I go down, sign a form. They had a talk to me, this woman, and then that were it, the ball started rolling." (P2)

"And she tried to apply straight to the hospital and she phoned back, it can't be the hospital because you have to be, you don't qualify to apply straight to the hospital, but we've got Weight Solutions and they could go with them and they could put you through, which they did do." (P8)

"he [tier 3 dietitian] says oh right, measures you, does this and that, talks to you for half an hour, and then he says yeah what's your thought on surgery? Well if I can have it yeah. I think it might be good for you yes, boom. So that's the decision then made after half an hour, you're having surgery or you're not, then you're either put down the pipeline for surgery or you're sent the other way. They did the same with my missus when she went. Spoke to her for half an hour, then he said well I'm not going to recommend you for surgery, you need to stick to your diet". (P15)

3.4 Why I need bariatric surgery

3.4.1 Why I need bariatric surgery: Feeling judged

"It's not like I sit and eat and eat, I'm not lazy, I'm not you know, because that's what people think you are. And I know my friends don't think that about me because they know me, but people see you and they think well fat cow." (P5)

"when we go for a meal, I'm always feeling like saying to the other people I don't eat that much, you know, because I always think that what do you call it, they're looking at us to say he could eat two sides, you're a pig like" (P4)

"Do you know one of the biggest things that I feel embarrassed over, if I go out for a meal with my friend I put very little on my plate, because I feel that everybody is watching me. And I can look round and I can see people watching, because they think because you're big you're going to like come back with this ginormous plateful. And when you look round most of them that's skinnier there with ginormous plates because it's on a carvery help yourself. And you're sat there with not a lot because you're so embarrassed that people are watching you. And it's uncomfortable. Where if you were thinner they wouldn't take a blind bit of notice would they?" (P9)

"I got it last weekend when I was shopping with my dad, and I'm not, I don't get offended as such anymore but I feel like turning round and punching them now, which obviously I don't want to be in that type of situation, not for mine or their sake." (P13)

"I fight, I argue back, which I shouldn't I know but. **Why shouldn't you?** Well I'll get into trouble won't I really? And it's not worth my career to be fair, because I have to be police checked. So it is very difficult and I just think, you know, I'm very much open to equal opportunity and everyone's who they are and it doesn't really matter and everything else and I'm just noticing more and more that everyone has a more vocalised opinion than keeping it to their selves." (P17)

"That one is for somebody to walk in my shoes every day and see what I have to put up with, the gestures that you get off people saying oh fat this, fat that, and also that it's hard. It's hard to diet; it's hard to lose weight; and you do struggle and people look at you as if you eat junk food all the time, and that might not be the case." (P6)

"I am refusing to see the weight loss nurse or GP, because of the way she was with me, she got angry with me that she couldn't weigh me, because normal scales didn't go high enough. And then the other type of scales that would have gone high enough I couldn't fit on it because of my belly. And she actually got angry with me for it, so I'm refusing to see her now, because I didn't go there for you to get angry with me, I went there to get some help." (P13)

3.4.2 Why I need bariatric surgery: Psychological health

"Look at my face; I look like a peanut head....I'm looking at that picture and I'm thinking I look like a big, I do, I look like, what do you call him, him out of Monsters Inc., scary feet. I do, I look like him looking down the stairs. I look massive. (P11)

"That's a pair of my jeans, and I've taken it on that stool for the real reason is I was trying to show how wide that footstool was but obviously my jeans hang off it. **What does that make you?** Just how massive they are isn't it? **Right.** That's how I feel anyway, clothes are just massive." (P16)

"Well I thought I'd take a photo to show you how I look. Not a pretty sight." (P4)

"Well, I says to my husband, I says I'm going to go and sit at the table making sure that I'm covered. Do you know what I mean, because he was going to take one in there and I went no! No, I don't want it taking in room, I says, I'll go sit on other side at the table, I says, and take a picture of me there. Because I felt I'm half covered, I'm more respectable to look at. (P7)

"I feel totally ashamed of myself. I feel, I don't, I don't want people looking at me like this. Having them photos took for that's been the hardest thing I've ever done, it has, it really has. The only other photo I've had took before them, the last photo I had took before them, and I, they pushed me to the front and I pushed myself to the back, but they kept pushing, come on, stand up front here, you look, you know, and I went no, and I wanted to be at the back. But I'm up front....I looked at it and I thought you look like a bleeding Oompa Loompa, you look fat, you look horrible, you look like an egg with little string arms." (P11)

"I don't go on picture. I'm always the one to take the pictures. Do you know what I mean, I get out of it that way - oh I'll take them! Because if I look at myself, in my mind I'm saying to myself oh my God, I need to get shot of that, I need to burn it. I've found loads of photographs and burnt them. Put them in fire, ripped them up, put them in fire, and if we've had fire out then put them in a bag." (P7)

"Well getting up in a morning I think if [P16's partner]'s at home I never get changed in front of him ever. I can go and get showered and I'll wrap a towel round me, I'll go in and I'll dry my hair, but then to put my bra and knickers on I'll go in the bathroom, got to be crazy that hasn't it." (P16)

"It impacts on my confidence a lot, that I don't feel confident enough to just be outside and do, and it's mainly because of the way I look." (P1)

"there's two weddings coming up next year, it's to be able to go and"(P4) "He wouldn't like this, he wouldn't go"(P4 wife) P4: No, my son and her are getting married, a wedding, what do you call it, well, I couldn't look at the boys because I, my mouth

were all like, I go like that, like a summer, it was summer anyway, but like summer beige trousers and that and ivory jacket, you know, but that just made me look bigger, you know." (P4)

"I've distanced from a lot of people. I used to go to the pub with my husband when he went and socialised, but I don't go at all now. And if I do he makes me go, and I tend to don't talk to people, we sit away from them now. I've got no confidence to talk to people anymore." (P12)

"If we get invited to a party or a family function or anything and I'm physically sick, I don't want to go and I will make myself ill. Just the feeling of going, the thought of going makes me physically sick and I think, no, I don't want to go, I don't want to go." (P7)

"Just watch them through the window, I won't play. **Is that because you don't feel like you can or you don't want to or?** F: I just, I don't won't go out there. **Does it feel, how does it feel when you do go out?** F: Next door's as slim as slim and Paul's slim as slim, so it just feels that you don't fit in." (P8)

"I get it into my mind I'm going shopping, food shopping for the house. I go out, do it and come home. It's done, that's a job done. I've got to go to hospital and have this, this and this done, home. On the way there I'm thinking how long am I going to be there before I get home? My home's my lifeline, it's my haven; it's where I hide..... I can lock that door, take the key out and nobody can get to me, nobody can see me, because I'm here, I've got my dogs, I've got my husband, my son now and again, and people who I want to see like my grandchildren are allowed into my little world." (P7)

"So I tend to if I'm at home slob around in a nighty and take all my underwear off, because I'm more comfier. I'm a lot more comfier, so there again I'm in my nighty in my house, so that's what I tend to do a lot now is hide in my house, because I don't work and I've got the little one. And I don't look nice, got my nighty on again." (P12)

"If I don't want to see somebody I'll go and sit in the bedroom. Shut the door, lock myself in the bedroom. I'm not well, I can't come down. And I won't come down and I'm sat up there nearly heart broke thinking it's awful but I just don't want to see anybody, and I just sit on the bed with the bedroom door locked and I sit there feeling awful while whoever is here is down here and they, is she alright then our [P7 name] or, and I can hear them but I won't come down. And I've heard him say numerous of times, she's got a right bad headache, she's been sick with it so she's gone to bed for an hour." (P7)

"I could crawl in a hole and I've come home and cried, you know, and I've thought shall I do something silly, take tablets or go for a walk and don't come back, you know, stupid things." (P7)

3.4.3 Why I need bariatric surgery: Risk

"They've said that there's like one in I think it's 1000, or two in a million [deaths during operations], to me, if I carry on eating like I am, I'll not have much longer anyway, you know with my heart and being heavy. Because you've not got much life expectancy when you're heavy, with all the stress it puts on your body." (P2)

"having what I've got with my blood and that, the mortality rate will be higher and this is something I've got to take into consideration and I've thought about it, I'm nervous about it, but I thought, I don't want to be unhappy and thinking about ending it all and that all the time. This is my one chance and I'm going to take it, I'm going to go for it." (P7)

"I think deep down I wanted the bypass but I was a bit scared with the complications. But then my life at the moment, I struggle with it." (P12)

"It happens, everybody's trying to do the best and if it goes wrong it goes wrong, that's life isn't it? I think I'd sooner get 10 stone off and have a few extra weeks of discomfort than that's going to be better than humping this around for another 10 years or so." (P15)

"it's in the back of my mind all the time, see and the other thing is cancer, because weight causes cancer. And I said I, and it's pretty prone in our family, cancer, my mum had stomach cancer, my dad had cancer down there, and then he had a secondary up here." (P11)

"Because he [dad] has to take two lots of insulin, so that's a long acting one, and then the next picture is one that he has to take after food... he's been doing it for about a year, eighteen months. So yeah so it's just something that I see and I think I don't want that. And it is a risk, I'm putting myself more at risk of that being the way I am." (P17)

3.4.4 Why I need bariatric surgery: Last resort

"let's say I've got to do it because I know that I'd be dead if I didn't." (P10)

"I said a few years, I said three, four, five years down the line as I am now I'll probably be dead." (P9)

"So then when it got to the stage that I couldn't even get off the sofa myself, oh no this is enough." (P13)

"I think if they said you'll lose your right arm but you'll go back down to a reasonable weight and be fairly healthy, I'd still say well crack on then, you know what I mean, it's not, I can't carry on as I am. It's like now I'm knackered talking to you, so something's got to give." (P15)

"I think what happens is, you're fighting on so many fronts, I mean I work full time, I'm in pain all the time, I can't sleep, I'm frustrated, I can't walk, and trying to diet on top of that it's just, I thought no, even as strong as I am it's just too much." (P18)

"I think being here for this time since being poorly and not working, it gives you a lot more time to think about different things, about your lifestyle and about how you'd like to change it. And for me I think that's the only option is the surgery, to give me a better quality of life than what I've got at the moment." (P3)

3.4.5 Why I need bariatric surgery: Improve health

"I got so bad I couldn't move and the doctor had to recommend that I'd got nurses coming to look after us because I couldn't wash myself properly. And I still can't, it's just that the funding has run out now so the nurses can't come round anymore, so I have to rely on a lady coming from York to do my legs and wash my legs for me and that. Because I find it difficult to wash certain parts of my body and my back because I can't twist around, articulate myself into positions that, sometimes it's just so hard to wash my feet." (P14)

"as I'm coming downstairs, I've got my back to where the bannister is at the wall and I'm, I come down so I've got a solid thing to slide down. So I know when I'm coming down I'm stable. So if I do go, I can like, and hold on, you know what I mean, I'll lean against it." (P11)

"I can't kneel down because my right knee, I'm ready for new knees they've said, but while I can put up with it put up, and I thought well I'm not going in to have my knees cut open and while I can get up. Because I can't kneel down or owt like that you see. So I can't do my skirting boards." (P7)

"Getting up the stairs to the toilet I have to have a lay down after, I have to go and have a sit down on the bed, I'm, I can't breathe and I can't bend over and put my shoes on, so I'm having to wear slip on shoes, slip on slippers so I don't have to bend down because I bend over I have to hold my breath, so I can't breathe, then I'm going dizzy and oh my God!" (P7)

"the bath, I struggle more and more and more to get in and out of the bath, it's so hard, and then I can't lay in the bath because I have to lay with my arms on top of me and I struggle. And many a time one of the kids will want to get in with me, and it's a nightmare. And when I get out they'll say oh don't get out because the water disappears. And I really really struggle to get out of the bath, and that's why I took that one." (P12)

"If you are a decent weight and you can see to yourself bathroom wise, clothes wise, you're a lot happier than being overweight, you can't bend over, you're out of breath,

you can't get up hill, you can't go up chuffing stairs, you can't get in a seat. What's to be happy about all that? There's nothing to be happy about with that." (P7)

"You're thinking, I'll get there but I'll take the mobile with me and I ought to be on a road where I can get a taxi, you're thinking just in case I feel I can't get back. So you feel a little bit imprisoned but you've just got to get out and do some exercise anyway, but that's how I feel, and like I say with the licence being taken off me, that was a big thing because you think, I'm not going to get out anywhere, not see anything." (P10)

So does your weight impact on your fibromyalgia? Very much so, very, very much, yeah....The pain, the stiffness, the mobility, you know, like moving about. Being able to exercise is another thing, because the more I don't, because of the fibromyalgia I'm limited to what exercise I can do, I try and do it but it just whacks me out for about two, sometimes a week before I can go again, you know what I mean. And I try, and I make myself go the following week, and then I try and get to where I can go twice a week, and when I'm going twice a week, oh it's, so it's like a vicious circle. You know, if I hadn't got this extra weight, the fibromyalgia wouldn't be as hurting as much and I'd be able to exercise that bit more. I'd be able to go three to four times, if I could, but it'd be nice to be able to go for a definite twice a week, but I can't do that at the moment. It's either once a week or, you know, you're looking at I'll try for two but if I do two I might not be there next week or the week after, so it might be next week or three or four weeks down the road before I'm going again, because I'm so, so, so worn out, so exhausted." (P11)

"They're basically, what do you call it, keep me alive. They're heart tablets, skin tablets which the psoriasis was severe that effect now, but that's hopefully on the mend. I've got thyroid problems, and those are there. The warfarin for the heart, diabetes, the diabetes tablets are there like, you know. I went to the doctor, well the CPAP consultant, he told me I had oedema, and since then I've been given water tablets, which have helped eventually. So I wish I'd have had them earlier like, you know, but they're basically, I'm trying to think what the others are for like, you know. The ramipril - that's for the heart, you know. Another is the cholesterol." (P4)

"all the medication and equipment that I have to take every day. And that's something else that this treatment will get rid of a lot of those, like the injections.... So I'm hoping to do away with all that medication, which it's a pain every morning. I'm 61, I get forgetful, sometimes I forget to take my tablets, if I get up feeling great, and then it'll dawn on me when I start to feel terrible later on in the day, I think oh no I've not had my tablets. And so like you're dashing about having these tablets and injections, and then it throws your routine out and it's a bind, it is a bind." (P9)

3.5 How my life will change after bariatric surgery

3.5.1 How my life will change after bariatric surgery: Future

"I want to be more active than what I am. I'm only 60 this year and I think I've got another 20 years hopefully... There's still a lot of things I want to do. One of the things is fitting in aircraft and things like that. I can't fit in an aircraft very well. The last time I went on it I had to have an expanding, an extra strap on, and we can't put you near an emergency door anymore, used to have more for leg room, they won't put you because of your weight near an emergency door because they think you'd not be out the plane quick.....So, it would be nice just to be able to get on a plane and go somewhere again because I've had some really good holidays in the past." (P10)

"A life, because at the moment I don't have a life, so yes, this I think is a thing I need to get my life going, to help me to be the person I want to be". (P12)

"My goddaughters I'm doing it for them as well, especially my little [name], because I want to be here and see her get married and everything else and so yeah, I want to do that." (P17)

"If, luckily enough if I get any grandkids I want to be able to play with them, I want to be able to do things with them. Because as my life is at the moment there's no chance, I couldn't even lift a baby up, a little toddler up." (P3)

"he's my life, and the impact of the disability on his life has been massive. It's not just me, it's him as well. So in a way I feel like it's not just a decision for me, it's a decision for us...he's kind of not going out as much and we're not going out as much". (P18)

3.5.2 How my life will change after bariatric surgery: Physical consequences of losing weight

"losing the weight. That would be able to get me more mobile, so that I can keep my joints and everything moving. It'll help my osteoporosis if I lose weight; it'll help my hyper mobility syndrome because it won't be putting as much pressure onto all my joints." (P3)

"apparently with this operation the diabetes virtually goes straight overnight, virtually, which please I hope it will. So, a lot of these things, and losing the weight as well, will affect a lot of my health. The diabetes will go, hopefully, the [sleep] apnoea will go, hopefully, a lot of these things will correct themselves so that will have a big, big effect on my life." (P10)

"My health, really, so that I can get rid of my diabetes, bring my cholesterol down, bring my blood pressure down, and I can see to my heart problem." (P2)

"That's a picture of my right knee, and at the moment that's the most painful part. I've always had trouble with my knees, but it's aggravated by the weight, and losing weight will cause the pain to be a lot better." (P1)

"The end point for me is I'm supposed to be able to walk, hopefully with minimum pain but which some tablets will be enough." (P18)

"I sit here and I think I could just do that, and then I think no. I think get that weight off I will, I'll be up and at it. And it's just, I'm hoping that it just gives me a bit more umph if you like as well, you're not just so sluggish, you do, you just, it's hard work carrying this round, you put extra what a good 15 stone more on your back and carry it around. People think you're unfit but I tell you what, you've got to be fit to carry that around. So I'm hoping when it comes off I'm still fit, and just breathe easier." (P15)

"having more energy and being able to do things what slimmer people can do, you know like go upstairs and not get out of breath, or go to the gym and think god I'm absolutely shattered. They might be shattered, yeah, but not in the way that heavy people feel shattered, you know what I mean, they might be tired because they've done a lot more, whereas a heavier person will do as much as they can and like ten minutes into it they just think I'm shattered, I can't do no more. And it's not because they've done, it's not because of the exercises they're doing, it's because movement, you know what I mean, it's not that the exercise it's hard, but it is if you're heavy." (P2)

"It would be nice just to get up and be able, oh I'll go for a walk or I'll go and play tennis for an hour tonight, so I would be able to do that." (P10)

"I'll be able to get out and about without even having to go in the car; I'll be able to walk places. Hopefully I'll be able to get on a bicycle again, because I love riding a bike." (P3)

"Hopefully, I'll be able to do more exercise, I mean because I go swimming and whatever, but I would actually like to go to a gym. I've never been to a gym, only when I was at school, and it's just at the weight I am now, I'm scared of going on something and breaking it, because obviously they'll all have a weight limit." (P6)

"And it's just being able to do more anyway, like being able to learn to drive better, because when I did my lessons my belly was in the way, so obviously once I lose that I'm going to be able to do that better, just take [P13 oldest son] swimming, just do more things, not being as limited in what I can do and instead being able to choose what I want to do. I think that's the best way of putting it." (P13)

"This is my bed. There's a few things with my bed... I like to get into bed at night and I can like, when you first get in and you relax and you read a magazine, but when you get there I'm not comfy all night. I can't remember the last time I had a long night's sleep where I didn't get disturbed or hitting with snoring, or I'll wake myself up with

the snoring it's that loud, or having to turn. So no, I'd love a good night's sleep when I can turn, I can actually turn in my bed." (P12)

"That's my bath; you think why has she took a picture of her bath? Because I find it difficult to get in and out of the bath, really really difficult. And my daughter used to have to come down for me to get in and out of bath to help, and it's embarrassing. And to get in the bath I have to sit on the back ledge and slide down holding the rails. To get out of it I have to turn over onto my front and push myself up on one leg. And it's a nightmare. But I just love having a bath rather than the shower, I just love a bath. That's why my bath's there, just like I say the weight I'm hoping is going to make it easier so I can just get in and out the bath as normal, just like a normal person, we'll see." (P9)

3.5.3 How my life will change after bariatric surgery: Psychological consequences of losing weight

"Just to feel, sorry to say the word, sexy. It would be lovely, it would be really, really nice, just to feel sexy and wanted." (P6)

"I want to be better on the eye to look at." (P11)

"I think it'll have a major impact on my life, I think it will have a major impact on my confidence, my ability to deal with life." (P1)

"Self-confidence of feeling probably like sexy or like, I know it, have you still got it? go round town you have a bit of a wink aye aye, you know, you've still got that kind of little thing going on there." (P17)

"I want to be able to look in the mirror and be happy. Because at the moment I'm not." (P1)

"I want my happiness back as well because it's as though the sparkle's gone. Everything, the blinkers have gone down now and that's it." (P7)

"I don't want to be slim, I want to be normal, I want to be healthy and that's all I want to be. I don't want no miracles....just to think that nobody is judging me or, I just want to look normal." (P5)

3.5.4 How my life will change after bariatric surgery: Social consequences of losing weight

"I think my lifestyle will completely change, I don't think I'll be stuck in this house every day of the week. I'll be out and about trying to do things." (P3)

"Well it's like, it's getting you out again, it's getting you back into a workforce, back with your colleagues, and it gives you something else to occupy your mind as well.

