Developing an acceptable peer support intervention that enables clients, attending a weight management programme, to cascade their learning within their social network

Student ID: 2231829

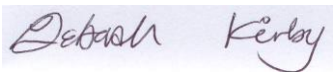
Deborah Kirby

Faculty of Health Sciences and Sport
University of Stirling
Doctor of Professional Health Studies (Dietetics)
March 2019

Declaration

I declare that I have composed this thesis myself and that it embodies the results of my own research. Where appropriate, I have acknowledged the nature and extent of work carried out in collaboration with others included in the thesis.

Signed,



Deborah Kirby

Abstract

Impacting on health and well-being, obesity creates an unmanageable burden on the health service and economy, yet is preventable and treatable. Establishing peer support as a tool for weight management could extend the reach of interventions and enhance their efficacy. A Narrative Systematic literature review highlights valuable peer support, yet also evidences that some peers are unhelpful. The aim of this research was to develop an intervention enabling clients of a weight management programme to cascade their learnings and experiential knowledge to those they know.

Introducing a peer support intervention to clients and clients offering this to peers requires behaviour changes by lead facilitators and clients. Guided by the theoretical Behaviour Change Wheel (BCW) for designing behaviour change interventions, with Capability, Opportunity, Motivation for Behaviour (COM-B) at its centre, an iterative qualitative approach was undertaken. Using a prospective longitudinal design and maximum diversity sampling within the population attending three programmes, 21 clients attended semi-structured and some serial interviews; four focus groups were conducted with nine Leads.

Thematic and interpretive analysis identified key themes. Motivated by altruistic benefits and seeing their peers' readiness to change, Participants perceived they would be able to indirectly offer support without formal training or role however cues for these offers could be missed. These findings add new knowledge to the field of peer support.

Acceptable support was praise, inclusion into and demonstration of weight-related activities, and encouragement. Practical dietary advice was welcomed but 'norms' of their social network take precedence over healthy goals. Giving time to peers and stress from hearing their problems, were barriers to offering support. Leads perceived the topic of peer support could be introduced once clients showed readiness to change. Based on theory and findings, an intervention manual, was developed using TIDieR guidance which requires further testing in the future.

Acknowledgements

I thank the Participants and Leads of the weight management programmes in this research for giving their time and an insight to their views. Without their generosity, this research would not have been possible.

For their expertise and guidance, I would like to extend my heartfelt thanks to my supervisors. My principal supervisor, Professor Pat Hoddinott, in particular has been a source of brilliance that fuelled my motivation and allowed my research abilities to progressively grow. Supporting and encouraging me at all stages of this research, she provided infinite wisdom and patience, and never once mentioned how many times she had to read my work through. To Dr Anne Taylor, who provided invaluable support and realistic, practical advice throughout this research. I thank you both.

Further guidance and feedback was gratefully received from the Study Steering Group at various stages of the research: Roy Harrison, ex-programme Lead; Margaret McMenemy, ex-programme attender; Jacqualin Barron, Lead Weight Management Dietitian; Anne Clarke, Lead Specialist Public Health Dietitian; and Stephan Dombrowski, Health Psychologist. For proof-reading my final work so carefully, I thank you too, Aileen Ireland.

I am grateful for the support of NHS Highland and the University of Stirling for funding this research – I would never have embarked on this study without their support and I thank them for the opportunity. Although she wears her main hat as Clinical Doctorate Programme Director, Kathleen Stoddart has stepped in with supervision many times in her already busy work schedule, and has praised and encouraged me at every step of the way. Thank you, Kath.

On a personal level, a thank you to my friends, colleagues and family who have accepted without comment that I have disappeared below the radar on occasion and have perhaps not been as visible or helpful as a friend/colleague/daughter/mother/grandmother should be. Thank you for the reflective discussions, that were so interesting to me, and helped me develop my research but were perhaps not so interesting for anyone else. Finally, to my long-

suffering husband who has proof-read every word I have written and never grudged the time I have abandoned him for the world of ‘academia’. The bonus to these lonely hours are the skills he has achieved from practising guitar and he is now quite adept at classical and flamenco music. Perhaps my next ambition should be in dancing……

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the thesis

1.1 Introduction to the chapter

The effect of obesity is substantial. Impacting on our health, and reducing our ability to contribute to society, it is creating a heavy and unmanageable burden on the health service and economy. In Scotland, in 2017, 65% of adults (aged 16 years and over) were overweight or obese, with 29% of those classified as obese (Scottish Government 2018a). Through my clinical and strategic role as a Professional Lead Dietitian, I am faced with the challenges of obesity and its implications. Because obesity is a preventable and treatable disease, carrying an increased risk of morbidity and mortality (Government Office for Science 2007), my colleagues and I are tasked with implementing effective weight management solutions. Only a small percentage of overweight and obese individuals achieve weight loss and weight maintenance (Dombrowski et al. 2014), with just 20% maintaining their weight loss of 10% for a year (Wing and Phelan 2005). These figures are not sufficient to support a downward trend in obesity levels (World Health Organization (WHO) 2018).

On a positive note, clients attending weight management programmes within my practice area have related successful anecdotes of cascading their learning to peers outwith the programme as a way of providing support for lifestyle changes. The literature review identified studies with similar reports of successful peer support (Chapter 2) and an insight into the facilitators and barriers to this success could enable their replication as a weight management option.

Establishing peer support as a tool for weight management could impact on the need for as many professionals and professional-led programmes; extend the reach of weight management support to non-attenders or non-completers of the programmes; and enhance the efficacy of interventions. Cascading learning from an accredited weight management programme to friends and family could provide the “credibility and novelty features that users valued” to make lifestyle changes (Avenell et al. 2018, p. 202). In addition to the provision of information, peer support could also provide emotional support (WHO 2008).

At a local level, offering extended weight management care can improve the efficacy of programmes (Avenell et al. 2018), but there is competition within the NHS for other priority needs. Furthermore, these limited resources are accessed by only a fraction of the obese and overweight population (Blane et al. 2017), and there is little evidence on what more can be done to influence attendance at NHS-funded weight management programmes (Avenell et al. 2018). In summary, if there is a panacea to obesity, it remains elusive.

This first chapter sets out the context and rationale that focus this thesis: the acceptance and feasibility of peer-led support in adult weight management.

1.2 Background: the obesity challenge

An innate survival characteristic of humans enables us to store calories in times when food is plentiful and easily accessible, and this mechanism provides for energy expenditure when food is scarce. On the other hand, humankinds' biological predilection to store calories contains a modern-day flaw; rather than promote existence, it has created a vulnerability that promotes obesity (Government Office for Science 2007). For many modern-day societies, food is plentiful and easily accessible, and this availability calls for a different survival characteristic – the knowledge and ability to control calorie intake.

Calories in food and drink choices are determined within social networks and are affected by culture and environment (Government Office for Science 2007). Regarded as a significant public health challenge, efforts to reverse the prevalence of obesity have failed because of the difficulties in maintaining an energy balance. Preventing obesity or maintaining weight loss is a life-long commitment, affected by multi-factorial barriers and facilitators. Due to this complex aetiology, interventions should contain a collection of tools to target all areas of an individual's life (Dobbs et al. 2014). Dobbs et al. (2014, p. 51) write:

> The current debate on addressing obesity still tends to revolve around the search for a single killer intervention. No single type of intervention—or any single sector of society—will be able to rein in the rising prevalence of obesity. However, as large as possible a set of interventions deployed by all relevant sectors has the potential to break that trend.

The concept of adding an intervention to the present set of weight management options, taking place within the context of social networks, might support behaviour change to a less obesogenic lifestyle: my thesis seeks to explore this option, but, first it is important to understand the size and severity of the problem.

1.2.1 Prevalence and trends of obesity

The obese and overweight are identified by the measurement of their Body Mass Index (BMI) and this measurement is still widely rated as the most accurate and practical tool for supporting the surveillance of populations (Adab et al. 2018). A caveat to this at an individual level is to establish health risks in ethnic groups, athletes and those with high central obesity who need additional approaches or different risk 'cut-off points' for diagnosis (Adab et al. 2018). The likelihood of risk from obesity increases for ethnic groups (NICE PH46 2013). Table 1.1 illustrates the health risks classification by BMI, and waist circumference, "used in addition to BMI to refine assessment of risk of obesity-related comorbidities" (SIGN 115 2010, p. 11). Data based on BMI show that, worldwide, 39% of adults are classified as overweight or obese and, of these, an estimated 13% are obese; these figures have almost tripled since 1975 (WHO 2018). Both classifications are associated with health risks.

Table 1.1: The classification of health risks by BMI, and waist circumference

Body Mass Index (BMI) Overweight and obesity among adults is measured using Body Mass Index (BMI). The BMI is calculated by dividing weight in kilograms, by the square of the height in metres (kg/m2). (World Health Organisation 2000)		
Waist Circumference (Alberti et al. 2007).		
White European Adults are classified into the following BMI groups:	**Asian Adults are classified into the following BMI groups:**	**Description**
BMI range (kg/m^2)	**BMI range (kg/m^2)**	
Less than 18.5	Less than 18.5	Underweight
18.5 to 24.9	18.5 to 23	Normal
25 to 29.9	23 to 27.5	Overweight
30 and over	Over 27.5	Obese
40 and over		Morbidly obese
25 and over		Overweight and obese
International Diabetes Federation guidance on waist circumference thresholds as a measure of central obesity		
	Increased risk	**High risk**
European Men	≥94 cm (37 inches)	≥102 cm (40 inches)
Women	≥80 cm (31.5 inches)	≥88cm (34.5 inches)
Asian Men	≥90 cm (35 inches)	≥90 cm (35 inches)
Women	≥80 cm (31.5 inches)	≥80 cm (31.5 inches)
Note that increased waist circumference can also be a marker for increased risk even in persons of normal BMI (Hans et al 1996). **If BMI is greater than 35kg/m^2, waist circumference does not add to absolute measure of risk (World Health Organisation 2000)**		

Topping the world obesity tables in 2015–2016 was the U.S.A., with 39.8% of the adult population obese (Hales et al. 2018). In Scotland, where this thesis research was conducted, the figures are the second highest in the world. The 2017 Scottish Health Survey (Scottish Government 2018a) indicates that 65% of adults (aged 16 years and over) were found to be overweight or obese, and 29% were classified as obese: only 33% of adults were of a normal weight. These levels have remained unchanged for nearly ten years, but they are still significantly higher than the levels of obesity in 2003, which were 24% (Scottish Government 2018a). Regarding genders, women are more likely to be in the healthy BMI range (35% compared to 31% men), with more men in the overweight category (40% compared to 33% women): there was no significant difference between men (27%) and women (30%) in the obese category (Scottish Government 2018a).

Interestingly, although obesity rates, as determined by BMI, have remained stable, waist measurements continue to rise and are now the highest ever recorded. Women's waist size increased by 16% between 2003 and 2017 compared to men's lesser increase of 10% during the same time period, even though men's overweight rates have increased more than women's (Scottish Government 2018a). This survey was about fact-finding and does not explain its results, but the report does mention that men are more likely to meet the moderate and vigorous activity guidelines, whereas women are not. The difference in overweight prevalence, waist circumference measurements, and activity levels suggest that men and women may require tailored lifestyle weight management support, for example, encouragement for men to eat less as well as exercise, and women to exercise in addition to eating less (Hunt et al. 2014).

The probability of becoming obese increases with age for both genders (Scottish Government 2018a). Green et al. (2015) explored other subgroups at risk of obesity and identified: men who were heavy drinkers, younger women, well-off older individuals, older individuals with physical health problems, middle-aged individuals with mental health problems, and those who generally had poor health.

Loring and Robertson (2014) discuss a final group at risk of obesity in their report on behalf of WHO, and report that this group experience an inequitable effect of social deprivation. Loring and Robertson (2014) defined this inequity as being "caused by the unequal distribution of these determinants on health, including power, income, goods and services, poor and unequal living conditions" (2014, p. 3). The WHO (2018) identified that those in low socioeconomic groups, especially those with a low or middle income, were twice as likely to be obese or to become obese.

This section has highlighted that obesity trends are not decreasing, and that certain sections of the population have increased risks of becoming obese; the next section examines the associated health risks of obesity and the importance of reducing its prevalence.

1.2.2 The importance of reducing obesity

Decreasing the incidence and prevalence of obesity is important for two main reasons: to maintain and improve individual health and well-being; and secondly, to relieve the cost to resources in supporting an individual with poor health.

Obesity increases the probability of non-communicable diseases such as cardiovascular disease, Type 2 diabetes, musculoskeletal disorders, and some cancers (WHO 2015). Recent evidence suggests that obesity is the second biggest preventable cause of cancer (Brown et al. 2018). There is also detriment to the mental well-being of the individual, including conditions such as depression, schizophrenia and bipolar disease (WHO 2013). In addition, there is evidence of a possible link between mid-life obesity and later life dementia (Loef and Walach 2013; Xu et al. 2011).

The cost of obesity to Scottish society is difficult to quantify precisely, but the latest estimate is £4.6 billion annually (Dobbs et al. 2014). This calculation includes "loss of productivity attributable to loss of life or impaired life quality, direct health care costs, and investment to mitigate the impact of obesity" (Castle 2015, p. 22).

1.2.3 Causes of obesity

The Foresight Project (Government Office for Science 2007, p. 8) reports that "the technological revolution of the 20th century has left in its wake an 'obesogenic environment"'. The end of World War 2 triggered developments in processed foods and improved transport, both of which resulted in increased access to food. This increase in available and easily digested foods, together with the reduced necessity of expending calories to obtain them, has resulted in a contemporary problem of energy imbalance. Knowing the causes of the obesity phenomenon should make it preventable and resolvable, yet trends indicate that the solution is not yet in our grasp.

Simply defined, weight is a balancing act between diet and activity: an individual consuming less calories than they use supports weight loss; consuming the same calories as used maintains weight; whereas consuming more calories than used results in obesity. But only the definition is simple – obesity is a structure of many parts including biology and behaviour.

Biology has caused a genetic disposition to obesity and, in some individuals, this disposition has a greater impact on their ability to store fat (Ells et al. 2018), necessitating extra care in the obesogenic environment. The Foresight Report (Government Office for Science 2007) brings these contributors together in one visual explanation that they name the 'The obesity system map', which illustrates the obesogenic environment and its many causation factors, linked in over a hundred ways, under seven themes, at different levels. Figure 1.1 shows a simplified version of the map. More recently, Professor Jebb, who contributed to the original Foresight Report (Government Office for Science 2007) discusses in her review article (Jebb 2017) that, although a criticism of the Obesity Map is its visual complexity, it highlighted that obesity did not have one solution.

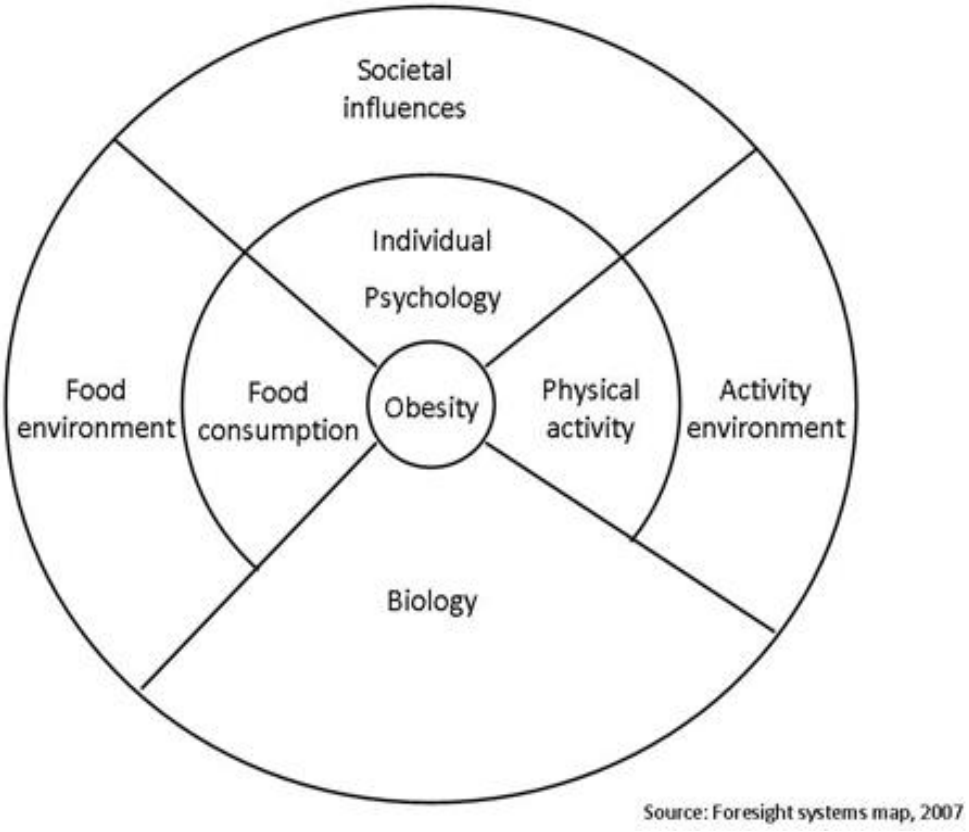


Figure 1.1: 'The obesity system map', The Foresight Report (Government Office for Science 2007) (Licensed for reproduction under the Open Government Licence v3.0)