Because at the moment, like I say I use my computer or read a book or do a quiz book or something like that, but it's not like, I don't think it stimulates you as much as what working does, because you've got a completely different way of life. You've got your home life and then you've got your work life, and I think the two you need that adjustment of both of them I think. (P3)

"Well that's my link and my entertainment to the outside world, you know, the television like, yeah.... The computer, what do you call it, that's another link to the outside world." (P4)

3.5.5 How my life will change after bariatric surgery: Other consequences

"My lad bought me, and it just nipped, and I thought I just lost a couple of pounds and I'll fit. That's still in the wardrobe because I've never lost enough. But he doesn't know that, you know what I mean, what I'm going to do is when I do lose the weight is surprise him." (P4)

"I'm so excited about this bariatric treatment because I'm going to get into that dress, and I will get into it." (P9)

"Cardigans constantly get told by my husband to put a cardigan on, so I want to not be able to wear them. I feel comfortable but then he will say put a cardigan on, aren't you cold, and then I start thinking is it because of my arms. Is it because of my back, is it because of back fat, you know what I mean? So that's something that I want to wear cardigans for comfort and confidence not as a hiding away thing." (P17)

"Oh that's bikini. I actually don't think I'll ever be able to wear one of them, because they're skin, but it's on the agenda it'll be nice, you know." (P17)

"Oh sexy underwear only certain underwear that I feel comfortable in I wear, whereas sort of like some things I wouldn't. So that is something that I'd like to wear eventually, but again I'm worried about the skin. So that's why it's quite long as a basque, because then it'd still cover my stomach." (P17)

"it's just sometimes I think with me not having many pleasures in life sometimes the pleasures in life that I've had are a good meal. And I think to myself well I'll miss out on that, but I'm not realising that there'll be other pleasures as well that I've not yet experienced because of the size I am. So when I have lost weight I'll probably be able to find out about the other good things that there is to do rather than just sit and have a big meal anyway." (P14)

3.6 What will help me achieve success

3.6.1 Things that will help me achieve success: Environment

"Yeah, we've got a lot of things nearby, to be honest...I mean we've got supermarkets what I can go to, you know, for fresh fruit and veg and things like that" (P2)

"This is my car, if it wasn't for that I don't know what I'd do because I wouldn't be able to get out and about. So that's been a big boost to me being able to get the [motability] car." (P3)

3.6.2 Things that will help me achieve success: Networks

"I don't think my husband wanted me to have the operation. **Why do you think that is?** I think it's because he saw that there were one or two, you know, fatalities in, and he's a bit like that. But I want it, so he supports me. And he does, whatever I want to do with my health, he supports me. So I've got good support there." (P2)

"my friend who was dead against surgery at the beginning, no, not a chance, don't do it, it's the worst thing in the world, do you really understand the implications this will have and. And quite very much I don't want you to do it, because, you know, you're going to go under knife and what if, do you know how many things could go wrong and you're putting your life at danger and. So she was very negative against it at the beginning and now she's very excited and because she's seen the journey I've gone on and how much I've tried and like we had cross trainers together, so we used to phone each other at certain time, go on a cross trainer for half an hour talking as if you can ever do that while you're on a cross trainer, but, you know, things like that. And in summer we go for walks, so she's very supportive in that sense as well." (P17)

"I think they're worried that it's a major operation. But then a lot of them have known me probably seven stone lighter than I am now, they've obviously seen the highs and the lows of the weight I lose, so they see it as a good thing." (P16)

"My dad doesn't know yet, but my friends have been really supportive, really, really supportive....I do think he [dad] will be supportive. I think it'll be a shock, but I think he'll be supportive." (P1)

"So I think she thinks it could be good for her as well, because if she reduces to what I'm having as well, and eats similar to me it could have a knock on effect for her." (P15)

"I think it's that point in the journey where everybody needs to know, everybody needs to be there to support me, people need to know that my social life and my eating patterns are going to change, but, and I need the support, I need everybody's support don't I" (P16)

"I've spoken to my husband a lot more this time. A lot more of my family I've spoken to, I think last time I didn't tell my family at all about any of it, and this time my mum's got more involved." (P12)

"I've got quite a lot, obviously with [P13 husband] not working he can work around, with his studying he can work around what we need to do. Hopefully by September [P13 youngest son]'s going to be at school anyway. I've got my mum works from home, so she can schedule her work around what we need. My dad said he'll take a couple of weeks off when we first start, you know, when the surgery happens so he can do the school runs with [P13 oldest son] and stuff. My brother, if it comes to it, he teaches a lot but he doesn't, he only works at weekends, so he goes there one or two days a week. So he's got a couple of days a week that he can help out." (P13)

"That's my other half, [P16's partner]. Who doesn't eat processed foods at all, well very rare; 98% of the time he eats fresh stuff. And it's just totally different." (P16)

"everybody's in the same situation. Everybody's either been there or going to be there, and they know what you're going through." (P12)

"I'm part of a group on Facebook again, of people that have done it around Sheffield and Barnsley area." (P13)

" I'm going back to support group again next Thursday, because obviously I want to mingle and mix with these people and know if there's anything I don't know, I want to know about it." (P9)

"I'll need support from my doctor with my medications and things like that because I'm on tablet form at the moment. Before my surgery I'll need it to go to liquid form because I won't be able to digest them. So my doctor will be doing that. The dietitians and things will help me with different foods that I'll need to eat and things like that, and I think they'll check my progress of how I'm doing. So I think yeah, I think they will be there and I think they'll support me with what I'm doing." (P3)

"Regular check-ups to make sure that everything is still going to plan, because I'm a bit of a worrier thinking I'm going to end up, I'll lose it and then I'll end up putting it on and stuff like that. But obviously regular check-ups and that to make sure that you're still doing okay and that your health's fine, and to make sure that the operation is still intact." (P6)

3.6.3 Things that will help me achieve success: Commissioned weight management services

"a lot of support, mainly be email, because I've had problems getting to the appointments. But I've always had the support by email or by phone.....But they've been, it's simple things explaining like well get off the bus a bus stop early, or if you

can don't get the bus and walk, change fried crisps for baked crisps, normal lifestyle changes that you can fit into your life that aren't a diet, they aren't an exercise plan, they're just what happens." (P1)

"just being prepared and every time we talked about portion sizes, I mean now for example we've changed our plates. We used to have big square ones, now we've got little round ones, so you put less on your plate. Because that's probably been my issues, again being Italian you do big portions. So she's been putting things in there from first session that I know that I'm going to use after surgery. So it's been really good, it's not been all at once so I think it stuck a bit better because of it." (P13)

"Yes, I even spoke to the dietitian, I can't remember his name. He [dietitian] was very good and he gave me some good safe sites to go to and have a look at and read other people's stories and about the different procedures and things like that. So I've read through all those as well, and all the booklets they gave me." (P12)

"And that's got to be the best session I've ever been to for anything in my life." (P16)

"That were brilliant. If I'd had that information before, I'd have known exactly what I were going to go for. I went in thinking right, I'm having gastric, I'm going to go for the gastric band, I come out thinking right, I've put my name down for a gastric sleeve, which is completely opposite." (P2)

"what he'd had done, what it was like, and what he'd had done and what he's like now. He told you how he felt, you know, and it weren't a picnic to have, but it's well worth it in the long run. He answered any questions you've got, if he could." (P2)

3.6.4 Things that will help me achieve success: Personal motivation

"That's the gym, my gym I go to, so that's like two to three times a week, so that's my life now, and I don't expect that to change..... so that's something that is always going to be going really ongoing." (P17)

"doing more exercise, doing them two classes a week and maybe trying to get up to the park and walk round that little bit, fingers crossed. I try and push myself as much as I can." (P3)

"Oh that's my mush. I know well obviously it's preparing for surgery, because I need to start eating more mush, but it's when I cook stuff in slow cooker I cook more, so then I blend it into a soup for work next day. So that's what I do now, but it's some thing that I am going to obviously be doing, you know, when I've had it anyway and it's preparing to get like I am going to be eating this and trying new flavours and adding things in and being a bit creative. So I just think if I get into routine that it's sort of like everyday life now, when it happens it's not going to be such of a big shock, because I've got that many other things that's going to shock me with stuff I think that if I prepare." (P17)

"Blender, right I bought that ready, as soon as they told me that I could have the bariatric bypass and all about the foods and blending and that, I went out and I bought the blender ready. So that's in waiting." (P9)

"Eat what you're supposed to eat and not overeat. Chew loads of times instead of just a few and swallow it, like a dog don't chew its food, it just swallows it straightaway. Human beings do that as well. Chew it 20 times instead of once. **It's like what it says you've got to re-programme yourself (P7 husband)**. Have a drink half an hour before you have something to eat. I've got to get that into my brain. Right, I'll have my cup of tea now. I look at the clock, it's twelve o'clock, I'll have a cup of tea now and about half past I'll have a little bit of something to eat, then at one o'clock I'll have another drink so it doesn't wash it straight through." (P7)

"Yeah, afterwards I think that, I think it's a lifestyle, I think the challenge is a lifestyle change. That really is a challenge. And funnily enough when we've been out for dinner again, the other day, I was looking at the portion sizes, what they've sent you, and saying well I probably could still eat that actually, but I'll just take half of it home in a doggy bag and have it for my tea next day or something with salad. So it's in my head! It's not that I'm going to eat it....And I'm not going to say I'm not going to go out for dinner, but I'm saying that I'm approaching it from a very different angle. It's not end of the world that I can't eat a full plated meal. I'll ask for a small portion or take half of it home. I'll eat until my body says P18 you've had enough, and if I can't eat it I can't eat it, I'm not going to stop going out. And that's one of the things that I thought was quite scary about it, about your social life may never be the same again, blah, blah, blah. Well when you get older it's never the same again is it. It's how you problem solve it." (P18)

"It's not something that I've walked into thinking yeah, fix everything, because it won't fix everything. It's still me that's got to put the work in to fix it.....It'll have to change radically, because the whole point of having the procedure done is to change your diet and your exercise or lack of exercise. There's no point in having it done and then trying to eat what you were going to eat before, it won't work. You have to scale down what you were going to eat and scale up your exercise." (P1)

"I know what I've got to do and I know how to do it, it's doing it, that's the big thing for me. But if I'm sort of controlled by how much I can eat, if I can only eat a small amount then it's going to be a lot better for me to start with." (P15)

"Mr [surgeon] says, he says it's not, he says you have to work, I said I know I've got to do the work, I said, you're giving me the tools to do the job, and I'm thanking you for doing that, I said, and I will do the job, and hopefully it'll get me to where I want to be, I said and I know it will get me to where I want to be." (P11)

"Well I do understand that surgery is an aid to losing weight, and it's not the miracle cure that people sometimes think it is, because you've got to put a lot of work in and you've got to sort of like readjust your life and your lifestyle and all that sort of stuff, the eating pattern and stuff. But it's a good thing to hook onto, knowing that it is a positive step forward and there's something to grasp onto to make me motivated to do the other things as well you see. But if I had the operation and still ate and didn't cut down or didn't eat properly then, or make more of an effort it's not going to work anyway or there'll be complications." (P14)

"I know when I have that sleeve in the back of my mind it'll be well if you have any sweet stuff, it's going to ruin it" (P2)

"Oh that's a size 16 dress, something like that to be able to wear a size 16, because I've never worn a size 16, I don't know what it, you know, I looked at it and I thought I'll never fit in that ever. **Is that a motivation thing then?** Yeah, very much so." (P17)

"It's something to look back on and think I don't want to go there again, if you can understand that. **Yeah.** It's like if I could blow that photo up and put it on that wall at back, I don't think I'd eat much ever again." (P9)

"the reason why I've taken them are because really I want to keep looking at myself so that I keep getting motivated. Because I don't like how I look, and when I'm walking in town I seem to avoid passing windows and things like that where I can see my reflection. But I've got to face up to what I look like." (P14)

3.7 What will prevent me from achieving success

3.7.1 Things that will prevent me from achieving success: Environment

"I'll have a salad where he [P8 partner] won't even, he'll just look at it and say I'm not a rabbit." (P8)

" even if I try and get him onto oven chips instead of frying chips he'll still get the fryer out, and then it's me looking at his plate and his chips, and even if I have something healthy I always have to go and grab one of his chips because that's all he eats. He doesn't eat any veg whatsoever, no salad. So if I do try and cook for me more healthy, I have to cook it for myself and the kids because he'll not eat it." (P12)

"So many a time if I've got nothing in my purse to buy things I won't go and buy my veg as the first thing for me, because I'm thinking well it's only for me." (P12)

"Well it's impacted me in a way because we're quite high up, hills and things around here, so that's one thing that I can't do, I can't climb. With my walking I'm not very good at walking anyway, so I can't get round and about here." (P3)

"Because you can't walk round, I live near [name of area] not going to walk round the streets on your own." (P5)

3.7.2 Things that will prevent me from achieving success: Networks

"There's been a couple of people that have been like why, why would you want to do that, taking the easy way out." (P13)

"Yeah, he doesn't agree with the surgery, he finds it hard. **In what way does he not agree with it?** I think he just thinks it's a big permanent change, that it will probably change, or in his eyes there are changes that I could make to make a great difference." (P16)

"I keep getting told that if I lose too much weight then I'll be too skinny, I'll look ill." (P17)

"this is one of the things my partner used to say, well if you have it done we're never going to be able to go out for a drink again, we're not going to be able to go out for a meal....And he's like you're going to get oh you'll finish up all, I think he thinks I'm going to get that skinny and haggard looking." (P5)

"I think they're worried that I might have too much confidence and leave them because I've got other things to do. But that won't be the case..... they say if you start going out and about I don't know what I'll do with myself because I'll have nowhere to go" (P14)

"She's not massive but she can't get her weight off. She's about a 22, 20 isn't she, 22, and she'd love the surgery and I saw her face when I said they'd offered it me, it were, I'd love it like, but she says oh you go for it mum, but she hasn't been visiting as much since." (P7)

"we've laughed and joked about if we had lottery, if we won lottery we'd go and have a gastric band done each. She said I know but saying it and doing it is two different things." (P9)

"But living on my own also I don't eat properly because I don't cook, there's no point popping three sprouts in a pan of hot water and a carrot, because it's just not economical. So I use quick meals and quick meals aren't always the best meals." (P14)

"So yeah, that's very much for me and regardless of what happens then there's only me that did this, no-one came to me for group meeting, no-one's coming for doctor's thing, it's all me and my choice and I know it sounds daft, but I don't like myself at end, it's me that did that nobody else, so that it's my journey....but I don't want to burden anyone or put anything on anybody else. So if I go myself then it's mine isn't it? It's my ownership." (P17)

3.7.3 Things that will prevent me from achieving success: Fear

"I'm very scared, because what if my expectation is too high; what if my body shape is something that I don't like anymore because of the skin and various other things. I'm worried that I won't be attractive anymore to my husband..... I'm also very worried about what I'm going to look like and how the people will look at me in that sense, which I've never really bothered about before, and what implications that could have." (P17)

"I can't envisage what I'm going to look like. Because I've been big for that long, I can't envisage myself being smaller".

"I'm scared that I'm going to lose the people around me because I'm going to look so different and they're not going to like me."

"I just think that once I've lost the weight I'm going to be so scared of putting it back on that I'm going to be constantly weighing just in case." (P17)

3.7.4 Things that will prevent me from achieving success: Practicalities of the weight management service

"Well you're supposed to go every week, every fortnight, but if you cancel one, say like you can't make it, to get back in you've got to wait so long....They rearrange it but they rearrange it for like 13 weeks' time when they've got a slot. And that really does, it does knock you back because a couple of times it's happened to me now and I've lost weight and then when I've gone back they've gone oh you've only lost a pound. But I'm doing the same as I was doing first time and obviously something's not worked, but because it's been that long you're not putting it right early enough." (P15)

"It's not long enough. People who've got a smoking or a drinking problem or a drug problem get longer than that, and you know, and weight is an issue. And it is an illness. It's more of an issue and an illness now than the other three put together, to be honest with you. You know, and if people don't get help and right, pointed in the right direction and continue, you know." (P11)

"I've got to go there, and a lot of the time I can't get out because of my ankles and my legs swell up, and they don't lay on facilities to take me to these places. In fact, even to get to the hospital now they don't always lay on an ambulance for me, so I have to get taxis which is very difficult. I've got limited income as well, so that makes it very difficult as well." (P14)

"I've found exercise really good, going swimming, but it's time to go, it's like when it's, when baths is open for adults only it's, like I'm working because they've changed my shifts since then, and it's expensive as well. When it was £1.50 it was all right, and then once that finished it's expensive." (P5)

3.7.5 Things that will prevent me from achieving success: Expectations of change

"I want to lose ten stone at least, that'll take me down to about 16 stone. I want to be nice and, not athletic because I'll never be at my age now, but it would be nice just to get up and be able, oh I'll go for a walk or I'll go and play tennis for an hour tonight, so I would be able to do that." (P10)

"they say you lose 75% within two years or in one year with some of them don't they, that's my expectation." (P16)

"Well I think that I've got to be a BMI of about 25 minimum, but I don't know what that looks like yet, no one's told me what my BMI's going to look like, am I going to be, I don't know, nine stone, I don't know whether I'm going to be a size 10, I don't know. I don't feel like a size 10, I don't think I was built for a size 10 to be fair, but I don't know, it's an unknown to me." (P18)

"I might go through it all and then I'll be looking even more uglier because of all the loose skin that comes with rapid weight loss. And that's now making me think about should I really have it done, is it better to look fat than look ragged afterwards with all skin hanging from every part of your body and looking even more gross....it's just the terrible thought of looking so bad. I mean people say it doesn't matter because nobody will really see, you've got your clothes, but I'll see me, you know what I mean." (P14)

"I had thought about it [excess skin] yeah, I think it will be a problem, but I don't think it's, health-wise it's not going to be a bigger problem as my weight is." (P16)

"It is what it is isn't it, you can either, we're never going to be perfect are we, you can either be a fat git and fit your skin or have a few extra wrinkles and do the best with it." (P15)

"I'm hoping it's, you know, overhang's not, still going to affect as much my lichen sclerosis, but if it does, we can always, what you call, put that forward at a later time and just see what's what, whether it is proving to be medical grounds. Because if that's still overhanging, I've still got that, what you call, thrush and crap going down there, which does irritate the lichen sclerosis quite a lot, but you don't know." (P11)

"I don't know, maybe a year, two years down the line, whether or not if all that excess skin will get me down and then may have to go back and have more surgery, I don't know, but that would depend on what my doctors said and how much of it there is. So that's another issue for later on. But I'll try and do everything I possibly can to minimise that." (P3)

"And I know there's been a scheme anyway that after weight loss surgery they get your BMI under 30 and keep it there for two years or more they can apply for funding

to get the tummy tuck. But I do also know they are cutting funding everywhere so I don't know if it's still going to be available then, but that's where I've got the idea of keeping it under 30 because if I do want to go for it again I would maybe then have the choice." (P13)

"there will be negatives, but at the moment I'm trying not to think about them." (P1)

"So I am trying to think ahead, but at the moment I think I'm thinking ahead up until when I'm in the normal food stage, so I've not really thought too much ahead from there, because I'm still here now so why would I think about too much, well not plan at least too much from there. Because I know that it's going to affect the rest of my life anyway, so yeah." (P13)

"I'm not focusing on this big weight surgery thing, I'm just not seeing it that way. I'm seeing it as a solution to a problem. I'm seeing it as a solution to a health problem, like you go and have your tonsils out." (P18)

"they said that your taste buds might alter when you've had your surgery. So I'm hoping my taste buds change to not wanting sweet stuff." (P2)

"there's a message isn't there? Yeah, so obviously the portion sizes are going to be smaller because your stomach can't take it, and if you try and eat you'll be vomiting or going to the toilet the other way. And I need the messages. I'm quietly confident that I can eat healthily because I can, but I just, I need to have that message that you've had enough." (P18)

After my surgery my expectation I think really is that I will at least get some messages at some point, I will not soak as many calories up, for some reason my body likes calories. I think the mere fact that I've done it I think sends a message to me as well. The outcome that I want is the driver, so I think for me, I think the surgery maybe it's something that I ought to have done when I was younger. Because it's never been right has it, think about it, from eight years old it's never been right. I was eight stone at eight years old. (P18)

"And hopefully they'll do the bypass, that's what I would prefer, rather than the staples or the gastric band, you know what I mean. **Yeah and why would you prefer a bypass do you think?** I'm an all or nothing person. I always have been, haven't I, you know what I mean. I either want the bag of sweets or I don't want a sweet." (P4)

"I wanted the band until I heard stories of it slipping and slipping and slipping and then being removed and starting again. And then I was going for the sleeve until I saw one woman and she'd put a couple of stone on, and then I realised well your stomach can still stretch, the sleeves are just slicing it down, but you've still got full length of your stomach to stretch again. And I thought no, you can't go through all that to put two or

three stone back on. And then after that I realised with the bypass you've got the small pouch at the top, so you can't eat as much anyway, so if you were to eat a little too much then you're not going to put that much on because it won't let you will it. So I've looked at it as a more permanent reaction to something that was quite drastic, you don't want to go through something drastic for a waste of time do you, it's got to be something permanent if you're going through all that. That's why, you can't go through all that and then go and put it all put it all back on, or put a little bit of it back on, it's a no no. It's like somebody's given you a chance of a second life." (P9)

Chapter 4: Three months post-surgery

4.1 How my life has changed after bariatric surgery

4.1.1 How my life has changed after bariatric surgery: Experience immediately post-surgery

"I think I got more positivity and understood it more because of where I had the op....Whereas I think if it'd been in a main hospital, because of all the other things going on in the ward and they're busy, and you start to take bits in and you think ooh I forgot that bit, I'll ask them. And because of that you think oh I'll not disturb them, because they're going to see so and so. **So you felt like you'd got some more time...** Yeah, I could like to say to her I didn't understand that bit, could you tell me that bit again? And somebody would come and talk to me. I felt as though I wasn't interrupting them as much, you know, I'd got more one-to-one as you might say, a lot more one-to-one." (P11)

"Yeah, absolutely brilliant yeah, no problem. I was up out of bed the same day, they got me straight up and I was walking and everything." (P3)

"Do you know they say it's a really hard operation, possibly life threatening, and I found it the easiest operation I've ever had. I got up the same day, I was walking about..... I felt quite normal, even though I had this leaky drain put in and it leaked after they removed it. To me it was still, I had no pain from it, no pain at all. My gall bladder were worse than that, I had mega pain with that, I couldn't lift myself off of bed. But this I got up straightaway, no problems. It weren't half as bad as what I expected, weren't even a quarter as bad." (P9)

"To be quite honest I had more pain when I had my big toenail removed, seriously. I could have quite easily thought someone had hypnotised me and not actually done it, because there was no pain at all really." (P15)

4.1.2 How my life has changed after bariatric surgery: Physical consequences of the surgery and losing weight

"I mean for me the surgery itself, even though there were complications, it's just been a positive experience because there's like, as corny as it sounds, the first day of the rest of your life. " (P??)