Since 2007, the Obesity Map has triggered discussions to inform policies of action (Section 1.5), but successful solutions have remained elusive and obesity levels have not reduced. Ells et al. (2018) examined the evidence for obesity causation and explained that, although biology is the initial cause of obesity, they reiterate the position presented in the literature that "Genetic predisposition is no barrier to

successful weight management and no excuse for weak health and policy responses" (2018, p. 2). Moreover, Wang et al. (2018) demonstrate, in their prospective cohort study, conducted over 20 years, that those more genetically predisposed to obesity receive greater benefits of weight loss from healthy dietary behaviours. That is, those who were not only the most efficient at storing energy when food was available were also those who were more efficient at breaking down their energy stores when needed. These findings are supported by Goodarzi (2018), who reported that those with increased genetic risk of obesity are able to mitigate these predispositions with improved lifestyle behaviours.

Both papers (Goodarzi 2018; Wang et al. 2018) emphasise the effect of the environment on increasing the risk of obesity, not only in those more genetically predisposed, but in the population as a whole. However, neither paper discusses in detail the difficulties of improving lifestyle behaviours; the next section examines the effect of the social environment on the individual's ability to follow a healthy lifestyle.

1.2.4 Obesity and the impact of the social environment

The social environment impacts on obesity in two ways: social deprivation can physically limit access to healthy food and activity options; social networks can culturally set unhealthy food and activity options (Scottish Government 2018b).

Historically, poverty was linked to underweight as a consequence of unaffordable and therefore unavailable food, whereas obesity was a consequence of having too much affordable and available food: more recently, it appears that the reverse is true – poverty is now linked to obesity (Robertson et al. 2007). The Scottish Health Survey 2017 (Scottish Government 2018a) shows that, although obesity in Scotland is, on average, 29%, this ranges from around 20% in the least deprived quintile to over 35% in the most deprived. Similarly, Loring and Robertson (2014) reported on behalf of the WHO that, globally, those in low socioeconomic groups have an increased risk of becoming obese, which is double that of those considered advantaged. Furthermore, they described how obesity was associated with the loss of healthy years and early death in low socioeconomic groups. Processed, high-calorie dense foods with low nutritional value, such as white bread, biscuits and sugary drinks, can be cheap to buy, are readily available and

are filling. Conversely, low-calorie dense foods with a high nutritional value, such as those that are unprocessed, tend to be either more expensive or need more resources to prepare and cook (Scottish Government 2018b). Attempting to reduce the likelihood of obesity and its associated risk of poor health is difficult when “obesity is most prevalent in socially disadvantaged groups, yet interventions are most effective in advantaged groups: there will be less chance of reducing overall prevalence” (Loring and Robertson 2014, p. 7). The link between obesity and the social environment is complex and appears to vary between countries and within countries, especially by income and gender, resulting in no specific solutions. Lean et al. (2018, p. 6) recommend caution when developing any interventions and advise fostering “culturally appropriate ways to maintain a healthy weight without further disadvantaging the more disadvantaged in society”.

Regarding the influence of social networks on obesity levels, Powell et al. (2015, p. 10) describe the three linked processes that rationalise this: “Social contagion (if your friends and family have poor diets and are physically inactive, then you are more likely to adopt these behaviours as well); social capital (your sense of belonging and social support influences your health behaviours and weight); and social selection (whereby your network develops according to your weight, e.g. choice of partner)”. Social support involves practical help, emotional support and praise (NICE PH49 2014). Social support can be formal or informal; implicit or explicit within a social network and could be between individuals as well as within groups or organisations. For this study one key dimension of social support is considered and that is peer support and this is based on the shared commonality of trying to make weight management changes. A recent study by the Scottish Government (2017) asked the public their opinions on the causes and solutions to obesity. The results highlighted that the public considered an individual to be responsible for causing and reducing their obesity, with family and friends ranked second.

Possible solutions to obesity are the positive influences of social networks: O’Dowd (2012) suggests placing an emphasis on addressing multiple lifestyle behaviours within communities; the findings of Buck and Frosini (2012), in their Kings Fund report, advise using a wellness approach that moves from a health service addressing obesity alone to a community health focus; and South (2014)

suggests a research agenda focused on understanding successful community support and their influencing factors, and enabling these community assets. These recommendations suggest that potential interventions to promote changes in behaviour to a healthier lifestyle should be tailored to communities (South 2014). Any intervention would require policies and measures for implementation into practice, and the next section centres on those policies currently being implemented to target Scottish obesity levels.

1.3 Policies for action on obesity

Policies at a National level have been produced since the publication of the Foresight Report (Government Office for Science 2007) and their description of the complexity of obesity. During 2018, the Scottish Government published policies and frameworks that prioritised action at local and National levels (A Healthier Future: Scotland's Diet and Healthy Weight Delivery Plan 2018c; A More Active Scotland: Scotland's Physical Activity Delivery Plan 2018d; A Healthier Future: Type 2 Diabetes Prevention, Early Detection and Intervention Framework 2018e; Scotland's Public Health Priorities 2018b). Similar to global level policies and updates (WHO 2018; OECD 2017), these recommend changes are implemented mainly within the environment of the private sector. These policies are aimed at food provision and food manufacture rather than assuming change is the sole responsibility of the obese (Lean et al. 2018). Similarly, Avenell et al. (2018) conclude that: "Changes to the obesogenic environment will enhance the effectiveness of weight management programmes by supporting people in their behaviour change" (2018, p. 209). On the other hand, Dietz et al. (2015) reported that those with severe obesity would need more than changes in policy and the environment to support their weight loss; they would need individual intensive therapy.

At a lower strategic level, the public sector (Health and Social Care Partnerships – HSCP), which includes the NHS, are committed to allocating resources to act on obesity. As such, they have instilled pathways, based on good practice and the clinical and public health guidance issued by the Scottish Intercollegiate Guidance Network (SIGN 2010) and the National Institute for Health and Care Excellence (NICE CG189 2018; NICE PH42 2017; NICE PH53 2014). The next section looks

at the NHS model currently available to support the overweight and obese client within the health care setting in the UK.

1.4 UK Treatment pathways for obesity

1.4.1 Weight loss

The treatment pathway for obesity is similar throughout the UK, but, in England, the client's pathway is financed and managed by different commissioners in the community and in secondary care (Department of Health (DoH) 2013). In Scotland, the pathways are seamless, with an overarching financial and organisational management governed by HSCPs who are accountable for all healthcare services in their area.

The national evidence-based guidelines recommend that interventions to treat obesity are based on a combination of diet, physical activity and behavioural changes (NICE CG189 2014; SIGN 2010). In practice, obesity treatment should aim to improve an individual's knowledge and skills on lifestyle choices, thus enabling them to acquire a competence to make healthy lifestyle changes. Furthermore, the treatment should be tailored to the components that support change in these individuals – their capabilities, opportunities and motivation (Michie et al. 2014; NICE PH49 2014). Lean et al. (2018) described the various methods of restricting dietary intakes, emphasising the importance of knowledge for energy restriction at an individual level, but concluded that no specific method was the most efficacious. Avenell et al. (2018) recently published a systematic review of the options for weight management that included bariatric surgery, a comparison of weight loss diets and programmes, and pharmacotherapy. These options were compared for their feasibility, cost and clinical effectiveness, and acceptability to the individual. The outcomes were similar in that they were all more effective than doing nothing, apart from weight-neutral interventions which did not support weight loss (Avenell et al. 2018).