"They made me have a month off, but I wanted to go back, I was happy with a fortnight, I wanted to go back after a fortnight, but [nurse specialist] wouldn't let me, have a month. So I did gardening. I reshaped all back garden, done garden like, knocked brick walls down and all sorts." (P15)

"I feel more active, I want to do more. Like today my husband says we'll paint fence, I'll paint it, so I said oh well I'll give you an hand, and I've painted like two panels this morning, whereas before I'd have thought oh no I can't manage that let him do it, you know what I mean? I want to do things before my surgery and I think oh no I'm going to be too exhausted for that. Whereas now I think oh yeah I'll have a go at that." (P2)

"That's the bus, first time on the bus in two years I got on, so that was quite an interesting journey in because I've not travelled by public transport much, I'd use the car because of my mobility and for me to walk to the bus stop at the end of all them two rows, I wouldn't have been able to, but I've actually done that now, I've actually been on a bus today." (P18)

"done some gardening..... I never used to do anything like that before." (P13)

"That's the garden, because we do quite a lot of things in there, and me and the boys will play. We play football quite a lot." (P8) quote included in picture appendices

"Right, I've joined gym, I swim, aquafit and spa at the Dome, so that is me this morning having my morning swim. I go four days a week. Last time I tried swimming I couldn't walk for three weeks afterwards..... And that's just me doing something that I couldn't do three months ago." (P9)

"Yes, I try and go three or four times a week. I do different things, I do aqua Zumba on a Tuesday, Wednesdays I do Zumba with weights and then I try and fit a swim in or and the gym session as well round the week, so I try and do all of them. **So how are you finding doing all that then?** I really enjoy it." (P12)

"Crossing the legs. I can do that and I do that a lot more often than before and it is a lot more comfortable than it has been. So where I'd never do it, now I can." (P17)

"I've done it more for me than aught else. It's like yeah, I can do my shoes up. Yeah, I can do all sorts. I can weed garden now, you know, before to get down on floor like a beach whale, you know what I mean, rocking and rolling for five minutes to get up. Yeah, sleeping a lot better you know what I mean, everything's a lot." (P15)

"The main thing is being able to get washed and dressed. I think that is one of the biggest things that I used to struggle with. And now being able to just move about freely as well, I think that's one of the main things. I think because having to rely on everybody to do everything for me and I think it just, I think it grinds you down a bit. I think when it's gone on for like three and four years, I think it just gives you a new lease of life and I don't know, I can't explain it, it's just amazing. Not having to rely on somebody to wash you and dress you, and being able to do it yourself. The first time I got dressed myself properly it were like god, it was as if a big weight had been lifted off me because I thought I haven't got to rely on anybody." (P3)

"Yeah, toilet, no problems now. I see to myself properly in the shower, I give myself a good scrub up. Before I were having to shout, will somebody just come and do my back or whatever like, you know, and help me with this, that and the other. I fell out of the shower more times. And it's nice to get this independence back. Some people who have always had it don't know what you're talking about. But when you've got weight on, you cannot bend over to put your own shoes on, without huffing, puffing, panting and nearly collapsing, and having somebody get down on their knees to put your shoes on, I think is degrading, when you're capable of doing it yourself." (P7)

"My own health particularly itself, that's improved. I don't get as much pain in my joints, I don't get as breathless, I don't have as many pains all over my body" (P2)

"My heart medication might be when I've been to cardiologist to see. They're also doing test for my cholesterol and my thyroid glands. My cholesterol was really high before I had operation, and they're just wondering whether or not my thyroid glands have gone back to normal, if they've levelled out." (P2)

"I don't feel tired at work, so that's fine. Of course that might have been part of the sleep apnoea as well, but I'm a lot more active at work." (P10)

"Food stages fine, no problem. **So your sloppy food and everything?** Sloppy food, went through that, and then you're on to your savouries and then you're on to, I'm on normal eating now." (P10)

"I've struggled with food and things like that, I wouldn't ever say it's not worth it. Because if you persevere, I had to go back onto the pureed diet after six weeks because my stomach weren't tolerating any food. So I went onto liquid and then puree, and I finally got up to now I think I'm 14 weeks post op now and I can start and have little bits of ham with tomatoes and cucumbers, and I'm fine with that, I can tolerate it now." (P3)

"I'm eating because I have to. Now I eat because I have to because it's a necessity. I need energy. I need to survive. It's not before where it were all pleasure." (P17)

"The operation's helped me a great deal. **What's it helped with though?** Because the hunger's not there, your hunger just goes away. So you're not feeling hungry although you think oh I've got a hunger I've got to fight that; you don't have it with this op. I don't know if other people have said it, but the hunger disappears." (P10)

"Yeah, but I do feel better because I'm not stodging myself out. Because before I'd eat, whatever were in front of me, I would eat it, feel sick and then start crying because I'd eaten it, oh I shouldn't have ate that, no wonder I'm fat, and this, that and the other, and then I'd go back and eat some more because I were upset, whereas now I cannot physically do it, and I think that's a plus sign, that's got to be." (P7)

"I think what's different about dieting to this surgery is that you've got, you can break it, you can break the diet. **Right yeah.** This you really can't! **Or you'll get poorly.** Or you'll get poorly and I don't like being sick and I don't like feeling horrible, so that's a very different approach to it." (P18)

"Really I do like my veg, I've found I'm liking my vega lot more" (P11)

"Teatime I had a salad, which now I'm really enjoying salads, especially if I slice tomato up thin. I've never ate tomatoes in my life, I don't like them, but now suddenly I do." (P9)

"I would say the tools there 60% of the time, the motivation is 40%, but the tool's there, because he says your tummy's only that big, he says and if you eat too much it might rupture it, it could thingy or it like blows out, you know what I mean?" (P11)

"Yeah I've got diverticulitis. Yeah my irritable bowel syndrome has been horrendous. It's been worse now than it ever has been. **And did you expect that?** No I thought it would be loads better. I thought you'd hardly have it because you're hardly eating. And my diverticulitis I weren't having a problem because you're hardly eating anything. No it's worse than it's ever been." (P17)

"These are the medications I'm still on. So I'm still on tramadol, lansoprazole, that's my vitamin and my paracetamol. So obviously I will have to take my vitamins forever, which I know that anyway. I've had my B12 injection which killed and apparently it don't get any easier. It stings like hell when it goes in. and hopefully the other three I'll come off but seeing it's now three months on and I'm still taking tramadol and paracetamol, it's quite upsetting really, because I don't want to be." (P17)

"I had some, I just had two sausages and three new potatoes as the vegetable, and after about half-an-hour I felt sick as a dog. So I just go and bring it back, bit back and then fine again. **So you're being sick quite a bit then?** Well not a bit no, perhaps once a week if I overdo it. I know what I'm having now but I still, you're still experimenting. You're thinking can I eat that?" (P10)

"It's just every now and again you just eat something that just don't go down properly, and then it's a nightmare to get it back up. **Right, what do you mean, as in being sick?** Well it does eventually, you are sick eventually, there's just no control with it, but you can't get any fluids down to like try and force it out, because it's blocked. Because you can't get out underneath it. So you've just got to wait for it, bit like a volcano. Just wait for it to go off on its own.....it's painful, oh it is painful." (P15)

"I tell you what's one of the hardest things if you're thirsty you can't quench that thirst because we can't gulp. Can you imagine if you can't quench that thirst? It's like a vampire for blood you can't quench it." (P18)

"And I do feel all I do is eat, drink, eat, drink, eat, drink, and I have to tell myself to eat and drink which before I never did." (P17)

"At minute it's been easy because I haven't been able to eat properly, so it's like just sort of coming off because I'm not eating. But once I get that sorted then I'm going to have to sort of work at it a bit. Up to now I haven't really, because I ate that much before it was just like cutting down was enough, but I know it's going to have to go quite strict eventually." (P15)

"I've recently been to cardiologist and I can't do any exercise, extreme exercise yet, because of my angina." (P2)

"I were thinking about trying gym but I don't know. I did gym once before and that bugged my knees up, so I think I need to lose a few more stone before I even thought about gym." (P5)

4.1.3 How my life has changed after bariatric surgery: Psychological consequences of the surgery and losing weight

"I feel I've changed my whole personality, my whole self, I'm getting back now with my confidence to how I used to be." (P9)

"Whereas before I didn't want anybody to notice me; now I'm quite willing to talk to people and not like be in shadow." (P2)

"He's got more confidence, definitely more confidence. He wouldn't go out this room. He wouldn't go to the gate. You know, he wouldn't talk to anybody at the gate or anything like that because he just thought everybody was, you know, looking at him and saying how fat he was and that. They weren't but that's how he thought. But now, you know, he goes round garden centres and comes to the supermarket." (P4)

"Because now I think well I'll go out, before I'd have been oh god, if you'd have put me in a swimsuit like when I've been in Turkey on holiday, my daughter's private pool, I put my cozy on and I've gone in, but no way would I have gone down beach or in hotel pool, I'd have been so conscious. In fact if I have done it and sunbathed with a

costume on and got in water, I've had a sarong round, a longish sarong, and I've gone in the water with a sarong on rather than show my bum and my hips and my fat. I have honestly yeah, now I just get my cozy on and go and get in pool, if you don't like what you see look the other way." (P9)

"I don't have a jumper on in that either, because I would have had a big cardigan covering my arms and everything up. I've got big arms, but I'm not that bothered anymore because if somebody asks anything I'm like well, I'm on my way, getting better." (P13)

"It was nice for people to stop and turn round because they didn't realise it was me, and then asking nice questions." (P12)

"It is, it gives you a lift. It is, instead of somebody looking and you're thinking oh I bet her's thinking she's fat, look at the state of her, and you're thinking oh breathe in while you're going passed them." (P9)

"But you see I don't feel any different, and now when I look at pictures I still think I'm as big as what I were. **But you're not.** But the scales are saying I'm not. My dress clothes are saying I'm not. But I look at mirror I see exactly the same thing." (P17)

"It's got to sink in. It takes a long time for it to sink in that you are actually losing the weight. Everybody says, you know, not every day, but like I said I don't see some people for a couple of weeks and I bump into them oh I can tell you've lost some more and whatever, and I think oh thanks and it's like okay. You sort of like have to re-examine yourself sort of like thing in mirror and think yeah you aren't you, do you know what I mean?" (P6)

"I say my psyche has not quite caught up with the size I am at the moment. If you lose it slowly it would, wouldn't it, but it's just so fast." (P18)

"I was like what I was seeing and it's just obviously I've got to get it into my head that I am actually losing it. I can see it in my clothes and stuff, but it's just trying to get it into your brain that you're losing weight, which is the hardest part; it's the self-recognition of losing the weight." (P6)

"That's my paranoia picture because I think everyone's looking at me. So that's me, but it's in my head, I know it's in my head, but I still feel like all these eyes are looking at me and it's like argh. But you didn't think... I couldn't give a monkey's before. So do why you think that? No. I mean like I spoke to my manager about it and she said it's because you've not told people. If you tell people you won't be bothered because you're not keeping any secrets and you will know about it and that's why." (P17)

"the problem I've got now is people are looking at me thinking how has she done this, and a lot of people, some people know, some mums know that I've had surgery but

some don't. So now I look as if to say they're thinking what has she done or that's her who's had, and then that's probably in my head a bit now when I go to school." (P12)

"I didn't really want to go out thinking I am some way any different because I'm a person that's had weight loss surgery. I wanted to make it as normal for me as normal and I think it's finding that normality." (P18)

"And that's really what it's about. I think, like you said, some operation, you'll get fit, off you go, and your life resumes normally. This doesn't. **No.** It doesn't. **No, it's changing.** You don't resume to previous normal. It's not like having a broken leg and taking the plaster off, you can walk down the streets, it's not like that, it really isn't and that is the curveball." (P17)

"I think it's not realising that I'm actually not dependant on all that stuff. When you're addicted to food it's really hard because it is something you need to live on so you still have to eat it. It's not like alcoholism or smoking or anything like that because you don't need those things to live but food, you do need to eat to live. And it's just learning how to manage it and learning that you're actually managing the food; the food's not managing you." (P13)

"I did have a couple of weeks where I was literally crying for hours because I couldn't eat....but now thinking back I don't think I knew what that really was. I just interpreted it as being hungry. Every time I was upset I used to go and eat before the surgery. I was very big on emotional eating. So obviously if I was feeling emotional about missing the food my obvious thought was go and get something, you know, you must need it. Not being able to do that, it was like having a war inside my head. It took a couple of weeks to get over that." (P13)

"I think there was a point about eight weeks after it that I thought, I wish I'd never done this, and I think it was because I was struggling with the eating and I can remember my husband saying let's go out, I says why, I can't eat, I can't drink, I can't do anything." (P18)

"And I don't care how much I lose as long as I keep losing it and I don't put it back on. I'm just scared, even though I know, well I can put it back on but I'm just scared that I'll just go backwards." (P12)

"I'm 58. You know, who's going to see me without any clothes on apart from him, and if he don't like it, sod off. No, I wouldn't ever ask for surgery. I just thank my lucky stars that they did me this. I'm going to have a big saggy belly. I've got a big saggy belly hanging down there before, so it's got to be the, just wear pulling pants don't I." (P5)

"To be honest with you everything seems to be sort of like tightening in, apart from my stomach. I'm worried a little bit about my stomach. I've still got my mother's apron, but I'm thinking that say if I join gym maybe that'll hopefully go. But I've had it for a long time. But I can feel stuff tightening and whatever, so I'm hoping." (P6)

4.1.4 How my life has changed after bariatric surgery: Social consequences of the surgery and losing weight

"I go in a restaurant, you can look how much I've got on my plate, I don't care, because you've got hell of a lot more than me on yours. And that's how I feel about it all now, and it's totally changed me. Where before I'd be conscious of what I put on my plate and everybody looking at me and thinking oh look at her, and now it's me thinking oh look at them. Or I'll see a big woman and I'll think oh poor woman, somebody ought to mention bariatric to her." (P9)

"It's literally just [youngest son], I'm able to do so much more with him, and it's bringing so much more out of him, and it's just changing so many things. **For the whole family?** For the whole family, yeah. **What kind of things can you do now that you couldn't do before?** I'm more confident taking him out, because I take him to nursery now as well. And it's not just in taxis; I have tried to get on the tram with him as well. I'm more confident that if he does get away from me I can run after him, rather than before I would not even entertain the idea of getting on public transport with him. Just in general, we're doing a lot more with him..... He's just so much happier that I'm able to do things with him. Like I played football with him last week in the garden, and he was just looking at me going mummy you're supposed to be sat down, you're not supposed to be stood up with us. But then obviously he was happy that I did. So he's noticing it, and we're taking them for walks and stuff and that didn't used to happen. Everybody just seems a lot happier with things like that." (P13)

"I think, what do you call it, our like [granddaughter] and [grandson], that's our [son's] two, they've been used to me since the day they were born, but the others only see me once a fortnight or something like that. They [grandchildren] know their other grandparents more than they know me and [P4 wife], you know, but since this, they've got better haven't they really and I mean, you know, I suppose when they've come in the past all they've seen is a big fat man sat... **Or lying on that settee asleep. Or sitting there and nodding.**(P4 Wife) When they come down now I'm usually in the garden like you know. (P4)

"So that's the pub that we've actually more recently started walking to on an evening, sit outside, had a couple of cups of coffee and that's really linked into the social thing that some of the strategies I've been putting in to try and not to be as normal as possible but it is quite challenging to be fair, but we have done it, we have walked to that pub and we've actually been out into public life and that's lovely." (P18)

"So did you enjoy your night out with your friends then? It was hard because it I can't have fizzy pop. And I didn't drink any beer because I knew that I would be sick. Tried that before I had half a Carling and it, oh, just sick as, no. It's dilute pop once again. Very very very very very very dilute pop. It's got to be very weak. **But did you enjoy going out with your friends?** I did enjoy it but they were all drinking and I was on this dilute pop thing." (P8)

"I think what's strange about the operation is the fact is that outwardly you're no different but you know inside something strange has happened, it's not the same, so when we went out, I think when people look at you generally they wouldn't think that she's had surgery to modify her eating, they wouldn't suggest that. **No.** Yeah, I think the bar people would think it weird that my husband's saying, can I have tap water because I'd had this sparkling with a bit of dash in and they're thinking it's mad, but I think my husband just said, well, she doesn't drink, so I didn't make it an issue that I've had an operation, it wasn't anything like that, but I think it's how you feel when you go out, so when I went out I'm conscious that I can't just say, I'll have a vodka and diet Coke because I can't have the Coke because it's fizzy." (P18)

"The whole changing your eating culture, on a private level, in the private realm, in the public realm, in the family realm, vastly, and I vastly underestimated other people's response to it, like my family didn't want to eat in front of me and it was kindness but it made me feel even more odd!" (P18)

"They offered me a job as a private banking manager which I'd love to do, but I won't do it yet, and when their area manager asked me last week he said why won't you do it [P16], you can do those jobs. I said, I know I can, but I told him about my op and he said well you can tell you've lost a lot of weight and you've changed, but he says but why is that stopping you now? I said because I need to get a little bit further into my journey. I don't want to wear an [bank name] suit, I want to wear a nice suit. So if I were a private banking manager wages then I'll do it, but when I feel confident enough. So hopefully towards the end of the year I'll definitely start applying." (P16)

4.1.5 How my life has changed after bariatric surgery: Other consequences of the surgery and losing weight

"Oh yeah, that's the big buzz. Oh no. Yeah, it is because like last New Year's Eve we didn't go out, because basically I had nothing to fit me and I just no, I'm not going in jeans and a t-shirt. So we didn't go, but like now we'll go to Tesco's and she'll say oh look at this t-shirt and I'll go oh yeah, I'll have that, chuck it in trolley, yeah. I could shop at Tesco's." (P15)

"I don't look at baggy things anymore. You know what have got sleeves in up to neck, I don't look for anything like that. Now I look for something, like it's hot, t-shirt, you know, things like that, what's going to be cool." (P2)

"That's one of the pictures, I'm wearing my hair down, I've got my makeup on, I've got a nose stud in and everything." (P13)

"this were the dress that obviously I couldn't get into at all and I think there's one of the back. Here's side. I think there's one at the back as well. As you can see, I can't even get it up, whereas now I were pulling it up all night." (P17)

Negative consequences of weight loss linked to changed body shape, were starting to emerge as early as three months post-surgery. Different areas of the body were singled out. Female participants reported changes to their breasts and that excess skin was emerging on their arms and legs.

"Well I'm still like 19 stone. So there's still a good bit to go. I don't know if I get another five stone off I suppose I'll be happy." (P15)

"Somebody said to me yesterday what would your ideal weight be, I said I haven't got an ideal weight. I don't want to be, I don't want to have that as an overall goal. As long as I feel healthy enough, as long as I can keep mobile, as long as I can go out and walk to shop properly without hurting and things like that, I don't mind. I have got an overall goal that I want to do, and that's before New Year's Eve 2014, because that's my wedding day. So I want to get into a nice dress. **Brilliant.** And I said if I can get a 14/16 wedding dress I'd be happy. I've gone down from a size 26 to a size 20 within three months, so that is amazing just in that three months. So if I can get down another two dress sizes then I would be happy." (P3)

4.2. Things that are helping me to achieve success

4.2.1 Things that are helping me to achieve success: Networks

"we phone each other like we help each other out. She'll ask me what sort of foods are you having, soft foods, what sort of foods do you tolerate? I can't tolerate meat but she can. I can't tolerate any sort of meat whatsoever I just end up being sick with it. She can tolerate cheese where I can't. So everybody's different. **Is it nice having that?** Oh yes I mean I said to her, we've become really really close. It just helps each other out, if you know that someone is going through the same thing as what you're going through." (P8)

"Yeah, because, daft questions you can ask them, what you'd feel daft asking anybody else, you know. Like, you know, just a bit of moral support." (P5)

"I went out for a meal with some friends, we'd all had weight loss surgery, been a brilliant support, don't know what I'd do without them. And they had, so we had, well we had two starters between five of us." (P5)

"I've got my friend out of it who we've gone out for nights out with them and she's passed all her bigger clothes onto me. It's like I've bought a few things but like I'm getting all these clothes now, and I think well until I get to where I want, and like I pass her anything I can, and she's got another friend who she's having it done so now we're bagging everything up as it gets too big to send to her. **That's lovely.** It's like a clothes recycle, only if they're decent you know what I mean, but I mean I'd got things on I'd never ever worn, still with labels on. It's a way of doing it isn't it? **Absolutely.** Bariatric swap shop." (P9)

"A lot of them who kept saying to me don't do it, all the risks, really don't want you to do it, all the problems, have now, I mean I've not had a lot of problems compared to some people that have had the surgery, but you have your ups and downs as you go along. ... And now said now it's been like the three months that they realise it was the right decision and it's the best thing for me, now looking at me now." (P12)

"my daughter's been doing it..... I mean she's been doing Slim Fast, but she's been having a proper meal at teatime, or she's been choosing to have the proper meal at teatime or the proper meal at lunchtime, and she's been looking at what's on my sheet, you know, the weight loss sheet what you can have and things, and she's lost four stone. **Oh wow.** Since I came out of hospital and had surgery she's been doing it with me. **Fantastic, so has that been a good support for you then? Very.**" (P11)

"Because I think if you didn't have that preparation you wouldn't know what on earth were happening to you." (P3)

"I mean I've got number for nurse and dietitian, I can phone them any time Monday to Friday if I've got any questions and they're willing to help me. They'll tell me yes you can have that or no you can't but there is so and so, you know, what's equivalent to it. So I always know that they're only a phone call away. **Have you had to use them then or ring...?** Oh yeah, I've used them quite often." (P2)

"if you do have any problems they're always on the phone, the dietitian or the nurse, they are absolutely amazing. They're there to support you no matter what, but yeah there is a very good support network." (P3)

"Yeah. I've actually been on the phone to her a couple of times, and she keeps apologising that she can't make an appointment for me because I'm not on the Weigh Ahead books anymore. We've been on the phone a couple of times and she's actually settled some of the issues that I had in my head.....Obviously with [weight ahead dietitian] as well going through the Weigh Ahead thing and actually starting to see some results which I've not had before, it kind of made it easier for me to talk to her about things like that.....it feels more personal with her, so easy to ask her." (P13)

4.2.2 Things that are helping me to achieve success: Behaviour change

"Yeah, and then there's my favourite, that's my favourite, rowing machine, because that it seems to ease my leg and it's pulling my arms, it's just a nice glide and it's like rocking on your knee. And I get off that and I'm like not bad at all for walking. At one time I couldn't have got up off of that, even though it's so far down. It does take me a bit, sometimes I have to lean onto top bit, but I do it." (P9)

"I think that's why I like aqua Zumba so much because it's a lot more bigger women that go to aqua Zumba rather than go to Zumba. And when you're underwater people can't see what you're doing so you jump around a lot more." (P12)

"And I've never joined a gym before in my life, never thought I would like it, but I keep thinking with me losing the weight I have to keep up with the gym so I don't get all the saggy skin, and it'll help me with my weight loss." (P12)

"But I'm not prepared to stay off it [exercise bike] for that pain, because I know that I can do more than what I could do three months ago." (P9)

"that's just me walking, well not me, it's a picture of somebody walking, just because I've got into walking a lot more and I can walk a lot further. Before when I walked anywhere, once I got tired or had enough that were it, but now I think the tiredness and the aching is helping my body because it's obviously pushing myself." (P12)

"I'm going to try and start and go to the gym now. And try and build that up. So that's my next option." (P3)

"I'm waiting for, well, the end of June I've applied for swimming lessons. I've never been able to swim." (P4)

"I've been negotiating with my friend to go and start the Zumba. That's like a poster of the Zumba, which that's my next objective I've set now. I'll be starting in three weeks' time, so I'm psyching up for that. Never considered it, I couldn't do it two years ago, it wouldn't have been on my radar, so that's another objective that I've set, to do that. So I'm really excited about that one." (P18) "I am looking just at food so differently and portion size. I don't really want to sit there with a big plate, eating food. I know it sounds crazy. I set out on my little plate things that I want to eat on my little tea plate. I never really finish a full tea plate, sometimes I can, sometimes I can't, but I don't think it's an issue and I have my fruit and I might just eat it over an hour and it's just a different approach to food." (P18)

"I'm looking at things what I'm eating now. I'm making a mental note of what things I'm eating now." (P11)

"I'll buy a scone and instead of buying two scones I buy one scone with butter, not butter, margarine, because I don't like butter, and I'll put it on. And I cut it in half, and

then I cut it in half again and I'll have one half, but I cut it into three bite sizes and I've had enough. I'm happy with that, I've had enough, you know. Sometimes I don't want one or I'll have a wafer biscuit or rice cakes, they sell rice cakes and I'll have either a rice cake and I'll take others home with me and they'll last me about two, three, four days sometimes." (P11)

"I'd go out on my own to say Meadowhall or somewhere like that, and I couldn't go anywhere without having a drink and a bun. I'd never think of going and just having a cup of coffee. But now if I do go that's all I have just a black coffee." (P2)

"So sometimes if the kids are having a KFC and you fancy it, I can make mine a healthy way. And that's the way I've got to think in my head now is I'm not going to miss out on something all my life, I've just got to think of something I want the healthy way." (P12)

"Cheese, got to keep having cheese, protein, things like that at all times, so I've got to be very aware of that. **Is that something you'd have a lot of before?** No not really because cheese to me is fattening. **Yeah I suppose when you've been thinking about dieting and stuff it feels like a contradiction.** Yeah if you're dieting it's like whoa hang on, yeah, don't have that, yeah definitely. I wouldn't have had cheese before." (P17)

"Eggs, again protein." (P17)

"So Quorn is a new thing. Never ate Quorn before, full of protein, got to keep eating it. **And how are you finding that?** I don't mind. I don't mind Quorn actually. **I think people have mentioned Quorn actually. Sounds like they-** Yeah I've had it before but I wouldn't purposely go out and buy it, whereas now if it's on offer or whatever I will buy it and think oh I'll do something with that because it's better for me. So I'm very aware now that I need to be having protein in my food. So like when I'm going out and feeling tired and I say I need some fish or chicken." (P17)

"Fruit, veg and my proteins. I have to be very aware of what I'm trying to have and not having too many carbohydrates because it's just going to bung me up, so less pasta and more of that stuff. So I'm a lot more aware of that now. Not saying I always make the right choice, but I am more aware of it." (P17)

4.2.3 Things that are helping me to achieve success: Drivers of personal motivation

"when they measured me last time I'd lost four inches off my neck, which I think will help my sleep apnoea because that's in my throat, so that's four inches gone off that. And last time there were eight inches off the waist." (P10)

"I want to save some [clothes]. I've saved them jeans. I've saved them jeans and I've saved those bras. I didn't realise how much I'd changed." (P16)

"Because it's hard to see it in different clothes. So I wanted to try and keep with like the black dress. I didn't think it would be hanging off me by now. I thought there were going to be a stage where I could take that through this research with us, but I can't because it's already too big. But I've still got it. I can't bin it." (P17)

"Yeah, I think in a way then I'm probably glad I have had it once to experience it [from medication], so now I think no I'm not going to have it. But because I would have probably tried to cross the boundary or tried, because I don't know what it was like." (P12)

"And I don't care how much I lose as long as I keep losing it and I don't put it back on. I'm just scared, even though I know, well I can put it back on but I'm just scared that I'll just go backwards." (P12)

"I think deep down I think it's you yourself that needs to get your head around it. Because it's you that's going through it all. I know you do need that support but it's yourself I think that's got to be, got to have that mind set. Because you do have to go through a lot, and if you're not fully focused on it then I can't see it working." (P3)

"they're giving you a tool and that tool is the operation, I says and that tool won't work on its own unless you work with that tool. When you work against that tool or you don't use that tool I says you're going to go back to where you were I says and you're going to be here in six, seven years' time, you know, you're going to be back at it. I says you've got to be in right mind." (P11)

"If you've not tried a diet and you think oh surgery is going to fix you, it don't, it's got to be you that's going to fix you! So it's going to be you that's got to put the hard work in. The hospital has done their job; you've got to do yours." (P8)

"Because I know this is my one last chance and I don't want to undo surgery. It's cost a lot of money, and I've gone through a lot of angst and time and effort to get it, and [surgeon] given up his time to do this operation for me and do it well for me, why should I undo all that?" (P11)

"And everybody you speak to will say oh yeah they lost 11 stone, 12 stone, but they've put 5 stone back on. So I'm sort of quite cautious, because I think like everybody I know that's had it done has put weight back on. So I'm sort of determined I'm not going to put it back on if you know what I mean?" (P15)

"Well I'm sure it'll be easier to—I've heard of lots of people who've put it back on. I haven't put myself through this to put it back on. There's no way I'm going to, if I'd let that happen." (P5)

"Yeah and I do feel sorry for them. See some people are happy to be like that, they don't want to change, but for them that do want to change and they can't it's awful,

because you're like cumbersome, you waddle. I know I did and you do feel awful! ...It's a reminder of how I felt and I don't want to get like that anymore. It's like a, I know it sounds awful but like a boost to carry on doing what I'm doing" (P2)

4.3 Things that are preventing me from achieving success

4.3.1 Things that are preventing me from achieving success: Networks

"I mean that girl [Female name] that had her operation same day as me..... Well she dare do anything, she's even had chocolate and it's like well it tells you not have sugar for life. So you're not going to have sugar apart from natural sugars that are in fruit or fruit juices, but she has a biscuit and all sorts." (P16)

"but there's more falling out and bickering. It's like so many of them have developed this fibromyalgia, have you heard of it? **Yeah.** Right, so they're using this to say oh I can't exercise, oh I can't do anything. They've set up sites of their own right. Now all these symptoms of fibromyalgia, well I've got them, my friend's got them, do you know what I mean? And so I said this to them, so they added me to the site. Now I've never commented on it but I've looked on it, and it's all about DSS payments, and you need so many points for this, and it's like they're not exercising because they don't want to lose their money. They're frightened of what's what.....It'll stop me going to coffee mornings" (P9)

"I tend to cook for them and then do me something different, or if they have the chippie I make myself something different. But it doesn't bother me, I sometimes think I'm missing something so I'll have a bite of one of the chips and go no, and then I think I know that I've tried it and I realise I don't want it." (P12)

"P8 [partner] won't. P8 [partner] won't change, you can't change P8 [partner]. I mean his Sunday lunch contains meat and potato and that's it." (P8)

"When my family were going to a café in town, I was really struggling but they could eat anything and I was like picking. And they were like aren't you going to eat any more of that? And I was like no. **Do you think they understand then what you can and can't eat?** No, not at all! Mum and Dad don't understand at all. **And how do you think they could understand? What would help them understand?** They make me cry quite a lot. They'll say oh you got to eat more than that, you're going to die. Or you are going to go anorexic". (P8)

"my partner he gets a bit angry with me that I'm not eating. I try, but we don't eat together, because it just causes more hassle. Because he thinks it's ridiculous that I don't eat, and he seems to think it's in my head. And it's not in my head. I want to be able to eat it." (P5)

"but she [friend] doesn't talk to me anymore. **Why?** And the nurse thinks it's because of my weight, I don't know, she's quite big. **I was just going to ask you, has**

she stopped talking to you since your surgery? Just before, and I've tried to make contact a few times. I went up to her house a couple of weeks ago and everybody I see who I haven't seen for a very long time, the first thing they say is oh my god, what have you done, how have you lost it, how have you got on? Or if they've known I've had it done they say how are you doing and stuff like that. And I went to her house and she opened the door and just said come in, and she spoke about her and her family and she didn't mention my weight or not one single thing." (P12)

"I've not spoken with my daughter since. When I left she just turned round and says oh go and get thin with your bariatric friends, and we've not spoken since." (P9)

"Yeah, I think my husband was really worried because he said he didn't want me to go really skinny. And he was worried that I'd leave him and everything else like that. So he got a bit scared and stuff." (P12)

"I went out with my friends a few weeks and he was very very nervous that I wasn't going to come back. **How do you mean?** He thought that I was going to go. That I was going to get unwanted attention and that I would go." (P8)

"but I think probably the one thing they didn't tell you is like the hard part is if you do overeat, because you've like got to eat it and then, you know, before you sort of feel full you've got to think well I'm getting there. So you've got to leave it, because what's still got to go down, if you eat then go ooh I'm full it's coming back up as you've got too much in. So you've got to sort of stop five minutes before you're full if you know what I mean to give rest chance to go down." (P15)

"It's like that being sick. If somebody told you that you're sick, whatever gets stuck has got to come up and that comes up first before anything else, so you can feel sick, you know it's stuck, that has to come up and then the rest of the sick has to come up. At first I would be sick, I don't know probably a litre of foamy stuff and it were like what the.. is this. I was thinking I've took less than a litre of fluid in yet I'm being sick this. And soon as I phoned the hospital, yeah that's what happens. So that's normal. Why did you not tell me that this could happen?" (P16)

"they don't explain a lot of stuff. I asked before what will I be eating and stuff like that, so I could get stuff in ready. Oh we'll give you a leaflet when you're in hospital. And I'm thinking why can't you give me something that I can look at now so that I can be prepared for when I come home, and there was nothing, and like I didn't know that I'd have to be on B12 injections for rest of my life and vitamins for rest of my life and stuff like that. I think they should tell you these things beforehand, which they don't." (P6)

"Yeah, just for practicalities, because not everybody's got money at certain points when they go for these operations, so they might have to think oh maybe a couple of

weeks before oh what am I going to be needing? So some people would have been maybe stuck if it weren't their payday and they've got other bills to pay before" (P6)

"I felt very much that I left hospital and I didn't see anyone, didn't hear from anyone, didn't see anyone. Got this appointment through in eight weeks and I'm in agony and they just say see your GP. My GP hasn't got a clue. He's used to coughs, colds, not major surgery with pain." (P17)

"Are you having B12?" "Yeah. I did ask my doctor but my doctor were like, sort of said, you know because I'd—why do you think you need B12? Because, well, because I think most people have it who—he were like unless a doctor says it, you know, it don't make no difference what anybody else said. So I asked [nurse specialist] and they wrote to him, and so I've had my B12 two weeks ago." (P5)

"My lactulose which no one told me about which I had to start using. **And is that, you carried on?** Well [surgeon] says not to use anything but my GP says to use something so again it's contradicting." (P17)

"When I went for the first appointment and I'd lost this weight, the nurses were very, very pleased with me because I'd lost nearly two and a half stone I think in five weeks and they were incredibly pleased with me, so they were getting their outcomes, and that kind of made me feel, well, it's like you're like a puppy dog, give me a sweetie because I've done that well for you. It felt like that." (P18)

4.3.2 Things that are preventing me from achieving success: Behaviour change in order to comply or not with post-surgery recommendations

"I've recently been to cardiologist and I can't do any exercise, extreme exercise yet, because of my angina." (P2)

"I will think about joining a gym for the first time. Because at the minute until I get myself sorted job-wise I can't really afford it. And that's another thing they've got to realise that people can't afford to buy stuff." (P6)

"they're full of them that's already slim and they look at you, you know, what are you doing here like because you're fat?" (P7)

"I mean today I've had two pieces of toast for breakfast, for lunch I had a little bit of pork pie, brambly apple, Mr Kipling little things, that's all I've had today, so far." (P10)

"I thought I was good but [Nurse specialist] said what have you been eating and I said well I had sausage and mash. How many sausages? I says two, and she looked, it should only be one" (P4)

"I know how important drinking is and especially drinking water so I've been trying to find flavoured drinks and I've got smoothies for breakfast because it's kind of a meal at

the same time because it's not just liquid. Oh I forgot, the picture of my favourite food, cheese strings. I can't have enough cheese strings. It's a good source of protein which you need so." (P13)

"But you know when your tooth hurts, and you have to touch it to find out how much it hurts, that's how it was with the bread. Because I don't feel how bad I thought sure I could eat a slice of that. I'll toast it and spread it with butter like, you know, so it's moist. And then I'd... .. Straightaway it would come back." (P4)

"No, I mean I know it'll stop, but there's nothing really else concerning. It's just knowing what to eat and eat it in moderation or whatever, something that you try to do beforehand. But like greasy stuff or anything like that, don't get me wrong I have tried to have a KFC and I ended up being sick in the toilet. I only had a piece of chicken and I ended up being sick, and stuff like that, and it's like I'm glad it's put me off, and don't get me wrong tried McDonald's chips, no, same again straight back up. So I know that I can't actually eat certain things and I think sometimes it's a good thing to try stuff that you know that you shouldn't eat to put you off." (P6)

"It's weird with sloppy stuff, because if it's like shepherd's pie I could eat it as big as a dustbin lid no problem. But if you have like a Sunday dinner it's minute, it's literally one potato, one small piece of cauli, two or three bits of carrot, then I don't bother with meat, and by time I've had that it's like full. So I think it's the different textures that some go down easier than others." (P15)

"Dinner plates, I struggle because I've been told a few times at hospital, I still kept using bigger plates. But then in my head I kept wanting to clear it, so I've made myself ill a couple of times doing that, even though it's. **So trying to eat too much.** Yeah, even though it's healthy food because, and I know I'm full, but before I were full, so it's trying to get in my head now that I have to use a side plate instead of a big plate. When I'm plating all the rest of them up, and I still think those side plates are too small, even though I can't finish it. So I struggle with plates still, with clearing it." (P12)

"But worst thing with me was when we went to Yarmouth, we went to get rock and that for family, and I walked in and I thought oh I'm all right, but by time I'd been in five minutes I said to him it was like putting alcoholic in a brewery, I came out and I was shaking, because I could really have eaten that. And like I said one half of my brain says oh try it and other half saying no you can't, it's like having a devil on one side and an angel on other battling!" (P2)

"Yeah, my weirdest one, this is my weirdest, fizzy pop. If I've got a can of Coke it'll take me about an hour to drink it. It's just the bubbles are like, it's quite painful when it goes down, it's quite weird really, but pints of lager no problem. It's weird. **That you can drink lager then?** Oh yeah, no problem, yeah, I can drink lager and my cider. I can

drink all my spirits and that, but like fizzy pop I don't know if they're just too fizzy or what?" (P15)

"I was sat outside and I had three cans of lager, right, it's Fathers Day and it was my birthday last week, so my lads know me from old, they brought me, well one of them brought me a case of lager, you know." (P4)

"Yeah, remembering to take them. Yeah, if you feel all right you just think oh, but it's like weird." (P15)

"I take my vitamin D, which I forget because I feel so well. And plus there's plenty of sun. **Is that what you've got to have?** Yeah, you've got to have that, but there's plenty of sun isn't there, so I think oh I'll take it tomorrow. And I've got my multi vitamins which I keep forgetting. It's because you feel so up and want, you just forget." (P9)

"I've been drinking stuff like Ribena Plus which is enforced vitamins, vitamin drinks in general like flavoured water with added vitamins and stuff so I'm still trying to take it in somehow. I'm eating quite a lot of ice lollies that are made from oranges with Vitamin C in and things like that so I'm trying to do as natural as I can and looking at my blood results last time it's working." (P13)

4.3.3 Things that are preventing me from achieving success: Excess skin

"How fast the skin has become an issue, because I wasn't expecting it to be an issue yet. I thought it was going to take at least six, seven months before that's going to be an issue. **So when you say an issue, what do you mean by issue?** Hygienically, the folds for example. I'm prone to skin infections anyway. Already been to the doctor's once in regards to this, and I've already had some cream that I need to use. It's literally, now it's getting warmer as well that doesn't help." (P13)

"it gets in the way. It physically gets in the way when I'm trying to do things. Like bending over the cot bed to see to [youngest son], I have to move the skin aside so I can get him. Before I couldn't even bend over so at least now I can bend over, but I still have to move it aside. **Right, okay, so it's kind of limiting. Do you think it's still impacting then on your quality of life?** Not as much as the weight was, but it still is." (P13)

"These are my arms that I hate. I hate them. To me they're just horrendous. Oh god that's awful. I just think what is that. But you see if I took that away, look how skinny my arms would be then. That is like a normal arm. That is just like a penguin wing. So I didn't expect it to be as bad as that I think. I don't know what I expected. I were kind of gearing myself up for it, but when you see it, it's different. So I don't like my arms." (P17)

"Oh back skin. That is not my back. Obviously not. But when I lay in bed now, like this bit of skin touches this bit of skin and I hate it. **Right, because you can feel it.** And I can feel it touching and it's awful and I didn't think I'd have back skin. So that's worrying me. What if that gets worse and will it go and that's why I need to go back to gym. So all these again added to anxiety as well because that's something I didn't expect." (P17)

4.3.4 Things that are preventing me from achieving success: Expectation v reality

"I don't know if it's different because I've had a sleeve and they've had a bypass. I would have thought only difference were that I would have lost it slower. **Right, okay.** Well, not as much, I don't know. It seems to be, I think that's what I'd read, that you don't lose it as fast or not as much - **Right, oh right, okay.** - as a bypass, I don't know." (P5)

"**So has your diabetes gone now?** I don't know. No it hasn't gone..... I expected some reduction in my medication last time but she were like oh no it don't make any difference to your diabetes, you're on for that for the rest of your life. I thought oh right. **So who said that to you?** Nurse, diabetic nurse. And I thought oh what, I thought, I don't, it probably won't, you're always going to, but I thought it, as it got, you lost weight, I'd reduce my medication." (P5)

"I think I was expecting somebody just to magic wand and I'd be a size bloomin' 16 and it doesn't work like that." (P6)

"I thought it would just, I don't know. I thought as you lost weight the skin would just evaporate but it doesn't" (P8)

"I feel really paranoid, really worried, don't feel, when I get dressed I don't know if I look all right. I need a lot of reassurance which before I couldn't give a monkey's. I felt good, I knew I looked good and that were it. You know, I were a big girl and I'm fine. Now it's very much, as I've started with flabby skin, do I look all right, does this look too big, does this look too small, are people going to know, if I eat something are they going to be looking at my plate? I'm driving myself insane." (P17)

4.4 Additional findings from statements 1-4 of the framework

"it's said very glibly to an overweight person who's been overweight all her life who's lost stones and stones and stones. You'll never have to lose what, 26 stone in your lifetime, I've already done that and I'm 53. The times I've lost eight stone here, eight stone there. You'll never understand that because you've never had a weight problem, and that was the problem, you're being diagnosed by people who've never had a weight problem, so it's a very glib statement, go away and stop eating. **Does it feel quite judged then?** Oh God yeah! But I think there's a very bad discrimination against obesity in this country and within the medical model and I think the way it's

approached, I think it's seen as a self-destruct button. Like I said to her, people smoke but you still treat them for cancer. It's the same argument, but I don't think obesity is understood a lot." (P18)