In the UK, the NHS direct individuals to treatment for weight management options appropriate to their needs and wants (Blackshaw et al. 2014; NICE CG189 2014). The literature highlights that tailoring interventions increases the potential for an individual's behaviour change (Lang and Froelicher 2006; NICE CG189 2014). The NHS weight management pathways are expressed in four tiers and are

visually represented in Figure 1.2 with examples (Welbourne 2016; NICE CG189 2014; DoH 2013; The National Planning Forum 2012). A higher level of support would be offered to clients with co-morbidities at tiers 3 or 4: those with less complex needs would be offered tiers 1 or 2.

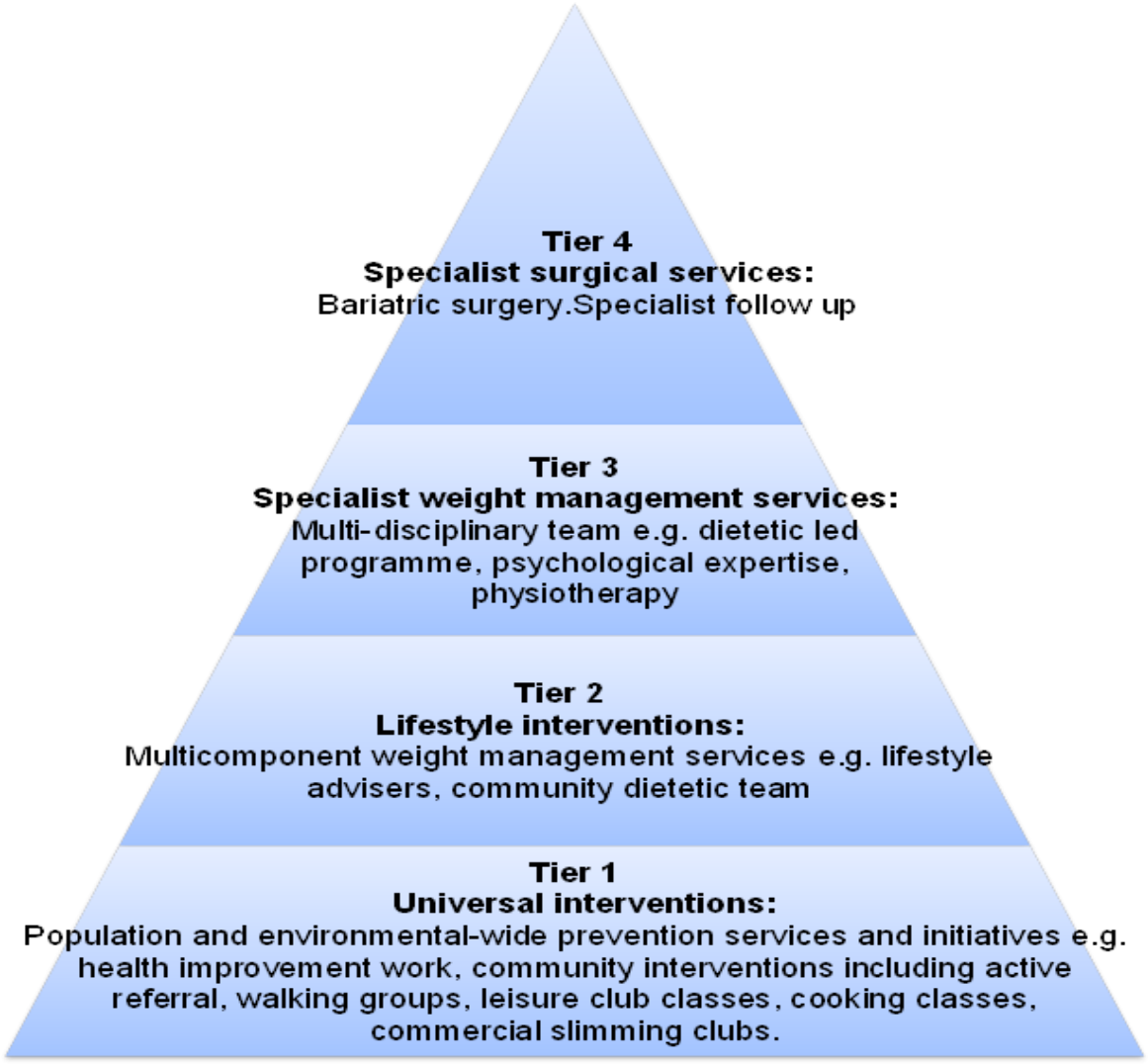


Figure 1.2: Description of the four-tiered Weight Management pathway (The National Planning Forum 2012)

Tier 1 is considered a preventative measure for those individuals embarking on improved lifestyles, and a treatment option for those who have no co-morbidities or morbid obesity, and, in both cases, the individual would be able to access these services within their community. Jolly et al. (2011) reported that commercial slimming clubs were an effective option for weight loss. Some health boards have replaced their tier 2 services with these clubs but, although they pay for attendance for a set period, clients have to pay for continued support unless they

lose a set amount of weight (NHS Greater Glasgow and Clyde 2019). Allan et al. (2011) discussed the menu of options that commercial slimming clubs and HSCPs provide, catering to most preferences, including times, venues, methods for weight loss and style of programme facilitators. In addition to weight-loss-specific programmes, tier 1 includes community lifestyle interventions that also support mental and physical health, but, if the programmes are not effective, the individual could move upwards to tier 2.

Tier 2 options may overlap with tier 1 in many health boards. The difference between the two tiers is that a tier 2 service should be evidence-based, developed by expert health professionals, delivered by trained facilitators with good communication skills, and consisting of "diet, physical activity and behaviour change" components. Physical activity services alone are not considered to be weight management services" (Public Health England (PHE) 2017, p. 4).

Tier 3 services were established in the UK (BOMSS 2017) as a link between the population-wide/lifestyle services at tier 1/2 and the bariatric surgical services at tier 4. In Scotland, before tier 3 services were established, waiting lists for bariatric surgery were long and patients' expectations for this service were high (National Planning Forum 2012). Known as a weight assessment and management service, tier 3 services enable an individual to make progress with weight loss. Further support can be offered by directing clients back to lifestyle and universal interventions. Without progress, they would be assessed for their suitability and potential to be referred for bariatric services at tier 4.

Tier 4 services are only accessible by a small proportion of obese individuals in the UK (BOMSS 2017). In Scotland, the criteria for surgery is strict, and suitable candidates can only access the service through tier 3 and if they fall into set BMI, age and co-morbidity ranges (National Planning Forum 2012; SIGN 115 2010). The low numbers, despite evidence of cost effectiveness, are mainly due to the upfront cost and the high level of risk associated with surgery (Avenell et al. 2018; Welbourn et al. 2016)

1.4.2 Weight maintenance

Weight maintenance is key to the continuation of the benefits received from weight loss (Dombrowski et al. 2014). The evidence on the effective elements of weight

maintenance is little researched. What is known is that when weight management programmes end, the individual's abilities may not be sufficient to maintain any healthy changes (Dombrowski et al. 2014). Penn et al. (2013) reported that participants' perceived social support, including their peer support, are important to continuing with exercise for weight maintenance in addition to their own intentions and goals. Avenell et al. (2018) reported that very low-calorie diets or pharmacological methods have shown some effectiveness for weight maintenance, but, at present, there are no global or national guidelines. The next section explores the treatment pathway for weight management, including weight loss and weight maintenance, in the context of the setting of the thesis.

1.5 The setting of the thesis

Figure 1.2 demonstrates that interventions at the lower end of the pyramid can potentially create benefits for more of the population, with services at tier 2 encompassing a broad spectrum of public health goals that prevent as well as intervene with obesity and its associated risks (NICE PH53 2014). This thesis is set within the context of a tier 2 service in an HSCP and a weight management programme known as 'Counterweight'. The Counterweight programme consists of one session every fortnight, for 12 weeks, in either individual or group settings (The Counterweight Project Team 2004). SIGN (2010) cite Counterweight as an acceptable intervention due to its multi-components, supporting diet, exercise and behaviour change (SIGN 2010). Trained facilitators are at the centre of this service and deliver the programme in a formal, structured way. The facilitators have a variety of backgrounds, such as dietitians, dietetic assistants, council leisure employees, lifestyle advisors and volunteers. They all receive training in motivational interviewing and in delivering the contents of the Counterweight programme.