"I'm a Reiki master so I've read every single one of them so there's no good me reading them again because reading 'the secret' is not going to make me thin..... self-help books aren't going to help me, I've done that, and this is the only chance I've got to restart the engine ain't it. So he [Tier three talking therapist] were adamant that he didn't want me to have surgery and the day I said I'm having surgery he'd got a face on and didn't finish my session." (P16)

"So that was 12 o'clock the night before my jelly diet. I went out and had a kebab and everything else before, and I were eating chocolates until three minutes to twelve." (P17)

"I made up all these jellies because I was panicking that I were going to be hungry, and I knew that that's the only thing that I could eat." (P17)

"I couldn't eat yoghurts, I couldn't—I were having about a pint of milk a day, and I just felt so, I don't know how I worked, I mean I felt physically ill. I were getting dizzy spells, I were, it were just, I only got through—after seventh day it got easier. I mean I had headaches, I just wanted to be sick, I felt shocking, but after day seven it did get easier." (P5)

"How was your pre-op diet?" "Ooh it was good actually [pre op diet]; I lost some real good weight beforehand. I wouldn't say it was easy." (P11)

"But I found that quite easy, that diet.....I were quite all right with it, yeah. It didn't bother me at all." (P7)

Chapter 4: nine months post-surgery - additional explanatory quotes

4.1 How my life has changed after bariatric surgery

4.1.3 How my life has changed after bariatric surgery: Social consequences of the surgery and losing weight

"And probably I was lazy then wasn't I, I was fat and lazy. Yeah, I held down a full time job, yeah I'd still want to do things, still want to go out, but I'd quite easily sit about and do nothing. He wanted to sit and watch a film, and I wanted to sit, he'd sit with a bottle of wine, I'd sit with a brandy and lemonade. Yeah, I'd eat crisps, yeah I'd have a takeaway, yeah I would do. And now I want to get up and get out." (P16)

"I'm more paranoid of him cheating on me now, because of the way I look, because it's not nice. So why would he not run off with anyone else? Because it's gross." (P17)

"It's quite hard, because I don't think we're ready at the moment to have a child, but I don't want to have the option taken away from me either. So I'd like to have the option there, but I don't want to wait for too long, and then I don't want to wait too long for the tummy tuck, because I don't want my head to get too messed up over the skin issues." (P13)

"He's now mentioned about children, whereas he never wanted any. So that sort of put my mind thinking oh my god. I'm just starting to get myself in my brain this is how I wanted to be, and then he's on about having kids and then I'm going to be fat again. But then my body clock's ticking, and so I'm in turmoil at the minute with things like that." (P17)

4.2 Things that are preventing me from achieving success

4.2.2 Things that are preventing me from achieving success: Behaviour change in order to comply or not with post-surgery recommendations

"I have to buy cheap lemonade and open it and fizz it out, so it takes me like two days before I can use it. But it's still got the flavour in it, because I can't find still lemonade anywhere, and I've been trying to find it everywhere and can't find still Fanta anymore. Because they used to be everywhere at one point, or Tango or whatever, but I can't find it anymore. And I find if I buy Sprite, it takes a week for the fizz to go out, but if I buy the cheapest own brand, it's literally a day or two, the fizz is out so I can still drink it then." (P13)

Chapter 5: Two years post-surgery - additional explanatory quotes

5.1 How my life has changed after bariatric surgery

5.1.1 How my life has changed after bariatric surgery: Physical consequences of losing weight

"But I used to see him [Crohn's consultant] quite a bit, quite a lot. The diabetes, I've not took my medication since I stopped that day, when she said to me you don't need your diabetes tablet, I've not took it since. And I go to my diabetic nurse. I still see the diabetic nurse, she still checks me over. She checks my blood levels, she checks my cholesterol levels, and she checks my BMI." (P11)

"I'm not asthmatic anymore. I'm one breathing check away from actually getting that taken off my list. So they found out that I've got fatty liver disease, but that's manageable because I've lost weight." (P13)

"I needed to lose at least five stone, but now I've lost that it's, it has improved. They've cut my tablets down by half for my heart and off for me thyroid's, because I had underactive thyroid glands, so that's gone down by half a tablet now. So, and I don't take what is it, metformin, for my diabetes." (P2)

5.1.2 How my life has changed after bariatric surgery: Psychological consequences of losing weight

"I want to get back into work now [youngest daughter] goes back to school, but it's the where. But I think I've got the confidence now to do the step forward and find the employment." (P12)

5.1.3 How my life has changed after bariatric surgery: Social consequences of losing weight

"Well we look after my granddaughter. And I can play with her more than what I could have done before. I couldn't get around at all before very often without being really out of breath. But now I can play with her. You know she likes to dance now she's at that stage, you know, I like jiggle about with her." (P2)

"I were never able to do owt with kids when I was younger and when they were younger, and I think now we just go and do whatever we want. I wish they were young again that I could spend more quality time with them, because I think they missed out a lot because I was so big. But now, I'd say we're closer than we've ever been. Especially me and my daughter, we are really really close now." (P3)

"I went to my lad's wedding and that like, you know, I didn't have a meal, because I was scared in case. The last thing I wanted to do was leave the wedding table and, you know, and that like. And the same as, you know these, is it banquet places in town like, that seems all the fad with them, you know when they're having an engagement or a birthday party or something, eat everything you can for a fiver or something, you know. I don't go to them. They say aye but they're all sorts of chicken and what do you call it, the fish and that like, you know, and I says aye but I just might eat the wrong thing and then I've got to go and find a toilet and then what do you call it, I'm on the toilet when somebody's coming in to do their ablutions and they can hear somebody going oh, you know. So I avoid that." (P4)

"I go out a lot more now, yeah, because before I didn't really want to go out, going out with the girls and that, so always - yeah, I've got about, well, I'm 60 end of this month, so I've got, I had a big party on Saturday, me and my partner we had a joint birthday party and then I'm going to Manchester with the girls on the 22nd and then we've then got another couple of nights out planned and then I'm going away with the girls in July. Before my surgery I hadn't been away with the girls for years" (P5)

"I'm actually going to start, because of that, I'm doing healthy eating and nutrition course with the girls, starting from end of April. You're doing that with who, sorry? Some of the girls with eating disorders, so I'm going to be doing the practical side of healthy eating and nutrition with them.....Well I'm able to go for a career now, and hopefully I will have a career soon enough, so that weren't even a prospect before. So it has changed." (P13)

5.1.4 How my life has changed after bariatric surgery: Other consequences of losing weight

"It's like a lovely knit top with a V and I bought it from Atkinson's. And it's got like a swagger bit here at the front, and then at the back it's like got an apron back and it goes like that. And I thought oh I'll be showing my fat bum. And I tried it on, put it on, put these shoes on, shoes are fitting better, a lot better. And I put these shoes on and they'd got a little heel on, and they looked right nice. And I thought oh that looks nice, oh I'll wear that. And I went out, dressed myself up, got my makeup on, got my jewellery on. I felt right good doing it. Come downstairs and first thing my husband said was you look lovely, you look really lovely. You look really sexy and lovely without being too brass. I said are you sure it looks all right [Husband], it's not too young? He said no, it looks really nice." (P11)

"I love it [shopping]. I absolutely love it now. I hated shopping, really did. I hated shopping with a vengeance, but now, for clothes shopping anyway, but no, now I love it." (P5)

5.2 Things that are helping me to achieve success

5.2.2 Things that are helping me to achieve success: Behaviour change

"I'm not walking as much as I was because my knees have been bad, but I've started swimming again." (P5)

"I graze through it if I'm at work, but when I'm at home we have our three meals. And sometimes I can't eat three meals a day. Some days I can only eat two. But I always have my breakfast. I always have something, whether it's a cereal bar or fruit or, I always have something to kick-start my day, no matter when it is." (P3)

"For Mother's Day my step daughter said I'll take you out for a meal, and before my life was food and going out for a meal and things. And I went you know what, we'll just go to the bingo. We'll play bingo, I have a coffee and I go home, because I wouldn't enjoy sitting there having food and having drink because that's not what, not pleasures me anymore." (P12)

"You still want to have your odd chocolates and stuff, of course, I don't stop myself from having them, because that's why I think I got to where I was, because when I stopped myself, then I went to binges after. So you still have to give yourself a treat every now and then. But now it doesn't have to be a food treat" (P13)

What is helping me to achieve success: 3. Drivers of personal motivation

"My husband wants the wedding photo down in the house, because he says that's not you anymore. And I said I can't because I need to, I weren't at my biggest at that point but I said I can't because it just makes me remember not to go back as well." (P17)

5.3 Things that are preventing me from achieving success

5.3.1 Things that are preventing me from achieving success: Networks

"Participant: You stop me don't you? [snacking and eating biscuits] Participant husband: I try stopping her, but there's plenty of arguments. I might not win, but there's plenty of arguments. But yeah she knows herself it's actually herself owning up to doing it. Participant: And I do, I tell you. Participant husband: I know you tell me, but it's actually getting you to actually do it, that's the main thing ain't it?" (P7)

5.4 Bariatric Surgery: successful or not

"Lose weight. That's basically all I said there, because I didn't want to set targets that I'd then feel disappointed if I didn't achieve. So I didn't even put a number target. I never had a number target anywhere. I just said I would like to be able to fit in certain size clothes, but that weren't about what weight I was, that was about being able to buy clothes in different places and being able to buy them cheaper. And you managed that. Yeah. So that's why, I didn't want to set myself unrealistic targets, because that, I didn't want to set myself to fail, if that makes any sense." (P13)

"I didn't have any goals at all. Because they said 60 or 70% didn't they? Yeah. So no, I knew what the weight loss would be. Nobody ever set any targets at all, any goals, and that first appointment when I saw [surgeon P], and I can't remember how much I'd lost. I think I'd lost something like four stone, because I were losing about a stone a month. And he said to me oh yeah you'll get to 11 stone. I were like what are you talking about, that's never going to happen. And it did." (P16)

Appendix 17. Consolidated criteria for reporting qualitative studies (COREQ)

Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

The Patient Experience of Bariatric Surgery: A Longitudinal Qualitative Study

Developed from:

Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

No. Item	Guide questions/description	Response
Domain 1: Research team and reflexivity		
<i>Personal Characteristics</i>		
1. Interviewer/facilitator	Which author/s conducted the interview or focus group?	CVH
2. Credentials	What were the researcher's credentials? E.g. PhD, MD	Supervisors with PhD and significant research experience. This research forms part of CVH PhD.
3. Occupation	What was their occupation at the time of the study?	Academic
4. Gender	Was the researcher male or female?	2 x women, 2 x men
5. Experience and training	What experience or training did the researcher have?	PN, PA and EG are experienced health service /

		social care researchers who supervised CVH.
<i>Relationship with participants</i>		
6. Relationship established	Was a relationship established prior to study commencement?	N/A
7. Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	Consent processes followed. Information about the research team and goals included in participant information sheet.
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	Knew researchers conducting interviews were independent academics, not connected to services
Domain 2: study design		
<i>Theoretical framework</i>		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Realist informed methodology and Framework analysis
<i>Participant selection</i>		
10. Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Convenience
11. Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Participants were approached through letters from the multi-disciplinary team inviting them to take part in the research.
12. Sample size	How many participants were in the study?	18
13. Non-participation	How many people refused to participate or dropped out?	Drop out from pre-post (n=5)

	Reasons?	
<i>Setting</i>		
14. Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	Interviews took place in the participants home or convenient location.
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	In three cases family members were present.
16. Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	People who had met and been referred for bariatric surgery. Participants were aged between 30 and 61 years, 4x men and 14xwomen
<i>Data collection</i>		
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Data collection was guided by the use of individual interview schedules that had been developed through consideration of relevant literature and informed by discussion with the project Advisory Group. Participants completed a Photovoice assignment that was also used to guide discussion in the interviews.
18. Repeat interviews	Were repeat interviews carried out? If yes, how many?	Yes. 18 pre-surgery

		16 3 months post-surgery 15 9 months post-surgery 13 2 years post-surgery
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Audio-recorded
20. Field notes	Were field notes made during and/or after the inter view or focus group?	Yes.
21. Duration	What was the duration of the interviews or focus group?	32-104 minutes
22. Data saturation	Was data saturation discussed?	No. N/A
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	No
Domain 3: analysis and findings		
<i>Data analysis</i>		
24. Number of data coders	How many data coders coded the data?	All the researchers were involved in coding. Pre-surgery transcripts independently coded by 2 researchers as part of a wider research team. Preliminary findings and thematic frameworks were discussed at analysis meetings.
25. Description of the coding tree	Did authors provide a description of the coding tree?	N/A
26. Derivation of themes	Were themes identified in advance or derived from the data?	Themes were derived from the data.
27. Software	What software, if applicable, was used to manage the data?	NVivo v10
28. Participant checking	Did participants provide feedback on the findings?	N/A. Findings were verified through consultation with

		the project advisory group.
<i>Reporting</i>		
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	Yes.
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Yes. .
31. Clarity of major themes	Were major themes clearly presented in the findings?	Yes
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Within the limitations of the thesis and meeting the aims.

Once you have completed this checklist, please save a copy and upload it as part of your submission. When requested to do so as part of the upload process, please select the file type: *Checklist*. You will NOT be able to proceed with submission unless the checklist has been uploaded. Please DO NOT include this checklist as part of the main manuscript document. It must be uploaded as a separate file.

Appendix 18: PRISMA ScR

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	189
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	189-191
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	189
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	192
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	No
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	190
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	191
Search	8	Present the full electronic search strategy	Appendix

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
		for at least 1 database, including any limits used, such that it could be repeated.	19
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	192-193
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	192-193
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	192-193
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	N/A
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	192-193
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	191
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	Appendix 21
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Appendix 21
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	194-219
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of	216-219

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
		evidence available), link to the review questions and objectives, and consider the relevance to key groups.	
Limitations	20	Discuss the limitations of the scoping review process.	218-219
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	218-219
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	N/A

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

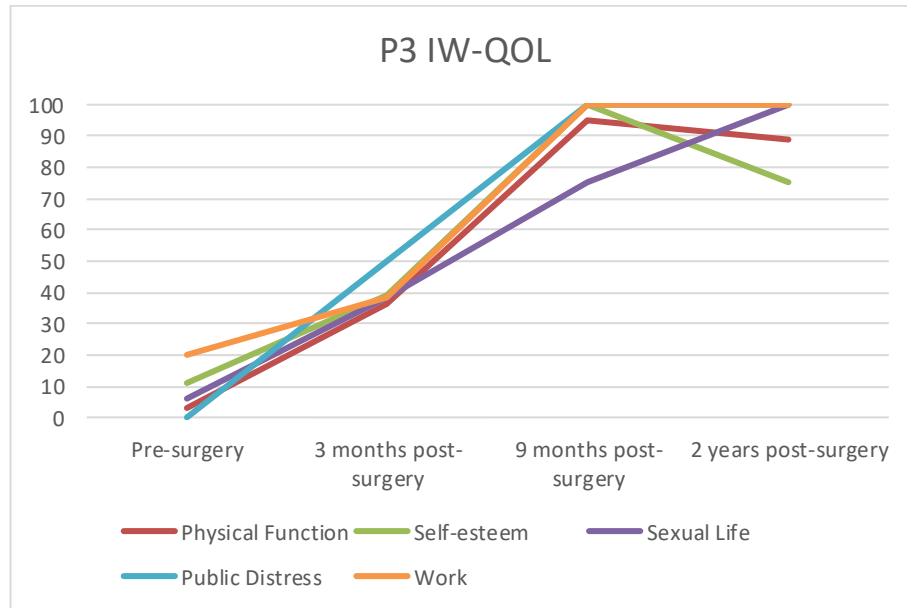
§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med.* 2018;169:467–473. doi: [10.7326/M18-0850](https://doi.org/10.7326/M18-0850).

Appendix 19 - IW-QOL individual participant data across the study

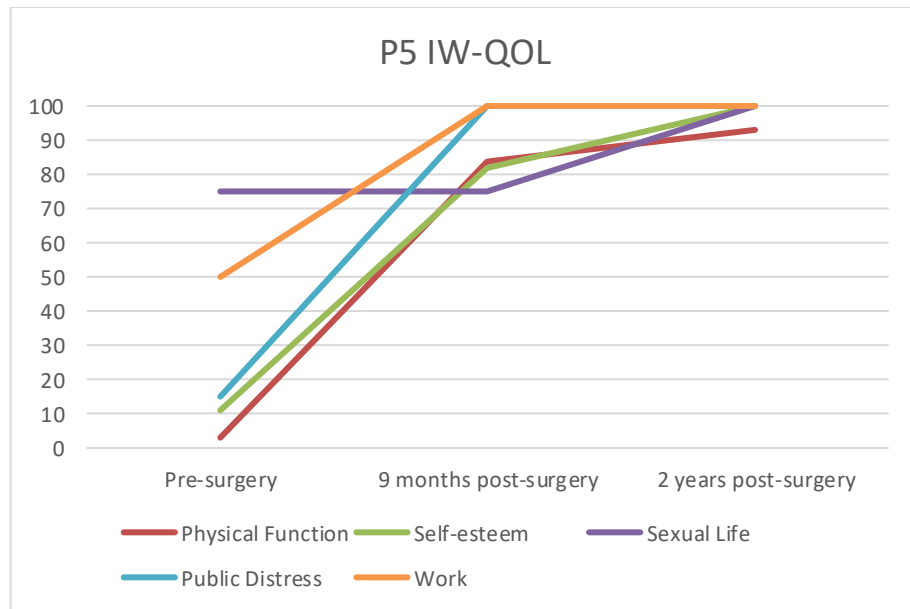
A - Participants who had lost weight and considered their surgery to have been a success

Chart 8 Participant 3 IW-QOL pre, 3 and 9 months and 2 years post-surgery scores



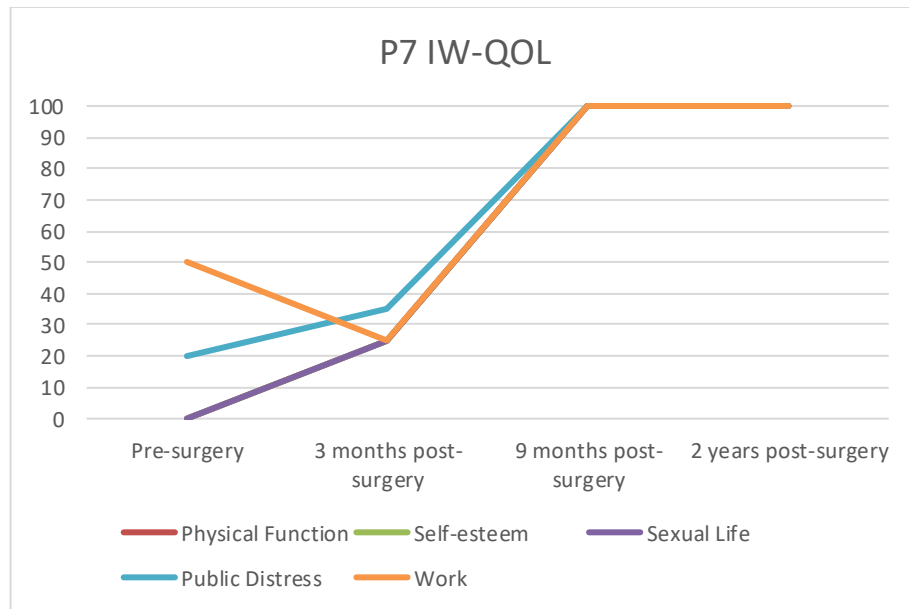
Marked sustained improvements across all domains were reported by participant three. The steepest increase was from pre to nine months post-surgery which correlates with experiences of initial weight loss. There was nothing in the two-year interviews to suggest a reason to attribute to the downturn in self-esteem and physical function.

Chart 9 Participant5 IW-QOL pre, 9 months and 2 years post-surgery scores



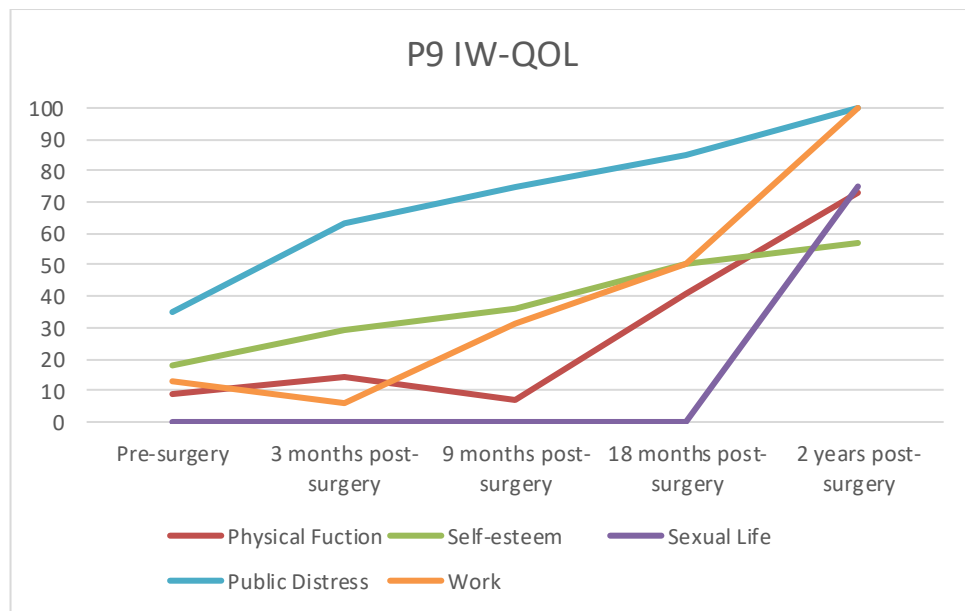
Pre-surgery, participant five was below average of the sample and reported poor psychological health as a result of her obesity. Five out of the six domains increased sharply from pre-surgery to nine months-post surgery when weight loss was most rapid. The marked improvements in QoL mostly continued to increase and plateau at best state by two years post-surgery.

Chart 10 P7 IW-QOL pre, 3 and 9 months and 2 years post-surgery scores



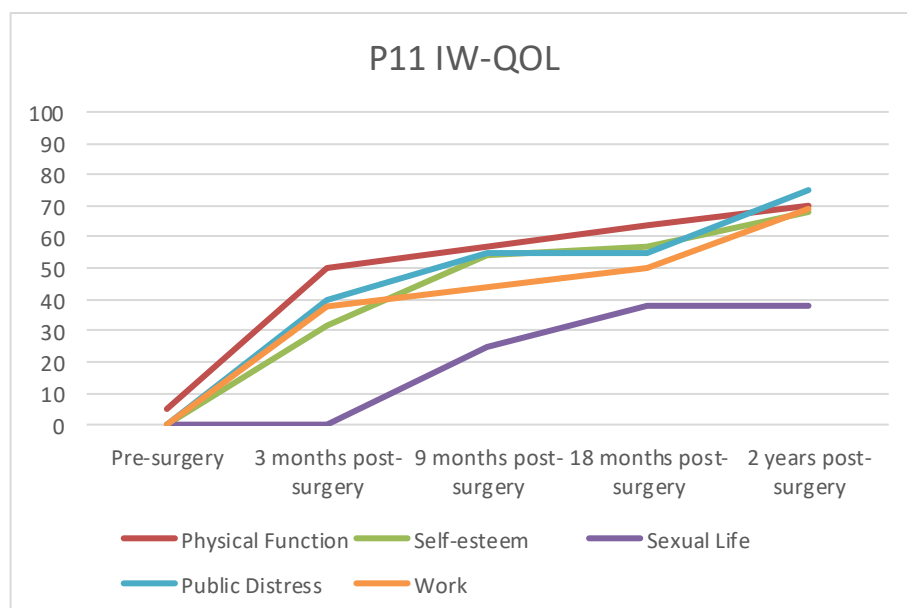
Physical function, self-esteem and sex life mirror each other in the scoring for each time period, starting at zero and by nine months and two years post-surgery reporting scores of 100. Nearly all domains had a sustained increase across the study other than work.

Chart 11 Participant 9 IW-QOL pre, 3, 9 and 18 months and 2 years post-surgery scores



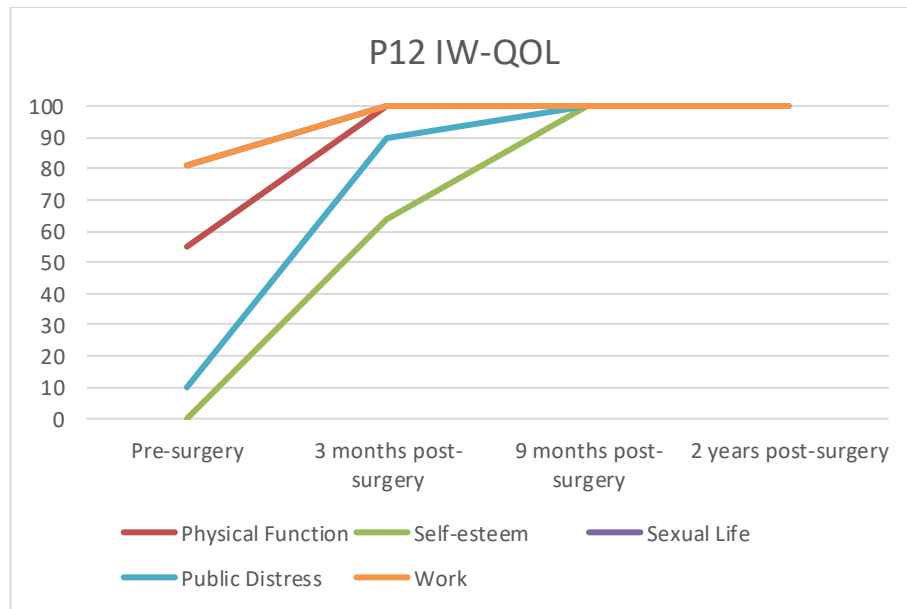
The QoL data for participant nine was collected at all possible stages. Generally, there is an upward trend across each domain from pre-surgery through to two years post. Participant nine experienced additional health problems throughout her journey that were resolved at two years which may have had some impact on her physical function.

Chart 12 P11 IW-QOL pre, 3, 9 and 18 months and 2 years post-surgery scores



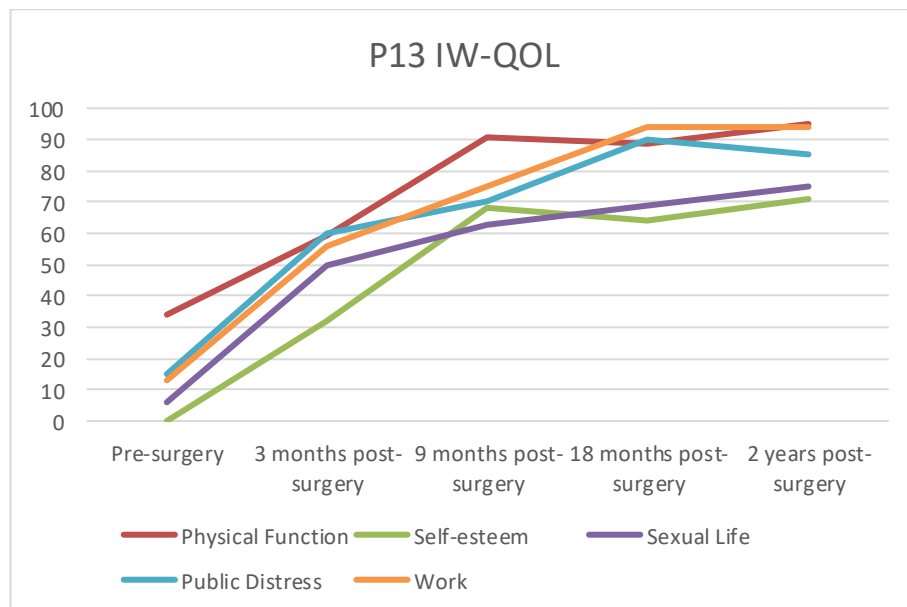
All domains were extremely low pre-surgery and all increased and maintained over the study period.

Chart 13 Participant 12 IW-QOL pre, 3 and 9 months and 2 years post-surgery scores



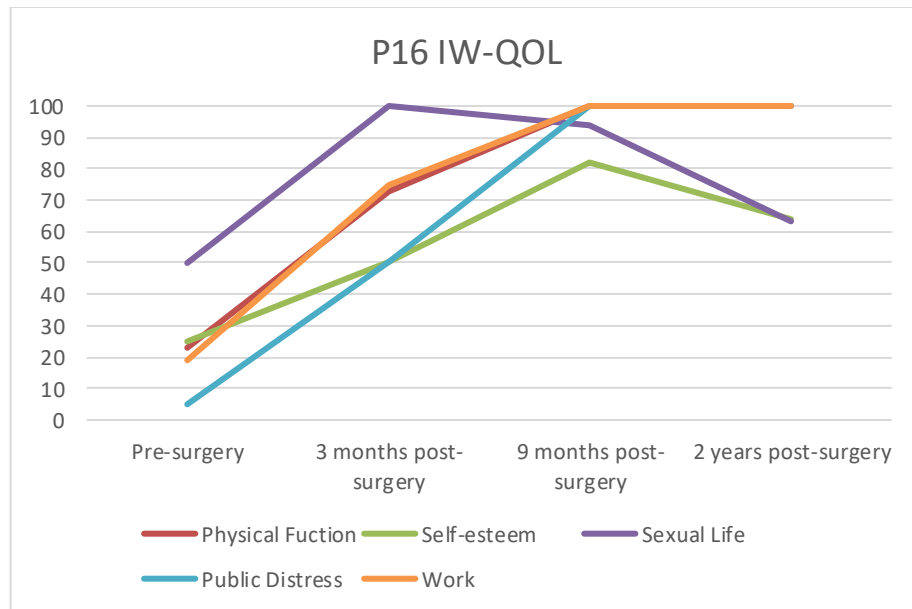
All domains of QoL sharply increased from pre-surgery to three months post-surgery. By nine months all domains were reported as being in the best state, maintained at two years. Participant 12 was the only participant in the study to report this.

Chart 14 P13 IW-QOL pre, 3, 9 and 18 months and 2 years post-surgery scores



All domains increased notably over the study period. Self-esteem and physical function dipped at 18 months but increased at two years. Public distress had fallen slightly at two years, but remained higher than pre-surgery scores.

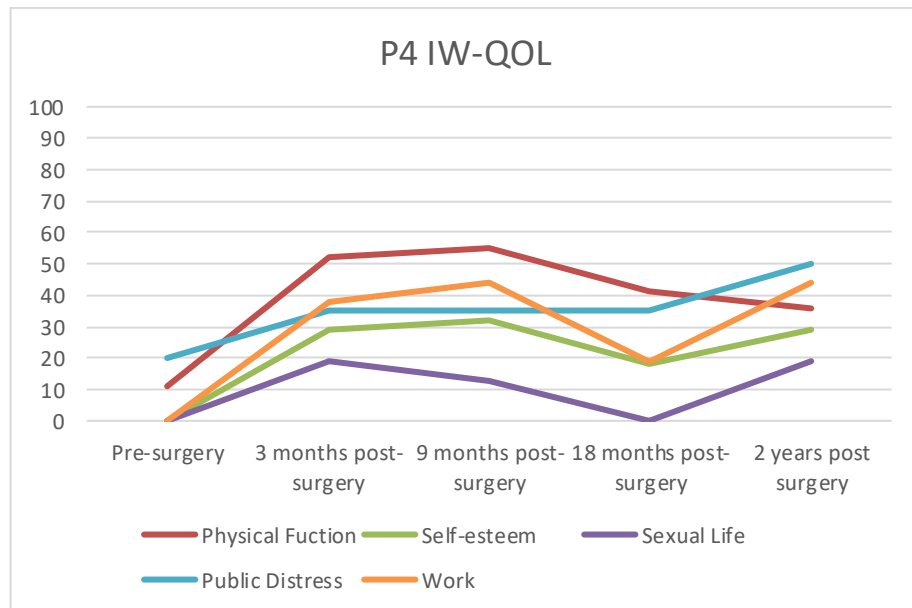
Chart 15 Participant 16 IW-QOL pre, 3 and 9 months and 2 years post-surgery scores



Three of the five domains were reported to have improved to the best possible state by nine months and were maintained at this level at two years post-surgery. The decreases in self-esteem may be linked to arising issues with excess skin and adjustment to changes in body shape and appearance. P16 also reported changes to personal relationships which may have impacted on the sexual life domain.

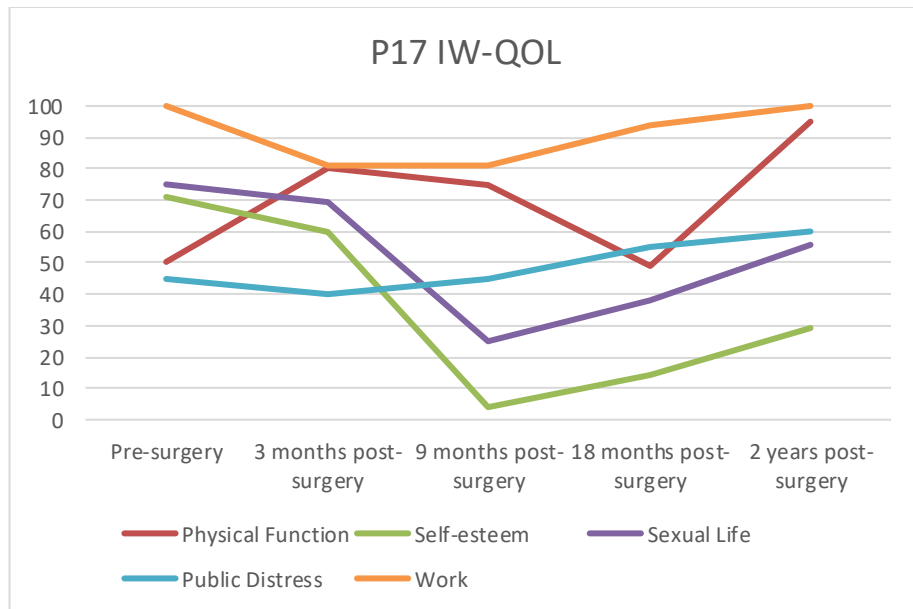
B - Participants who had lost weight but didn't identify with sustained improvements over the study

Chart 16 Participant 4 IW-QOL pre, 3, 9 and 18 months and 2 years post-surgery scores



The changes in every domain mirror each other over the study period. Participant four was retired so work was scored in relation to household chores. The trend of increasing from pre to nine months observed in other participants' charts is also evident for participant four. Whilst there is a downturn at 18 months the scores at two years post-surgery are higher than those reported pre-surgery suggesting some improvements in QoL.

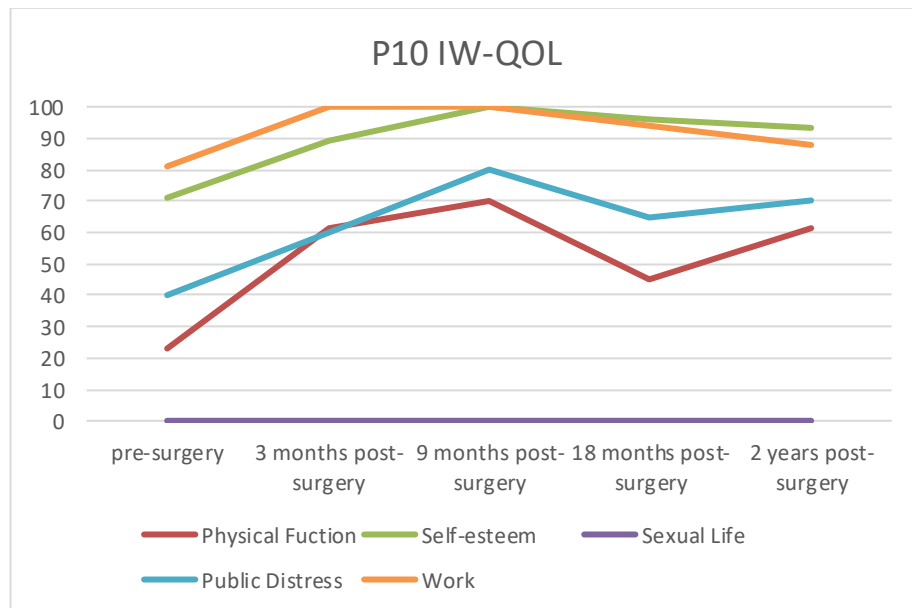
Chart 17 P17 IW-QOL pre, 3, 9 and 18 months and 2 years post-surgery scores



There was a great deal of variation in the scores across all domains reported by participant 17. Participant 17 reported higher than average scores pre surgery compared to the study sample. Whilst many other participants' scores indicated a slight decline or plateau at nine months, self-esteem and sexual life decreased considerably at this time. Other illnesses and requirements for additional surgery may partly be accountable for some of the decline in the domains. At two years all domains were displaying an upward trend, yet self-esteem remained lower than pre-surgery scores. Whilst Participant 17 had lost a phenomenal amount of weight, she was unsure if the surgery had been a success.

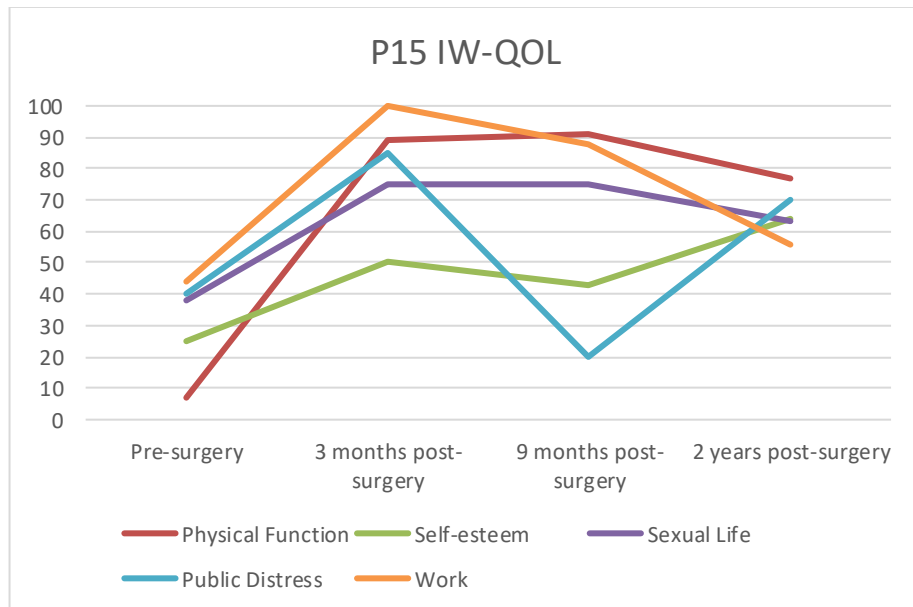
C - Participants with low levels of weight loss and whose QOL varied over the study

Chart 18 Participant 10 IW-QOL pre, 3, 9 and 18 months and 2 years post-surgery scores



Like participant four (male), participant's (also male) reported scores follow similar trends for each domain. The increase from pre-surgery peaked at nine months across five out of six domains before dipping slightly. The physical benefits participant ten experienced in the early months waned slightly as weight was regained. Unlike many of the female participants participant ten did not report weight having any impact on self-esteem, it was the physical consequences that were most problematic

Chart 19 Participant 15 IW-QOL pre, 3 and 9 months and 2 years post-surgery scores



The domains varied across the study period for participant 15. The marked increase observed from pre to three months post-surgery plateaued or fell by nine months. Whilst each domain was higher than pre-surgery records, only physical function maintained the large improvements.

Appendix 20 - Full list of Scoping Review Search Terms

Medline and CINAHL search terms

1. AB "Bariatric operation" OR TI "Bariatric operation"
2. AB "bariatric surg*" OR TI "bariatric surg*"
3. AB "weight loss surg*" OR TI "weight loss surg*"
4. AB "weight loss operation" OR TI "weight loss operation"
5. AB "metabolic surg*" OR TI "metabolic surg*"
6. AB "Gastric bypass" OR TI "Gastric bypass"
7. AB "gastric band" OR TI "gastric band"
8. AB "sleeve gastrectomy" OR TI "sleeve gastrectomy"
9. AB "duodenal switch" OR TI "duodenal switch"
10. AB LAGB OR TI LAGB
11. AB "roux-en-y gastric bypass" OR TI "roux-en-y gastric bypass"
12. AB "bariatric surgical procedure" OR TI "bariatric surgical procedure"
13. AB "duodenal switch with biliopancreatic diversion" OR TI "duodenal switch with biliopancreatic diversion"
14. AB "restrictive surgery" OR TI "restrictive surgery"
15. (MH "Obesity+") OR (MH "Obesity, Morbid") OR (MH "Obesity, Metabolically Benign")
16. AB "over weight" OR TI "over weight"
17. AB overweight OR TI overweight
18. AB "over eating" OR TI "over eating"
19. AB overeating OR TI overeating
20. AB "weight loss" OR TI "weight loss"
21. AB "weight reduc*" OR TI "weight reduc*"
22. AB obes* OR TI obes*
23. AB "focus group" OR TI "focus group"
24. AB Interview OR TI Interview
25. AB ethnograph* OR TI ethnograph*
26. AB "content analysis" OR TI "content analysis"
27. AB "grounded theory" OR TI "grounded theory"

28. AB "grounded approach" OR TI "grounded approach"
29. AB qualitative OR TI qualitative
30. AB "Qualitative Research" OR TI "Qualitative Research"
31. AB phenomenolog* OR TI phenomenolog*
32. AB "discourse analysis" OR TI "discourse analysis"
33. AB "observational method*" OR TI "observational method*"
34. AB "thematic analys*" OR TI "thematic analys*"
35. AB observation* OR TI observation*
36. AB "mixed method*" OR TI "mixed method*"
37. S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR
S34 OR S35 OR S36
38. S8 AND S23 AND S37

Appendix 21 Literature review extraction table

Study	Study Authors	Study title	Publication date	Focus of investigation	Setting	Sample size and gender	Type of surgery and time since surgery	Pre / Post / Longitudinal / Content analysis	Data collection method	Country of Origin	Where found*	Aim the paper is relevant to
1	Aramburu Alegria, C; Larsen, B	Contextual care of the patient following weight-loss surgery: Relational views and maintenance activities of couples	2017	The activities used by couples (female had BS) to maintain their relationship and optimise BS outcomes	Bariatric healthcare practices	11 couples (females had BS)	Not reported 3-55 months	Post	Interviews	US	1	1, 2, 3, 4
2	Atwood, M E; Friedman, A; Meisner, B A; Cassin, S E	The Exchange of Social Support on Online Bariatric Surgery Discussion Forums: A Mixed-Methods Content Analysis	2018	Type and frequency of online support through a bariatric forum	N/A	N/A	N/A	Content analysis of web	Content analysis	Canada	1	2, 3, 4