Clients are referred or self-refer into the programme and are accepted if they meet the programme's criteria (Appendix 1.1). The programme provides an opportunity for the client to receive credible information and to gradually build on behaviour change skills for weight loss. The sessions include monitoring and continued support during the 12-week core programme and further drop-in opportunities for up to a 12-month period. Results from the programme in one study (The Counterweight Project Team 2010), based on the NICE (CG43 2006) obesity

health economic model, showed its effectiveness to be at 45% of a cohort of 1416 attenders who attained a 5–10% weight loss. This amount achieves both clinical and cost effectiveness (The Counterweight Project Team 2010) and, although the programme mentions the importance of social support, it does not elaborate on the elements of whom and how this support is provided such as peer support. Kwasacknia et al. (2016, p. 291) describe methods of improving weight loss outcomes by: "Reshaping the environment at individual, social and community levels … by providing social support and introducing social changes that are in line with positive health behaviour change maintenance". The next section explores how this statement has influenced the rationale for this thesis.

1.6 The rationale for this thesis

Most weight management interventions support weight loss and weight maintenance (Avenell et al. 2018), yet the prevalence of obesity and overweight has not decreased. Research concludes that interventions designed to tackle the problem should contain a "sustained portfolio of initiatives" targeting all areas of an individual's life to support their behaviour change to a less obesogenic lifestyle (Dobbs et al. 2014, p. 3). This thesis looks at ways to expand the portfolio by creating additional support from non-professional areas, and the literature review (Chapter 2) supports some successful examples. A non-professional, in this thesis, is defined as someone who has received no formal training to deliver lifestyle management. Moreover, I have termed these non-professionals as those who offer 'informal peer-led support' because they have no formal role to help others lose weight. I use the term 'peer' broadly, adopted from the WHO definition (2007, p. 13): "Peer support has been defined as support from a person who has experiential knowledge of a specific behaviour or stressor and similar characteristics as the target population". Offering peer support can benefit the recipient and is deemed to improve the peer's own health; in addition, it may give the peer greater benefits than if they had not offered support (Mosack et al. 2013). The success of peer support appears to be associated with the provision of: social and emotional support; a link between professional support and the individual; and flexible support in their own environment (Patil et al. 2018).

Regarding social and emotional support, building a trusting relationship can take time with someone new, such as their professional programme Lead. They may

find them too physically dissimilar to their body shape to feel comfortable discussing weight issues, or they may have very different lifestyles (Russell et al. 2013). This lack of common ground may prevent realistic and achievable goal-setting for effective behaviour change to occur. Conversely, a client may already have trust, respect, and many similarities to their peer, facilitating favourable outcomes. Aoun et al. (2013) suggest dietary behaviour change may be more achievable if support came from empathic peers within their existing networks. Chapter 3 outlines some examples of social and behaviour change theories that endorse the functions of peer support.

The cascading of evidence-based knowledge would ensure that credible lifestyle messages and healthy lifestyle techniques are cascaded across social networks as opposed to information based on fads and fallacies that may cause more harm than good (Goldacre 2009). Providing a link between professionals and individuals, clients, with their acquisition of new skills from the tier 2 programme, could cascade evidence-based knowledge and experiential learning as part of the support to peers outwith the programme.

Offering flexible support in social environments and tailoring interventions to individual needs can lead to more effective outcomes (Ryan et al. 2015; Lang and Froelicher 2006; NICE CG43 2006). Familiarity with location promotes contact for support (Russell et al. 2013) and the convenience of time and venue can negate the need to take time off work or make arrangements for family care (Tessaro et al. 2000). Frequent contact, such as that between peers, promotes trust and credibility in a relationship to create an environment conducive to behaviour change. Conversely, a decline in behaviour changes has been demonstrated when support provided by a professional-led programme, is withdrawn (Artinian et al. 2010). In contrast to the setting for peer support, the formal weight management programme is set in an artificial environment: it occurs outwith meal times and far from the external obesogenic temptations of “frequent eating out, large portion sizes, and the commercial normalisation of routinely consuming high sugar, high fat snacks and sweetened drinks between meals” (Lean et al. 2018, p. 2). Although problem-solving examples can be discussed during the profession-led programme, they may be distant from the real issues that many clients experience in the context of their everyday lives and changes can be difficult to

implement or maintain. However, peer support may help to shift the culture of a social network so that healthy lifestyles become more normal than unhealthy ones, and a client's healthy habits could be reinforced when their peers have them too (Christakis and Fowler 2007).

NICE recommend further research into "additional support services, such as self-help groups and networks" to improve "adherence, effectiveness and cost" of weight management interventions (NICE PH53 2014, p. 36). Dobbs et al. (2014, p. 7) remark that, whilst research continues into solutions for obesity, "society should also be prepared to experiment with possible interventions". Pawson and Tilley (2010, p. 216) observe that: "Interventions are always embedded in a range of attitudinal, individual, institutional and societal processes and thus programme outcomes are generated by a range of macro and micro social forces". An understanding of these forces and the components that create or prevent an environment conducive to promoting peer-led weight drives this research purpose.

This thesis explores the barriers and facilitators to peer support however, long term the aim is to develop an intervention that increases peer contacts for supportive weight management. In parallel to this thesis, Avenell et al. (2018) have made a similar suggestion that weight management programmes could discuss with clients the best way to support their family and friends for similar health benefits.

This section has focused on the rationale for this thesis and the next section follows on with the defined research purpose, its aims and questions, followed by an overview of the thesis in Section 1.8.

1.7 Research Purpose, Aims and Questions

The purpose of this thesis is to explore:

"***What interventions would be acceptable and feasible to support clients attending a structured weight management programme to help their peers achieve weight loss too?"***

This is based on the concept of clients cascading knowledge learned from attendance at a group weight management programme, and their own

experiences, to support those in their social network to make changes in weight management. In addition, it explores whether the Lead practitioners of these programmes perceive this intervention could feasibly be introduced to their clients. Chapter 4 (Section 4.2) gives details of how the research aims and questions were informed by the gaps identified in the literature review (Chapter 2) and guided by the approaches and theories that promote peer-led support (Chapter 3).

Research Aim 1: To find out whether clients perceive they have the capabilities, opportunities and motivation to offer or accept peer-led weight management support

The following questions explore this research aim from the clients' perspective:

- **What capabilities do clients have to offer an acceptable type of support?**
- **What capabilities do clients have to offer this support in an acceptable way?**
- **What opportunities are there for clients to effectively initiate or request support?**
- **How motivated are clients to make an offer to or accept support as determined by the risks and benefits to them?**

Research Aim 2: To find out whether programme Leads perceive they have the capabilities, opportunities and motivation to help their clients in providing peer-led weight management support

The following questions explore this second research aim from the Leads' perspective:

- **What capabilities do Leads need to support the intervention?**
- **When do Leads have a feasible opportunity to support the intervention?**
- **What drives Leads motivation to support the intervention?**

1.8 Overview of the thesis

This chapter set the context for the research purpose of this thesis. The prevalence and trends of adult obesity; the costs to health and the economy; the causes of obesity; the influence of the social environment; an overview of policy and recommendations for weight management pathways, including the present treatments and interventions, has provided a rationale for this thesis.

Chapter 2 critiques the literature to identify examples of peer-led weight management support and the components that contribute to their failures and successes. By identifying the gaps in our knowledge, the research aims and questions will begin to be developed.

Chapter 3 provides details of the policies and theories that guide the intervention development with specific reference to those recommendations that support behaviour change. This chapter concludes with further direction for the research aims and questions.

Chapter 4 describes the methodology and methods used to explore the concept of peer support from the perspectives of the study Participants and the Lead practitioners, including the rationale and justification for the chosen methods to answer the fully developed research questions and aims.

Chapters 5 and 6 present the findings of the data collection; while, in Chapter 7, these are collated to begin to build the intervention manual that supports fidelity, replication, and evaluation of the intervention.

Chapter 8 discusses the perceptions of study Participants suggesting; a contribution to our understanding of peer support in weight management, a comparison to existing knowledge, and challenges some existing information. The strengths and limitations of the study are raised and implications and recommendations for future research and practice are highlighted.