3	Beltrajñ-Carrillo, V J; Jimenez-Loaisa, A; Jennings, G; Gonzalez-Cutre, D; Navarro-Espejo, N; Cervello, E	Exploring the socio-ecological factors behind the (in)active lifestyles of Spanish post-bariatric surgery patients	2019	Facilitators and barriers to PA after BS PA programme and 1 ys later	Hospital	6 (8f 1m)	Not reported / <2yrs	Post	Interviews - longitudinal 1 month after BS and 12months after completion of a PA programme	Spain	1	2, 3, 4
4	Bocchieri, L; Meana, M; Fisher, B L	Perceived psychosocial outcomes of gastric bypass surgery: a qualitative study	2002	Psychosocial experiences following gastric bypass	Hospital	33 (24 women)	RYGB, 6 months–10 years	Post	Interviews (n = 22), focus groups (n = 11)	US	1	1, 2, 3
5	Brown, TJ; O.Malley, CO; Blackshaw, J; Coulton, V; Tedstone, A; Summerbell, C; Ells, LJ	Exploring the evidence base for Tier 3 weight management interventions for adults: a systematic review	2017	Systematic review of tier 3 interventions		N/A	Tier 3 pre op	Pre		UK & Ireland	3	3, 4

6	Coulman, K D; MacKichan, F; Blazeby, J M; Owen-Smith, A	Patient experiences of outcomes of bariatric surgery: a systematic review and qualitative synthesis	2017	Patient perspective of living with the outcomes of surgery - post surgery papers	N/A	N/A	N/A	N/A	N/A	N/A	1	1, 3, 4
7	da Silva, S P; da A M	Obesity and Treatment Meanings in Bariatric Surgery Candidates: A Qualitative Study	2012	expectations and beliefs about the demands and impact of bariatric surgery	Hospital	30 (20f 10m)	pre op	Pre	Interviews	Portugal	1	3, 4
8	da Silva, S P; da Costa, M, A	Patients' experiences after bariatric surgery: a qualitative study at 12-month follow-up	2013	Experiences 12 months after BS.	Hospital	30 (20f 10m)	Band 22, sleeve 8) 1 year post op	Post / Longitudinal	Interviews	Portugal	1	1, 2, 3, 4

9	Das, A; Faxvaag, A	What influences patient participation in an online forum for weight loss surgery? A qualitative case study	2014	Explore engagement in online (moderated by a HCP) discussion forums and what influenced participation in discussion forums	Bariatric surgery clinic	60f on portal / 7 interviewed 6f 1m	Not reported	Content analysis of web	Analysis of discussion forum / interviews	Norway	1	2, 3, 4
10	Dikareva, A; Harvey, W J; Cicchillitti, M A; Bartlett, S J; Andersen, R E	Exploring Perceptions of Barriers, Facilitators, and Motivators to Physical Activity Among Female Bariatric Patients: Implications for Physical Activity Programming	2016	Barriers, facilitators and motivators to PA - pre (retrospective) and post BS	Bariatric clinic	12 women (mean age 47+9yrs)	Any type, <2yrs	Post	Interviews	Canada	1	1, 2, 3, 4

1 1	Edward, K; Hij, M W; Giandinoto, J; Hennessy, J; Thompson, L	Personal Descriptions of Life Before and After Bariatric Surgery from Overweight or Obese Men	2018	Adaptation to new life; new boundaries and barriers to seeking consultation. Experiences of surgery process- pre and post	Weight loss surgery clinic	6m (mean age 50.3yrs)	Not reported; >3 months,12 months	Post	Interviews	Australia	1	1, 2, 3, 4
1 2	Engström, M; Forsberg, A	Wishing for deburdening through a sustainable control after bariatric surgery	2011	Expectations and outcomes of bariatric surgery	Hospital	16 (12 women)	RYGB and BPD-DS, interviewe d pre-op, 1, 2 years post-op	Longitu dinal	Interviews	Sweden	1	1, 2, 3, 4
1 3	Engstrom, M; Wiklund, M; Olsen, M F; Lonroth, H; Forsberg, A	The meaning of awaiting bariatric surgery due to morbid obesity	2011	Meaning of awaiting bariatric surgery	Hospital	23 (14f/9m)	Pre surgery	Pre	Interviews (Pre)	Sweden	1	1, 4

1 4	Faccio, E; Nardin, A; Cipolletta, S	Becoming ex- obese: narrations about identity changes before and after the experience of the bariatric surgery	2016	Change and resistance to change in the identity system, perception of the body in relationships and QoL	Hospital	30f	gastric bypass or sleeve, pre and 1 year post (diff groups)	Pre and Post	Interviews 15 pre and 15 1yr post	Italy	1	2, 4
1 5	Ficaro, I	Surgical weight loss as a life- changing transition: The impact of interpersonal relationships on post bariatric women	2017	transitions of relationships post BS	Bariatric surgery clinic	6f	Gastric sleeve/ 6- 12months post op	Post	Interview	US	1	2, 3, 4
1 6	Forsberg, A; Engstrom, A; Soderberg, S	From reaching the end of the road to a new lighter life - people's experiences of undergoing gastric bypass surgery	2013	Expectations and outcomes of bariatric surgery	Hospital	10 (8 women)	RYGB, 1- 2 months	Post	Interviews	Sweden	1	1, 2, 3

17	Geraci, A; Brunt, A R; Hill, B D	The Pain of Regain: Psychosocial Impacts of Weight Regain Among Long-Term Bariatric Patients	2014	Outcomes of bariatric surgery	Community	9 women	SG (n = 7) and RYGB (n = 2), 2.5–7.5 years	Post	Questionnaires	US	1	2, 3, 4
18	Gilmartin, J	Body image concerns amongst massive weight loss patients	2012	Body image following bariatric surgery	Hospital	20 (18 women)	Type not reported - some BS others radical lifestyle change, 2–5 years	Post	Interviews	UK	2	2, 3
19	Graham, Y; Hayes, C; Small, P K; Mahawar, K; Ling, J	Patient experiences of adjusting to life in the first 2 years after bariatric surgery: a qualitative study	2017	Adjustment to social aspects of lives post op	Hospital	18 (11f/7m)	Permanent BS procedures / 5-24months	Post	Interviews	UK	1	3, 4
20	Griauzde, D H; Ibrahim, A M; Fisher, N; Stricklen, A; Ross, R; Ghaferi, A	Understanding the psychosocial impact of weight loss following bariatric surgery: a qualitative study	2018	Psychosocial experiences following BS	Hospital	77 (69f 8m)	Sleeve, bypass, band, Duodenal switch / <1year- >5years	Post	Focus groups (n=11)	US	1	2, 3, 4

2 1	Groller, K D; Teel, C; Stegenga, K H; Chaar, M E		2018	Patient descriptions about BS experience, education received, subsequent satisfaction and recommenda tions for improvement	Weight Managemen t Centre	11 (7f 4 m)	6RYGB 5 Sleeve, 12- 18 months	Post	Interviews	US	1	1, 2, 3
2 2	Gronning, I; Scambler, G; Tjora A	From fatness to badness: The modern morality of obesity	2013	Decision- making around bariatric surgery	Hospital	12 (10 women)	RYGB (<i>n</i> = 10), AGB (<i>n</i> = 1), both RYGB and AGB (<i>n</i> = 1), time not reported	Post	Interviews	Norway	2	2
2 3	Groven, K S; Galdas, P; Stolbraekke , K N	Becoming a normal guy: Men making sense of long-term bodily changes following bariatric surgery	2015	Explore bodily changes of men following BS	BS support group. 2 private / 3 funded	5 m	RYGB >4 yrs post BS	Post	Interviews	Norway	2	1, 3, 4

2 4	Groven, K S; Raheim, M; Engelsrud	Dis-appearance and dys- appearance anew: living with excess skin and intestinal changes following weight loss surgery	2013	Women's responses to changes in body - inside and out following BS	Hospital	22 f	RYGB / 3- 5yrs	Post	Interviews	Norway	2	3
2 5	Groven, K S; Raheim, M; Engelsrud	My quality of life is worse compared to my earlier life: Living with chronic problems after weight loss surgery	2010	Side effects of bariatric surgery and bodily change	Health clinic and community	22 women	Gastric bypass, 5- 6 years	Post	Interviews- two participants interviewed 1 year later	Norway	1	1, 2, 3, 4
2 6	Groven, KS; Glenn, NM	The experience of regaining weight following weight loss surgery: A narrative- phenomenologica l exploration	2016	Impact of weight regain on lives of women	BS support group	3 f	type not reported / >5yrs post BS	Post	Interviews	Norway	2	1, 2, 3, 4
2 7	Hillersdal, L; Christensen , B J; Holm, L	Patients' strategies for eating after gastric bypass surgery: a qualitative study	2016	dealing with BS through 3 strategies; time out, solution and abstain	Hospital	24 (15f 9m)	RYGB 1.5months- 2years	Post	Interviews	Denmark	1	3, 4

28	Jensen, J; Petersen, M H; Larsen, T B; Jorgensen, D G; Gronbek; Midtgaard, J	Young adult women's experiences of body image after bariatric surgery: a descriptive phenomenologica l study	2013	Body image following bariatric surgery	Hospital and community	5 women	RYGB, 1–12 months	Post	Interviews	Denmark	1	1, 3, 4
29	Johnson, L P; Asigbee, F M; Crowell, R; Negrini A	Pre-surgical, surgical and post-surgical experiences of weight loss surgery patients: a closer look at social determinants of health	2018	Use of photovoice and social determinants of health	Hospital	15 11f4m	Not reported	Longitudinal	Photovoice & interviews	US	1	1, 2, 4

30	Jones, L; Cleator, J; Yorke, J	Maintaining weight loss after bariatric surgery: when the spectator role is no longer enough	2016	Weight regain following BS. Prior expectations of weight regain and the causal and contributing factors. Consequences of weight regain and acceptance and views of support mechanisms	Hospital	10 (8f 2m)	RYGB 2-6yrs post BS	Post	Interviews	UK	2	1, 2, 3, 4
31	Jumbe, S; Meyrick J	Contrasting views of the post-bariatric surgery experience between patients and their practitioners: a qualitative study	2018	Expectations and measures of success difference between pts and HCPS	Hospital	10 pts 8 HCPS	RYGB LADP Sleeve >1yes	Post	Interview	UK	4	

3 2	Knutsen, I R; Terragni, L; Foss, C	Empowerment and bariatric surgery: negotiations of credibility and control	2013	Empowerment discourses in the context of bariatric surgery	Hospital	9 (8 women)	RYGB, interviewed twice pre-op, and at 2 weeks, 2- 3 months, 9 months post-op	Longitudinal	Longitudinal interviews	Norway	1	1, 2, 3
3 3	Lieble, L; Barnason S; Hudson DB	Awakening: a qualitative study on maintaining weight loss after bariatric surgery	2016	Experiences of successful weight loss maintenance >2yrs post BS	Social media, HCPs, community venues	14 (11f, 3m)	RYGB, Sleeve or band > 2yrs post BS	Post	Interviews	US	2	1, 3, 4
3 4	M. Livhits, C. Mercado, I. Yermilov, J. A. Parikh, E. Dutson, A. Mehran, C.Y.Ko, P. G. Shekelle and M. M. Gibbons	Is social support associated with greater weight loss		Social support	N/A	N/A			Systematic review	US	4	

3 5	Lynch, A L; McGowan, E; Zalesin, K C	obr_720 142..148	2018	life course approach to obesity pre surgery	Bariatric surgery clinic	30 (24f6m)	Sleeve (19) and bypass (11) / pre, 6&12 months post	Post	Interviews longitudinal	US	1	Backg round
3 6	Lynch, A; Bisogni CA	after bariatric surgery?: a systematic review	2014	Understand BS pts construction of dietary practices after first year of BS.	BS support groups	16 (13f, 3m)	RYGB > 12months	Post	2 interviews with different themes - current and past dietary practices and experiences related to BS and weight loss.	US	2	1, 2, 3, 4
3 7	Magdaleno , R; Chaim EA; Pareja JS; Turato ER	The Psychology of Bariatric Patient: What Replaces Obesity? A Qualitative Research with Brazilian Women	2011	Understandi ng the Life Experiences of Brazilian Women after Bariatric Surgery: a Qualitative Study	Hospital	7f	Not stated / 18months- 3 years	Post	Interviews	Brazil	2	2, 4

38	Magdaleno, R; Chaim EA; Turato ER	Understanding the Life Experiences of Brazilian Women after Bariatric Surgery: a Qualitative Study	2008	what sustains therapeutic success and failures	Hospital	7f	Not stated / 18months-3 years	Post	Interviews	Brazil	2	
39	Natvik, E; Gjengedal E; Raheim, M	Totally Changed, Yet Still the Same: Patients' Lived Experiences 5 Years Beyond Bariatric Surgery	2013	Outcomes of bariatric surgery	Hospital	8 (4 women)	Duodenal switch, 5-7 years	Post	Interviews	Norway	2	2, 3
40	Ogden, J; Clementi C; Aylwin S; Patel A	Exploring the Impact of Obesity Surgery on Patients' Health Status: a Quantitative and Qualitative Study	2005	Quant design to assess impact of BS on health status and qual methods to examine mechanisms behind the success of BS and explore how BC may bring about changes to wellbeing	Hospital	61 questionnaires / 15 interviews (same group as study above)	RYGB and band / 4 months 4 years	Post	Questionnaire and interviews	UK	1	

4 1	Ogden, J; Clementi C; Aylwin, S	The impact of obesity surgery and the paradox of control: A qualitative study	2006	Post-surgery HRQL and eating behaviour	Hospital	15 (14 women)	Variety: gastric banding, gastric bypass and vertical gastroplasty, 4–33 months	Post	Interviews	UK	2	1, 2
4 2	Ogle, J P; Park, J; Damhorst, M L; Bradley, L A	Social Support for Women Who Have Undergone Bariatric Surgery	2016	social support experiences and requirements post BS	Hospital support group	13 f	bypass 9, 4 sleeve 5weeks to 35months	Post	Interviews	US	1	2
4 3	Owen-Smith A, Donovan J, Coast J	Experience of accessing obesity surgery on the NHS: a qualitative study	2016	Patient access to referral for BS	Hospital	22 patients 15f 7m (pre) 11clinicians		Pre	Interviews longitudinal Pre, 6, 12, 18, 24, 36months	UK	4	1, 3, 4

4 4	Park, J	The meanings of physical appearance in patients seeking bariatric surgery	2015	Determine the diverse values and significances that appearance renders to preoperative bariatric pts	understand negative QoL from weight related stigma through appearance	14 11f3m	bypass 12 sleeve 2 / pre surgery interviews	Pre	Interviews	US	1	1, 2, 3
4 5	Parretti, H M; Hughes, C A; Jones, L	'The rollercoaster of follow-up care' after bariatric surgery: a rapid review and qualitative synthesis	2019	patient experience of HCP >12months post op	N/A	N/A	Rapid review and qualitative synthesis	N/A	N/A	N/A	1	1, 2, 3, 4
4 6	Pfeil, M; Pulford, A; Mahon, D; Ferguson, Y; Lewis, M P	The Patient Journey to Gastric Band Surgery: A Qualitative Exploration	2013	Expectation and journey to surgery	Hospital	23 19f 4m	pre LAGB	Pre	Interviews	UK	1	1, 2, 4
4 7	Pories, M L; Hodgson, J; Rose, M A ; Pender, J ; Sira, N ; Swanson, M	Following Bariatric Surgery: an Exploration of the Couples' Experience	2016	Couples experience of BS	Hospital	10 couples	RYGB or sleeve / 3-10months	Post	Interviews	US	1	2, 3

48	Sharman, M; Hensher, M; Wilkinson, S; Williams, D; Palmer, A; Venn, A; Ezzy, D	What are the support experiences and needs of patients who have received bariatric surgery?	2015	Support needs - nutrition, psych and peer support	Media, public and private clinic databases	41 26f 15m	LAGB / mean 6 0-31yrs	Post	Focus groups n=7	Australia	1	2, 4
49	Stolzenberger, K M; Meaney, C A; Marteka P, Korpak, S; Morello, K	Long-Term Quality of Life Following Bariatric Surgery: A Descriptive Study	2013	Post-surgery HRQL	Hospital	61 (48 women)	RYGB (72%), LAGB, 2-9 years	Post	Focus groups	US	2	1, 3
50	Tarrant, M; Khan, S; Farrow, C V; Shah, P; Daly, M; Kos, K	Patient experiences of a bariatric group programme for managing obesity: A qualitative interview study	2017	Tier 3 group based support and psych connections between the group.	Tier 3 service	20 12f 8m	Tier 3 pre op	Pre	Interviews	UK	1	2, 3
51	Throsby, K	Happy Re-birthday: Weight Loss Surgery and the 'New Me'	2008	aspirations of WLS and rebirth of life post BS	Hospital	35 (29 women)	Not stated	Post	Interviews and focus group	UK	2	1, 3

5 2	Throsby, K	Obesity surgery and the management of excess: exploring the bodily multiple	2012	Excess linked to surgery - weight, skin and consumption	Hospital	1 pt and 1 surgeon	Pre	Pre	Ethnographic data from observations and interviews	UK	2	1, 3
5 3	Throsby, K	The War on Obesity as a Moral Project: Weight Loss Drugs, Obesity Surgery and Negotiating Failure	2012	Discourse of re-birth in the context of bariatric surgery	Community - on line discussion forums for BS	35 (29 women)	Weight loss meds and BS.	Post	One focus group, then interviews	UK	2	Backg round
5 4	Wallwork, A; Tremblay, L; Chi, M; Sockalingam, S	Exploring Partners' Experiences in Living with Patients Who Undergo Bariatric Surgery	2017	Partners experiences of spouse BS	Bariatric surgery clinic	10 m	Partners of patients 16months - 3years	Post	Interviews	Canada	1	3
5 5	Warholm, C; Oien, A M; Raheim, M	The ambivalence of losing weight after bariatric surgery	2014	Outcomes of bariatric surgery	Hospital	2 women	BPD-DS, interviewed at 3, 6, 9 and 12 months post-op	Post	Longitudinal interviews	Norway	1	2

5 6	Wiklund, M; Olsen, M F; Willien, C	Physical activity as viewed by adults with severe obesity, awaiting gastric bypass surgery	2011	Barriers to P and support required to increase PA	Hospital	18 10f8m	RYGB pre	Pre	Interviews pre	Sweden	1	3
5 7	Willmer, M; Salzman-Erikson, M	'The only chance of a normal weight life': A qualitative analysis of online forum discussions about bariatric surgery	2018	Online support required pre and post BS, can influence expectations	N/A	N/A	N/A	Content analysis of web	Content analysis of internet forum	Sweden	1	1, 2, 3, 4
5 8	Wysoker, A	The Lived Experience of Choosing Bariatric Surgery to Lose Weight	2005	Individual experiences of bariatric surgery	Not reported	8 (5 women)	Type not reported, ≥1 year (unclear length of time),	Post	Interviews	US	1	1, 3
5 9	Zabatiero, J; Hill, K; Gucciardi, D F; Hamdorf, J M; Taylor, S F; Hagger, M S; Smith, A	Beliefs, Barriers and Facilitators to Physical Activity in Bariatric Surgery Candidates	2016	Barriers to PA not obesity related - unlikely to change post BS	Private bariatric clinic	19 15f 4m	Pre	Pre	Interview	Australia	1	2, 3, 4

60	Zabatiero, J; Smith, A; Hill, K; Hamdorf, J M; Taylor, S F; Hagger, M S; Gucciardi, D F	Do factors related to participation in physical activity change following restrictive bariatric surgery? A qualitative study	2018	Limited change in PA pre to post BS	Private bariatric clinic	14 12f 2m	LAGB and Sleeve / pre and 12months post	Longitudinal	Interview Longitudinal	Australia	1	3
61	Zijlstra, H; Boeije, H R; Larsen, J K; Van Ramshorst, B; Geenen, R	Patients' explanations for unsuccessful weight loss after laparoscopic adjustable gastric banding (LAGB)	2009	Negative outcomes of LAGB surgery	Hospital	11 (10 women)	LAGB, 2–5 years	Post	Interviews	The Netherlands	2	1, 3

*Where found: 1=Database search, 2 = Systematic Review. 3= Known Paper, 4 = Author; citation; reference search

Empty box = no applicable to the aim

Study	Aim 1: Clarify what success after surgery means to a patient	Aim 2: Explore the support needs of bariatric surgery patients and experiences of the care pathway pre and post bariatric surgery	Aim 3: Identify mechanisms that determine whether success is achieved	Aim 4: Identify the implications for clinicians, policy makers and commissioners in order to enhance the chances of success of bariatric surgery	Relevance to PhD study ; my thoughts on the quality of the paper to be included in summary of papers / reflections on research methods used
1	Increased self-confidence, energy and social activity. Decreased dependence on spouse.	Continued fat identity	Relationship maintenance activities	Partners provide positive support; need to manage the expectations of partners. HCPs need to be aware of patients support systems and be able to discuss challenges with them.	Couples interviewed individually post-surgery. Similar themes to my study; partner perspective adds an additional layer.