Chapter 2: Literature review

2.1 Introduction to the chapter

This chapter provides a review of the literature on the components that promote successful peer support in weight management, and those that prevent it. The approach and perspective reported in the relevant literature is critiqued and any similarities to the topic of this research or gaps in our knowledge are identified. The review of the literature has been ongoing throughout the thesis but no new information has emerged to change the direction of the research topic or questions. The studies published since the initial exploratory literature search in 2015 until the writing up of this thesis in December 2018 have been included in this chapter. This cumulative information is used to assess the value of proceeding with the topic of enquiry, as well as to formulate the research aims and questions (Bruce 1994) and these are developed further and presented in Chapter 3 and Chapter 4. In the discussion chapter (8), the reviewed literature is compared with the findings of this thesis to establish any new emerging information and to explore any dissimilarities; thus building a synthesis of our knowledge of peer support in weight management.

2.2 The focus of the review

The concept of clients, attending a weight management programme, cascading knowledge in a supportive manner to their peers to influence behaviour change, has generated the topic for this research however the effects of any changes are beyond the scope of this thesis. I have focused this review on the peer support that is acceptable as opposed to the processes of cascading knowledge on weight management to a peer. Wanting to add an extra component to weight management programmes by way of a more ‘natural’ and ‘informal’ method of peer support, I reviewed the research topic to investigate what is already known about peer support in weight management, to explore any patterns that make the support acceptable or unhelpful, to identify the gaps in our knowledge of the topic and to narrow the research questions. The following section looks at the review

strategy used to locate the relevant literature and gives justification for the selection and omission of articles.

2.3 Research strategy and included studies

With the support of an experienced university librarian and university lecturer, a research strategy was developed. Based on my professional experience of the research topic, a search question for finding the relevant literature was defined using three areas: Population (those receiving a weight management intervention focused on making lifestyle changes), Phenomenon of interest (the components that determine the success or failure of peer support in weight management), and Focus (peer support) (PPF). Although the PICO and SPIDER guidelines (Cooke et al. 2012) were an option to define the search, I had considered these guidelines too specific for a literature review at the beginning of this thesis and the 'PPF' model allowed a wider scope of investigation of the literature. The three parts to the search question and key words are listed in Appendix 2.1.

The topic focus 'peer support' was termed differently in different practices (Hoddinott et al. 2006) and this led me to carry out a 'mind-mapping exercise' to establish the key words for a literature search. The exercise was carried out manually and a visual diagram facilitated the many ideas that developed on peer support, such as terminology and roles played. In addition, key words from existing studies relevant to this thesis topic were checked for further search term options. Social support was a common term mentioned in the literature and although this is an umbrella for care within a social network, the concept of support for this study is focused on one dimension of social support – peer support.

Using the general yet broad three-part question (PPF), I searched the literature by multiple research methods, employing: electronic databases; a traditional manual method of 'trawling' through hard copies of journals and articles; checking references and citations of relevant studies, and checking work by known researchers in the field.

Criteria for inclusion into the search strategy (Table 2.1) enabled the collection of studies with weight management interventions based on lifestyle modifications similar to a tier 2 service: this is context of the thesis.

Table 2.1: Criteria for selection in literature review

Inclusion Criteria	Exclusion Criteria
• Adults (16+ years) • Supported someone in making changes within their social/family/work network • Lifestyle intervention based on behaviour change strategies and/or cognitive behaviour techniques as recommended by national, evidence-based guidelines for weight management (SIGN 2010, NICE PH53 2014) • Programmes delivering weight management interventions as described above • All genders	• Eating disorders • Serious mental illness that would prevent them from making dietary or physical changes conducive to intentional weight loss • Serious physical illness that would prevent them from making dietary or physical changes conducive to intentional weight loss • Serious disease that would promote unplanned weight loss, i.e., cachexia • Malnutrition • Severely restricted their dietary intake to follow a Very Low Calorie Diet (VLCD) • Used complementary therapies such as acupuncture to aid weight loss • Used medication to aid weight loss • Used a web-based weight management programme • The research involved a drug trial • Weight maintenance only interventions

Through carrying out a literature search, I wanted to learn how peer support influenced weight loss, but my research purpose was not focused on the effects of peer support itself or the mechanism of cascading information to peers; it was focused on the attributes that make the concept more acceptable and feasible.

Studies taking place within the last 40 years (1978 to 2018) were included because peer support and peer relationships are not a new topic, and because obesity has been a problem for at least that period of time (Chapter 1). Justification for inclusion in the search strategy was governed and limited by: ‘English Language, Peer Reviewed, Human, and All Adult age groups’. The rationale for using these limitations was to gather information similar to the

population to the clients at the weight management programme in this thesis, and for being peer-reviewed to ensure accuracy and consensus of opinion. The search approaches are discussed in detail in the following sections and include the justification for the methods used.

2.3.1 Electronic databases

Using the key words (Appendix 2.1), three electronic databases were searched: CINAHL (Full text), MEDLINE and PsychINFO. The choice of databases were chosen from their specialty description accessed online, and given by the librarian specialist. CINAHL and MEDLINE are health and social care-based databases including research by allied health professionals (these include dietitians) and their stored articles contain a large number of weight management and lifestyle studies. PsychINFO was chosen for its articles on behavioural and social sciences and had a wide selection of articles were connected with behaviour change and the support that individuals value.

2.3.2 A search of additional material

The electronic search identified the most articles for screening (Figure 2.1) but other methods were also used. A manual check was made of references from the identified and included studies, and citations of these articles were searched using the Google Scholar search engine. Key topical journals and other papers written by the included study authors were also checked. In addition, where authors had mentioned ongoing research, a request was made to them asking for reports of any unpublished, recent work or follow ups in progress.

Altogether, the search identified 198 studies, and these are presented in Figure 2.1 using the PRISMA (Moher et al. 2009) template. Having located the relevant literature, the next stage of the review process involved reading the studies and identifying their relevance to the topic and evaluating the gathered material for inclusion into the literature review; the following section discusses this in more detail.

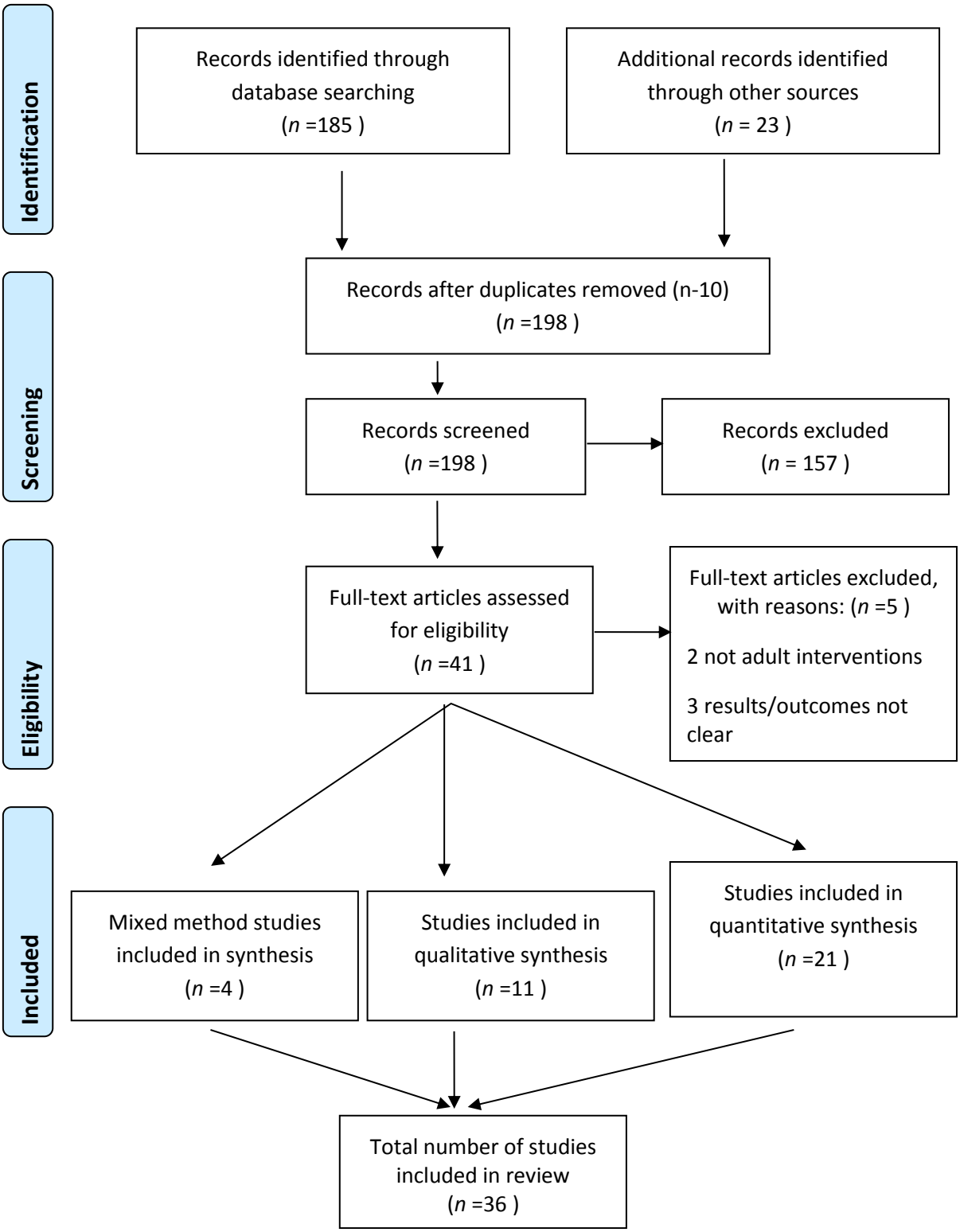


Figure 2.1: Flow Diagram of review search process (PRISMA, Moher et al. 2009)

2.3.3 Literature selection and organisation process

After duplicates were removed, the articles were manually screened against the inclusion and exclusion criteria (Table 2.1) and, of these, 157 were excluded. The remaining 41 full text articles were examined for relevance to the research area of peer support, and behaviour changes for weight management and, of these, a further two were excluded as they were young family interventions. The remaining 39 studies were critically appraised for quality and specific relevance to the focus of the thesis using the 'Critical Appraisal Skills Programme' (CASP) checklists for both qualitative and quantitative studies (CASP Advisory Group 2012). Three of these studies were excluded due to the quality of their reporting or unclear findings (Figure 2.1). The remaining studies were summarised (Appendix 2.2) and then further explored to establish the context of peer support and its value and acceptance to the recipient (Appendix 2.3); Section 2.3.4 provides an overview of these studies for comparison to the setting of this thesis.

2.3.4 Overview of the studies in the literature research

The 36 studies in this literature review were searched to identify the barriers and facilitators to offering and accepting peer support. From the summarised studies (Appendix 2.2), it was possible to identify the four main themes of peer involvement emerging from the literature (Table 2.2).

Table 2.2: Themes of peer involvement

Section	Identified themes
2.4	The identity of supportive peers
2.5	The attributes of peers that were perceived to be helpful
2.6	The roles that peers play
2.7.	The opportunity for peers to offer and accept support

Peer support was a widely used term within the literature and sometimes it was included under the umbrella of social support. Table 2.3 illustrates two identified terms and their sub-categories. Regarding the first category, the source of support, peers were tasked with giving explicit support in a formal role through a

structured programme or specifically within the workplace. Conversely, some peers had an informal role within their social environment: they had a shared commonality but had no formal position to act as a supporter. For the intervention development in this thesis, it is proposed that the peer has an implicit and informal role to support someone they know when they recognize there is an opportunity to do so.

Table 2.3: The various contexts of peer support

1. Source of peer support
Formal peer offering support through a formal, structured programme (outwith their workplace) **Formal peer** offering support through a formal, structured programme (within their workplace) **Informal peer** offering opportunistic support in their social environment such as home, church
2. Description of peer role and their training
Joint weight management intervention, no peer support training: The targeted individual and their peer supporter both receive a professional weight management intervention but no specific training on how to offer peer support **Single weight management intervention and peer is trained to support:** The targeted individual receives a professional weight management intervention and their peer supporter receives professional education/training on how to offer support **Single weight management intervention and peer is not trained to support:** The targeted individual receives a professional weight management intervention and their peer supporter gives support without education or training on how to do so

In the second category, concerning their role description and training to offer support to a targeted individual receiving a weight management intervention, peers in some studies were involved in actively participating in the intervention too.

Members of this dyad received the same input, but the emphasis was about losing weight, not about giving support. Other peers were given a specific intervention on 'how to support' so that they could support their peer who was receiving a weight management intervention. Of the six studies focusing on trained peer support (Albarran et al. 2014; Aoun et al. 2013; McLean et al. 2003; Tessaro et al. 2000; Larkey et al. 1999; Israel and Saccone 1979), none made clear the contents of their interventions, such as whether these peers were trained to give informational or emotional support (Hoddinott et al. 2006); this also prevented replication of the intervention. The final peer role was one without any guidance, and gave untrained support to someone they knew who was trying to lose weight through a weight management intervention. This peer would not have received any intervention on weight management or on giving support; they would give support by comment or demonstration.

The concept for this thesis differs from much of the literature in that the proposed intervention will involve a client at a weight management programme offering support to a peer outwith the programme rather than the client's peer supporting the client. There is an additional phenomenon of reciprocal two way peer support: whereas the client may offer support based on their learning from the weight management programme and experiences, in return their peer may offer them support based solely on their own experiences. The literature had very little relevance to the proposed direction of support in this thesis; only three papers discussed the peer support that took place via a cascade effect from clients attending a weight management programme (Scherr et al. 2013; Rossini et al. 2011; Gorin et al. 2008). The limitations of the search strategy meant that all peer support intervention may not have been identified. A wider search strategy was beyond the resources available for conducting the review for this thesis. However, there were many studies looking at the value of peer support and its acceptability and usefulness. The value of peer support is summarised in each study from the literature review based on the source of peer support and their role (Appendix 2.3). The quantitative studies measured the effectiveness of peer support by weight loss and some also included outcomes on weight maintenance, completion of weight management programmes, and positive behaviour changes, including diet and exercise: achieving these determined the peer support as valuable. The qualitative studies looked at study participants' perceptions of the barriers and

facilitators to losing weight based on their interactions with those around them and they were the ones to place a value on the peer support they received (this is discussed in more detail in Section 2.6).

The following four sections present an exploration and discussion of the four identified themes, and, bringing these together in a summary at the end of the chapter will form a synthesis of the existing literature on peer support to guide the research aims.

2.4 The identity of supportive peers

The literature review highlighted a recurring support resource from within the family, especially spouse involvement, but weight loss outcomes were variable within these quantitative studies (Aschbrenner et al. 2017; Terranova et al. 2017; Cornelius et al. 2016; Jackson et al. 2015; Demark-Wahnefried et al. 2014; Gorin et al. 2014; MacLean et al. 2014; Sorkin et al. 2014; Scherr et al. 2013; Rossini et al. 2011; Rydén et al. 2011; Gorin et al. 2008; Christakis et al. 2007; Gorin et al. 2005; McLean et al. 2003; Burke et al. 2002).

The descriptive, systematic review of randomised studies conducted by McLean et al. (2003) found that, because the research focused on different interventions, used small sample sizes and no standardised measurement criteria, it was difficult to get a consensus on who in the family were supportive to their peers. Sorkin et al. (2014) and Demark-Wahnefried et al. (2014) discuss the positive outcomes from their studies involving mothers and daughters in weight loss peer support, but both studies felt their research was limited by this specific relationship and recommended further exploration with different dyad relationships.

Rossini et al. (2011) reported on their longitudinal research of almost 500 adult family members whose overweight or obese relative received Cognitive Behaviour Therapy (CBT) for weight management. The weight loss of the relative closely correlated with weight loss in the obese family members, who ranged by gender, generation and relationship. However, the researchers identified a possible limitation of their study; the benefit may have been over-estimated due to the low rate of returned questionnaires (46%) which may have been returned by the more motivated family members. This paper identified family weight loss as being

‘unintentional’ and benefiting from a passive ripple effect of good behaviours learned by the obese member.

This ripple effect to family members, especially spouses, was reported in two further studies, conducted by Gorin et al. (2008) and Scherr et al. (2013). Both of these looked specifically at spouse involvement and reported findings of positive outcomes: there was combined weight loss from both spouses after they had jointly participated in a weight management programme and these effects continued over a 12-month period. In addition to that observed in the treated couple, both studies reported a ripple effect of beneficial behaviour change in the non-treated intervention arm transferring from spouses attending a weight management programme to the spouses who did not attend. However, neither studies were able to give an insight into the family dynamics that affect weight loss or the mechanisms to explain the benefits.