2		Support needs vary pre and post-surgery	Different types of support provided - online; esteem; tangible; networks	Check accuracy and quality of information provided on online resources. Value in offering access to social support prior to BS -not just post.	Content analysis of online bariatric forum. Based on validated Social Support Behaviour Code model - used in other studies to examine support avail on online health discussion forums. model includes informational support; esteem support; network support; tangible support; emotional support.
3		Support from family and friends required to be active	Barriers and facilitators to physical activity and exercise	HCPs to provide specific info for patients on appropriate levels and types of exercise	Similar themes of barriers and facilitators to exercise.
4	Rebirth / transformation. Increase in physical ability, health, enhanced ability to parent.	Support to maintain the tensions and new challenges of post-surgery life	Ways in which pts cope with tension-generating changes (social life, skill acquisition) to maintain QoL may influence long term BS outcomes.		Impacts of surgery are more complex than can be captured in quantitative studies. Paper regularly cited although older paper.

5			Specialist adult MDT services can lead to significant weight loss.	Highlights few studies report changes to QoL or behaviour change outcomes - require better understanding of these and the mechanisms for change which contribute to improved clinical measures. Need for standard measures of KPI's across obesity services	Adding a tier three service to RYGB improved % weight loss.
6	Control, normality and ambivalence describe the lived experience of BS.		Weight re-gain associated with a loss of control on areas of patients' lives. More normal and socially accepted because of weight loss; less normal resulting from loose skin and gastro probs.	Require continued HCP support to manage diet and psychological changes and challenges from surgery. Help to recognise when small amount of weight gain is normal and when it is problematic.	Study adds to the justification of the need for qualitative research on bariatric surgery experience. Used papers from this synthesis that were not picked up through database searches. 5 papers included in the review were longitudinal.

7			Pre-surgery eating behaviours impulsive, uncontrollable, inconsistent - changing to healthy options huge sacrifice. Surgery will provide the external control to manage this.	Patients need to be prepared for the failure and challenges that surgery may bring about.	Sister paper to no.6. Focus on pre-surgery yet the data was collected post-surgery. Fears, expectations and difficulties before surgery are rarely studied. Meaning of eating, impact of obesity and treatment expectations are more complex than can be captured by standardised measures.
8	Achieving objectives set before surgery.	Long waits between services hinders behaviours	Reasonable expectations and understand lifelong commitment to changes. Preoccupations with plastic surgery to solve problems and achieve desired body image.	Pre-surgery stress potential negative outcomes and ensure surgery is understood to be only part of the treatment and requirement for lifestyle change.	Many links with themes - particularly in relation to success and failure and justification provided for this

9		Informational and social support - prominent reason for online interaction. Contact with HCPs to manage changes valued through use of forum.	Passive and active participants of online support forums. Through moderated forums HCPs can reach out to those who exclude themselves from face to face interventions / consultations. Forums are a good opportunity for HCPs to channel reliable and validated health information, preventing misinformation.	Digital divide between patients who can access online forums and those that cannot. Instant access to HCP reducing barriers and time to wait for a response from an appointment or telephone call.	Useful paper for clinical implications includes suggestions for practice moderated forum as a support network.
10	Increased physical function and weight loss provided new motivation to be active	Physical activity needs change pre- and post-surgery.	Body image dissatisfaction may adversely impact on physical activity participation. Barriers are related to the exercise environment.	Require specific strategies to be more active from HCP not generic 'be more active' advice	IW-QOL self-esteem domain scores <55th percentile - suggesting body image dissatisfaction persists despite significant weight loss.

11	Body image improvements; improve health and experience longevity; take control of weight loss - end weight cycling.	Only disclose having surgery to close family, viewed as a sign of weakness.	GPs not supportive of surgery	Need for more accessible information relating to men and surgery to assist them in deciding. Access to internet based health care may offer a 'private first stop' for males.	Similar themes to men in my study. Different with follow up as barriers linked to costs of accessing care as it was private funded BS. Pre and post-surgery focus.
12	Experience of social reinsertion and acceptance was biggest benefit of BS. Control of eating habits and weight loss. Desire to become healthier, normal weight and more energy.	Support to manage transition from physical control of not overeating to willpower. Confidence in control from this physical at 2 years more doubted and anxiety provoking. Support to manage excess skin - starting to lead to avoidance of social situations.	Knowledge and respect from HCPs influences engagement with obesity treatment services and behaviour change.	HCPs educate surgery patients from the outside perspective, need also to reflect inside perspective.	Longitudinal study over similar time frame to my study - pre - 1- & 2-years post-surgery. Main theme - wishing for a deburdening through a sustainable control overeating and weight - the focus of this deburdening changed over the course of the surgical journey.
13	End weight cycling. Expecting control and opportunities.				Themes related to waiting for BS and living with obesity very similar to my findings. Paper is the precursor to no.13.

14		Adapt to identify with new body where significant weight loss had taken place. Thought, behaved and related to others as obese person.		Support required to deal with negative body image and adapt personal perceptions of what their body looks like	Focus on the change in semantics pre and post-surgery 'Why I live with obesity' remains in language pre and post-surgery.
15		Support to manage surgery transitions.	Peer and online support through forums and social media provide 24/7 access. Peer support groups are essential in providing an empathetic environment. Family and friends' networks provided challenge.	A therapeutic / caring relationship required between HCP and patients. Involve family at every stage of the journey to support and act as a champion for the patient.	Paper on elements of support that surgery patients accessed and require.
16	Healthier life.	Information provided at pre-surgery information session was concise and informative	Difficult to process change in body shape and weight.		Paper focuses on immediate time before and after surgery.

17		Without addressing the psychological issues related to eating behaviours patients may override the biological mechanism provided by the surgery and gain weight.	Support groups generally focus on needs immediately post-surgery; longer term patients may feel isolated. Lack of education from HCP re potential for long term issues such as weight regain, mineral and vitamin deficiencies, lack of follow up past the first year.	Continued post-operative support and education - particularly in patients where weight loss slows / weight regain is likely is essential.	Paper has a quantitative focus using survey and questionnaires.
18		Important HCPS gain insight into pasts of patients and help them to manage psychological issues.	Access to post BS reconstructive surgery not available on NHS - however findings suggest the QoL from negative body image warrants greater consideration to treat negative body image and appearance matters.		Impact of excess skin on negative body image and links to poorer QoL and depression. Supports justification for follow up support for skin surgery.

19			<p>Non-disclosure of surgery may negatively affect adjustment to life. Themes divided around three profiles: risk acceptor, risk contender, risk challenger</p>	<p>HCPs should encourage engagement with support groups and make patients aware of challenges they may encounter in social situations when disclosing they have had surgery to others.</p>	<p>Patients split into three risk categories - many of participants in my study could be mapped against these. Provides a useful way of segmenting patients and using this for HCP to support pts pre and post-surgery. No mention of prior WMS support before tier 4 MDT. Similar cohort of demographics and a UK based study.</p>
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20		Support with adjustment to appearance post BS - disconnect between body (weight) and mind (identity).	Positive and negative change in perception by others and with personal relationships.	Standardised instruments (PHQ-6) may screen for common mental health conditions (e.g. depression) these measures may not reveal other psychosocial experiences e.g. judgement from friends or marital discord which may contribute to general wellbeing and weight loss.	Findings support wider literature on improved mental health and reduced depressive symptoms and HRQOL for some but also more negative for others. Quantitative literature cannot delve into differences like qualitative.
21	Determinants revealed through 3 factors - achieving weight loss goals: following programme rules and level of personal effort.	Change in expectations pre- and post-surgery. Support focus on recording clinical measures; not emotional needs. Support not tailored to different literacy levels.	Barriers existed to attending post BS support groups. Those who did had most success.		Study adds a description of BS education experience and subsequent satisfaction level - not often reported in the literature. US study but has some similarities to UK information provided. Participants were interviewed close to BS so better recall and current events.

22		Shame, blame, lies and embarrassment were shared experiences of pts - support required to tackle and manage these feelings and this psychosocial impact pre and post-surgery.			Includes pts who accessed other forms of weight management services. Focus of paper on stigma and blame of obesity and need for surgery.
23	Normal life		Ongoing lifestyle changes as key to success rather than the surgery itself.	Not taken seriously by HCPs in relation to pain / other illnesses. Poor communication between HCPs and surgeons.	Paper acknowledges that interviewing four years post-surgery means experiences reported changed over passage of time as well as present life situation; justification of using longitudinal methods.
24			Impacts of excess skin - all consuming. Waiting lists and barriers to accessing skin surgery causing problems for women.		Part of larger study reported in other Groven papers.

25	End weight cycling; prevent future illness; seek more acceptable appearance; reduce shame of appearance.	Require support to manage effects of loose skin and negative impacts on appearance.	Online support useful. Post-surgery withdrew from internet forums as problems start; focus on positive not negative outcomes.	Uses work by Svenaeus (2000) on clinical encounter - need to change dialogue where patients lived experiences are placed in the foreground.	Paper reports negative experiences from a larger study.
26		Supportive environment pre-surgery: post-surgery felt alone to tackle weight regain. Psychological impacts of excess skin. Emotional eating returned body changed brain stayed the same	Post BS follow up mainly record keeping of weight but does not provide opportunity for lived experience discussions.	Negative outcome experiences are not routinely shared which adds to stigma and marginalisation of these patients, more is required to support them.	Part of larger studies by Groven. Reported as three case studies / individual accounts and then summarised with discussion.
27			Three ways in which patients report surgery experiences: surgery as time out; surgery as the solution; abstinence	Individually targeted advice on eating practices should be provided post-surgery.	

28	Normal and blending in.		Increased control over eating. Confirmation from other people about their body changes gave patients a sense of equal status and enable social interaction with peers providing a feeling of empowerment.	Support required with developing a positive body image post-surgery to improve body control.	Phenomenological approach. Interviews focussed on 3 time periods: past-present, present, future.
29	Weight loss and reduced comorbidities	Manage expectations of surgery outcomes		Impacts of poverty on outcomes. Address the family system not only patients Take extensive social histories and cultural views.	Modified Photovoice technique used, individual basis rather than group. Interview questions and Photovoice prompts by time. Socio ecologic model used to feedback to HCPs.

30	Control uncontrolled eating behaviours.	Disconnect from support groups / follow up clinics as weight regained. Mismatch between patients and HCPS outcome expectations. Require psychological support pre and post-surgery to focus on individual taking control and problem solving.	Lack confidence and ability to maintain weight and need to develop these skills and get better peer, social and HCP support with this. Avoid peer group support for fear of being judged - internalise weight regain as a personal failure and avoided circumstances where they had to account for it. Group support desired but negative impacts of group support suggested moderation with them was required.	Pre-surgery screening and support with the signs of post-surgery emotional eating may play a role in reducing weight regain.	For some surgery not considered worth it given long term mental and social consequences of weight regain - these remained unable to develop strategies to move forward - like P15 in my study.
31			Gap in communication between tier three and four from the HCP perspective. Limited communication from tier four HCPs following surgery.	Success measures should be widened to include functional and social ability. Unmet patient needs in relation to excess skin and psychological support.	Similar participant group of patients to my study and findings in relation to success measures, support gaps and communication between commissioned services.

32	Normal life.	Insufficient ability to remain in control of new behaviours between referral and surgery. Peer support provided the opportunity to position themselves as insiders among outsiders.	Achieving and maintaining control of eating was challenging. Attention from networks was not always positive. Constant struggle for normal identity.		Discourse analysis, data collected pre - 9 months post-surgery. Conducted qualitative interviews with the intention of creating an atmosphere leading to open communication between the respondent and the interviewer. Main themes around control and credibility were recurring throughout the journey pre to post; similar themes to my work.
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33	Control of health and life; prevent onset of comorbidities, own life, be around to watch kids / grandchildren grow up.		Support id'd as paramount to success. Negative support networks eliminated from their lives. Finding a comfortable weight that they could maintain and be happy with following physical disconnect with body after weight loss. New behaviours influencing behaviours of others - children eating healthier.	Couples and / or family counselling should be recommended for pre and post BS pts to help to prevent miscommunication and misunderstandings in expectations. HCPS should help patients identify and discuss any potential negative people around them. Develop support groups relevant to different stages of the journey and surgical phase.	Bandura's social cognitive change theory - emphasises reciprocal interaction between an individual's intrapersonal (self-efficacy) behavioural (self-regulation) and environmental (social and physical factors external to individual). Patients removing themselves from negative support networks - same in my study.
34			Greater weight loss associated with attending support groups. Support groups provide continued education post-surgery.	Make support groups accessible with structured content.	Highlights selection bias as those who attend support groups may be more motivated.

35					<p>Life course approach links to DH obesity strategy and marmot. Grounded theory and constructivist perspective. Paper explores people who are preparing for BS and their explanations of how obesity develops across life course. Weight timeline across life course developed for each participant: four groups (like my participants) - always heavy; late peak; steady progression and weight cycling.</p>
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36	Weight management; health; avoid negative reactions		Integrating new behaviours into the context of everyday lives - participants made major dietary changes but few made drastic changes to lives or work situations.		Grounded theory and constant comparative methods. Highlights mechanisms in flow charts of networks of goals, strategies and outcomes. Many similar themes to my study. Strategies are the mechanisms to achieve the desired outcomes.
37		Managing partner jealousy of weight loss and changes to body image and excess skin. Experience of recovering a place in society.		Involve partners in preparation for surgery. Prime patients and partners for continued adjustment and acceptance of changes to body especially in relation to skin.	Critical qualitative design using a humanistic model seeking to interpret the meanings that individuals give to life experiences. Short article - reconfirms need for partners to be involved in pre- and post-surgery consultations.
38					Same study as no. 37. Not adding any additional info.

39		Worry to retain control of food and overeating still existed 5+yrs post BS	Stigma of obesity made worse after surgery as more people spoke to them now they were slimmer. Discrepancy between the felt body and the visible body.		Phenomenological lifeworld approach. lifeworld is daily life that we take for granted but don't critically reflect on.
40					Content analysis for interviews. Quantitative data shows improved QoL from patients who had surgery and waiting list control group using standardised measure of QoL.
41	Control of weight and eating behaviours through an external mechanism. Improved confidence; body image and QoL.	Transition towards a more confident and positive identity is a journey which requires a period of adjustment often tempered by confusion and a tendency to resort to the old sense of self.			Participants recruited from another qualitative study. Similar themes from pre surgery - reasons want BS and body changes post BS. Papers by Ogden regularly reported in bariatric surgery literature although they are 15 years old there are some common themes to my data.

42		3 types of social support: peers, HCPs and family / friends.			Constant comparison process used for data analysis. Very good links for support mechanisms - three groups same as my work and lots of common themes.
43	Experience of obesity - long history of weight, impacts of obesity and methods to lose weight	<p>Pts were not triaged through a T3 model; surgery accessed via GP. GPs not supportive with obesity especially where they had no relationship with a GP at their practice.</p> <p>Most patients had to request referrals to surgery, and some interpreted this as evidence of implicit rationing.</p>		Lack of psychological support available. Findings contribute to the argument for integrated systems of care when it comes to obesity, including the need for clinicians to work beyond traditional divisions between primary and secondary care, and physical and psychiatric services, and to provide timely and appropriate referral for surgical assessment.	Article focuses on experiences of accessing treatment for morbid obesity in primary care. It therefore reports mainly on data collected in initial interviews with patients where they were particularly encouraged to explain the background to their weight difficulties and their experiences of negotiating a referral to secondary care Study sample and drop out like my study.

44	Improved appearance; social life.	Paper refers to the types of support and weight loss methods people have accessed prior to accessing BS	Clothing and embellishments used to remind of old life and start a new one. Also provides psychological protection from social rejection.		Uses a framework to categorise stigma pre-surgery: direct stigma; indirect stigma; environmental stigma. Many examples of the three types of stigma in my work.
45	Improved health	Require increased access to psychological support to manage existing and new challenges. Limited physical activity and exercise information provided.	Access to support required 2/3 years post-surgery once discharged to non-expert primary care. No access to skin surgery significant problem. Frequency of appointments determined by pathway or clinician not by patients' needs e.g. during significant life event when extra support required.	Long term support extended and access to psych support to help with behaviour change, weight maintenance and self-efficacy. More information should be given pre-surgery for post issues. Need for post-surgery support group that extends past the immediate period when weight regain is most likely. Guidance on shared care protocols for surgery exist in UK but not widely used, training for GPs on post-surgery care lacking.	First qual synthesis of qual lit on patient experiences of HCP >12 months post-surgery. Search terms from this review used along with Coulman paper (no. 6)

46	Reverse health problems, control eating. Weight loss targets expressed in weight; health benefit; self-esteem; QoL or clothes size.	Support from bariatric nurse and other HCPs and peers required and accessed. Internet and forums useful for support. Internet was used as a first step before getting info from HCPs.		Nursing guidelines in BS focus on physical assessment and technical prep of pts, although a comprehensive pre op nursing assessment should include identification of support systems and patient and family education needs. Knowing about patients journey to surgery helps with motivation, readiness to change and acceptance and ability to change behaviours post-surgery.	IWQOL and interviews. Includes means and std deviations for general community, severely obese and BS groups from a reference manual. Similar demographics and context to obesity, however participants were recruited prior to T3 services so unlikely to have had same level of support in lead up to surgery.
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47		Systems theory - suggests that surgery has a major impact on the health of one partner in a relationship would logically have at least some impact on the significant other and the relationship itself.	5 themes: greater intimacy in relationship; joint journey; change in emotional health; change in eating habits; significant weight loss		All themes report positive changes, not problems between couples. Change in my data which suggests start of problems, Data collected in early stages post-surgery- would be interesting to see if problems appeared later post BS. - recognised as a limitation in the study.
48		Support required from: dietitians, psychologists; surgeons; GPs; peers; family and friends; general community. Critical periods of support - support needs higher in first year post BS. - different to other studies who suggest later when weight regain more likely.		Provide information in different means e.g. electronic and written. Regularly check understanding of key messages. Discuss support needs and experiences with patients and evaluate the psychological needs of patients regularly. Refer to HCPs who have knowledge of surgery and offer training to those who do not.	Useful article describing different types of support required and potential gaps between the guidelines and actual delivery of services. Some differences as research conducted in Australia and some paying privately so access to follow up care will be different to UK.

49			Patients experiencing bias and discrimination pre-surgery experience.		Useful information for QoL links. Lack of definition of QoL in studies.
50		Mixed experience of tier three group - support and information received. Being a member of the bariatric group meant patients perceived shared ownership of the problem - collective problem requiring a collective response. Transition from individual to collective not seen as abdicating responsibility for changing lifestyle they remained aware that lifestyle changes could only be made through concerted personal effort	Shared social identity developed through the group regarded as a mechanism through which the dietetic content was accessed and utilised by participants. Commitment to change on an individual level shared across the group and empowered members. Unexpected consequence of facilitating groups that have a tight bond maybe to isolate others who less readily connect to the group.		Paper looks at role of support groups pre-surgery not role after surgery. Also does not report actual weight loss and whether the groups had any effect on weight loss pre-surgery.

51	Control over behaviours and social engagement		Sickness following eating viewed as successful surgery		
52	Definement of success changes through the lens of patients and HCPs and changes with conversations of different patients		HCP attitudes of excess skin as cosmetic. Patients view excess skin as inseparable and evidence of former life and brings shame.		Intro includes info on UK obesity policy.
53					BS positioned as last resort in a set of hierarchical interventions identified by NICE. Analysis mainly focuses on WL drugs and use of them before turning to BS for support to lose weight.
54			Processes of change post BS split in to three themes.		Grounded theory - interviews with male partners of BS patients

55		<p>Struggle to regain control and make sustainable changes with lifestyle choices post BS. Speed of weight loss and change in body can have negative psychological consequences.</p>			<p>Phenomenology. Two patients in study, reduces generalisability although many themes like what I and others have found.</p>
56			<p>Supporting pts to undertake physical activity at the right level to achieve positive feelings it can bring. Difficulty in finding appropriate opportunities.</p>		<p>Phenomenographic approach. Study on pre-BS levels and factors influencing PA. Similar themes to my study.</p>

57	Expectations of new life, happier, healthier and no longer doubting ability to maintain a healthier weight.	Support offered through 'journey' of pre to post BS. GPs described as gatekeepers to BS. Critical point in referral process is gaining approval from surgeon for BS. Forums provide a safe space to air fears and anxieties about the BS and journey that they can't share with family and friends	Tone in BS internet forums generally empathetic and supportive. Posts not supportive told to leave. Posters in forums looking for space to feel safe and away from criticism that they receive in outside world.	Highlights unrealistic expectations that pts often have about BS changing lives as demonstrated in other qual studies. HCPs need to be aware of this and manage these expectations.	Naturalistic tradition a generic orientation to inquiry not bound to philosophical or theoretical connotations. Analysis of BS online forums in Sweden. Cites my BMJ article in terms of unrealistic expectations.
58	Health concerns and yo dieting meant BS last resort to change life.		BS is last resort to change current life and yo dieting. Surgery provides structure, longer term patients need support to replace the structure of the BS with another type of structure currently.		Regularly cited. Themes common to other work including mine. 'Last resort' theme regularly cited.

59		Understanding of what physical activity is - most in study linked it to structured exercise not ADL	Reports barriers and facilitators to physical activity pre-surgery. New barriers such as excess skin may emerge post-surgery.	Presents a framework that HCPs could use to discuss barriers and facilitators to activity with patients	Inductive thematic analysis. Highlights limited research from patient's perspective of physical activity
60			Highlights non obesity related barriers to activity. Post-surgery barriers changed from excess weight to excess skin. Motivators to physical activity at 12 months were mostly body weight and appearance.		Inductive thematic analysis. Follow on from previous study which reported pre-BS findings .
61	Improved health; wellbeing and functioning. Control and restriction of food intake		Lack of control from the bands, did not meet expectation of control of food intake. Testing what types and volumes of food could be tolerated and consumed.		Outcomes and attitudes of pts mapped onto stages of change framework. All LAGB different problems yet lack of control and expectation of control remains a key issue.