Conversely, Cornelius (2016) demonstrated variable outcomes of peer support, highlighting that family (but particularly spouses) could not always be identified as supportive peers, especially when there were differences in gender or weight within the dyad. They described fewer changes made by the lighter weight spouse when both attended a weight management programme unless the lighter spouse was male. The researchers were unable to present any perceptions from the participants on the reasons and gave their own suppositions that this may be related to ‘Social Comparison theory’ and that having a heavy partner made obesity acceptable. Gorin et al. (2013) described similar results of variable outcomes in their study involving two household members of different genders, but Gorin et al. (2014) proposed that outcomes were variable, not necessarily because of a specific family or gender identity, but because of the type of support that that family member offered.

The following qualitative papers (Ahlgren et al. 2016; Terranova et al. 2017; Hammarström et al. 2014; MacLean et al. 2014; Rydén et al. 2011; Thomas et al. 2009) describe the negative effects of regular family involvement. These give us a deeper understanding of weight loss obstruction resulting from: resistance to change, undermining changes, offensive or hurtful comments made about their obesity, spouses not providing healthy meals, spouses finding they had to cater to

their family's preferences, and spouses finding slim partners not as empathic as they would like. In these studies, peer support was given in an informal manner without any training on support actions.

Having looked at the positive and negative outcomes of family support, I now explore that which occurs outside the family. In these studies, friends have been identified as supportive, and a valuable outcome was discovered when recruiting them with participants of a weight management programme (Wing and Jeffery 1999; Gorin et al. 2005). The methodology for both was quantitative, and carried out on 166 and 109 participants, respectively, and, in each study, they were given an opportunity to invite three (Wing and Jeffery 1999), or up to three, friends or family members (Gorin et al. 2005) to attend treatment with them. Wing and Jeffery (2005) discovered that, in the behavioural change group, which specifically encouraged participants to engage with others, there was no increased weight loss in participants recruited with friends compared to those who enrolled alone. However, the four-month programme completion rate was greater for the friends group (97% versus 75%) and 10% weight loss was maintained for longer (66% versus 24% at 10 months' follow-up). Gorin et al. (2005) proposed that more support partners correlated to more weight loss. Their results showed that numbers of support partners, who mainly consisted of friends, neighbours and co-workers (65.5%) and just 17% spouses and 13% other family members, was not related to weight loss. Instead, participants' weight loss correlated with the weight loss success of their partners. These studies reflect the importance of peer support to improve adherence to behaviour change interventions but give no detailed information on the identity of the peer best placed to give that support.

The workplace has been evidenced as a location to find peers giving lifestyle intervention support to fellow workers (Larkey et al. 1999; Tessaro et al. 1998; Tessaro et al. 2000). In these three studies, the researchers recruited peer advisors from the workforce who were perceived as being supportive, both by themselves and co-workers. They received education and training to deliver the intervention, and focus group discussions highlighted the successful diffusion of healthy messages from these peer advisors within the workplace. This diffusion, however, was not thought by the researchers to be specific to the identity of the peer but to their communication techniques.

Overall, the literature does not identify a specific peer or number of them, as being the most effective source of support in a weight management intervention: instead, the review highlights that effectiveness is created by those peers who communicate in a manner conducive to encouraging behaviour change. Further research is needed to obtain an understanding of those who peers would offer support to and who peers would accept support from.

2.5 The attributes of peers that are perceived to be helpful

Finding a peer with the characteristics that recipients perceive as supportive, could make a difference to the acceptability and therefore outcome of their interaction, and the following literature findings illustrate information around these preferred attributes.

Artinian et al. (2012), in their systematic review of randomised controlled trials (RCTs) and meta-analyses, concluded that supportive peers are caring and trusted members of communities, sharing similar values, and beliefs. Although their 74 reviewed studies of over nearly 47,000 participants showed great variation in population samples by culture and socioeconomic status, there was a commonality in the attributes perceived as being most supportive: these findings are consistent with other literature (Aschbrenner et al. 2017; Albarran et al. 2014; Gorin et al. 2014; MacLean et al. 2014; Sorkin et al. 2014; Russell et al. 2013; Thomas et al. 2009; Gorin et al. 2005).

Thomas et al. (2009) and Albarran et al. (2014) investigated two American cultures and their support preferences. Thomas et al. (2009) used a qualitative enquiry to investigate the preferences of a group of obese African American women for weight loss support. Focus group discussions provided an insight into their preferences, which were not for peers from a similar culture and background to them, but instead, from a caring, empathic, weight loss achiever. A comparable, more recent study by Albarran et al. (2014) used qualitative data from both individual interviews and focus groups to create a theory around the success of lay health promoters in a lifestyle intervention programme. In agreement with the Thomas et al. (2009) study, the immigrant ‘Latina’ participants, felt the health promoters’ modelling of healthy behaviours and genuine praise were the reasons for their own successful behaviour changes. Russell et al. (2013) investigated the

support preferences of an under-privileged group attending a lifestyle intervention programme. Their findings agreed with those of the previous studies that credible role modelling and sincerity enhanced participants' motivation and created a self-determination to achieve goals. Similarly, other studies (Aschbrenner et al. 2017; Gorin et al. 2014; Sorkin et al. 2014; Rydén et al. 2011) described their participants disliking autocratic persuasion from peers, such as being told what to do, and preferred attributes that were praising in their actions as opposed to those that undermined their behaviour.

Of the three reviewed studies researched in the UK (Jackson et al. 2015; Maitland and Chalmers 2011; MacLean et al. 2014), only the latter two are set within the cultures of the Scottish population, the same population as the context for this thesis. Cultures are variable according to common ancestry and tradition (Bush et al. 1998), but both Scottish studies identified similarities to the studies set in America and Scandinavia. These similarities highlighted that peer support does not have to be tailored to a specific population to be efficacious, but instead should be based on the preferred qualities of those receiving support. Maitland and Chalmers (2011, p. 321) described support as: "widely varied and heavily contextually dependent". MacLean et al. (2014) reported that the Scottish men in their football club weight management programme looked for attributes in their peers of: "showing interest, providing encouragement and/or changing their behaviours in ways which would make it easier for men to sustain changes" (2014, p. 131). These demonstrations of empathy and encouragement would appear to increase motivation to lose or maintain weight (Rydén 2011).

This review of the literature has provided information on the desirable attributes that appear to be shared by many cultures, countries and genders; attributes such as empathy, praise, credibility through demonstration of behaviour changes and encouragement but not coercion or autocratic persuasion. These attributes appear to make offering and receiving support acceptable and valuable. To further our understanding of peer support, in the next section, I review the roles that peers play and the types of support they offer.

2.6 The roles that peers play

Verheijden et al. (2005), in their systematic review on the role of peer support, suggest that different roles are played by peers according to the type of support they offer. They identified 'structural support' as 'opportunities for support' such as those that occur within the structure of the recipients' social network regardless of "the actual exchange of support" (Verheijden et al. 2005, p. 179). However, this may not be taken up and utilised by the recipient. On the other hand, the role of the peer providing the support that the recipient perceives he needs at that particular time is termed as 'functional support' and is more likely to have an impact on the recipient's behaviour (Verheijden et al. 2005). Although informative in essence, the literature review did not specify details on study participants' perceptions on 'the right time', such as the cues they give to indicate this, or how it could be identified by their peers. Marcoux et al. (1990) examined the support participants receive that promote weight loss changes. Participants felt that receiving informal peer support was variable in its value. Neighbours and friends played the most valuable role in this study because they spontaneously praised participants' efforts to make changes: conversely, participants described how spouses interfered with successful weight loss. Marcoux et al. (1990) concluded that training spouses and family on methods to communicate would enhance the support they give within the family home, however, the quantitative nature of their research (using structured questionnaires distributed to 26 participants) limited the preciseness of this recommendation.

Burke et al. (2002) used a mixed-methods design to measure changes in diet and weight, and explored couples' perceptions of the support they received informally from each other when both participated in a weight management programme. The targeted individual perceived their successful weight loss was due to their partner's active support of taking part in the programme, giving them new skills to support the individual in behaviour change at home.

A formal peer role was given to a group of volunteers at local Rotary clubs and they were trained as 'Champions' to lead support in a study by Aoun et al. (2013). The 93 champions had no formal experience as peers, but were trained to provide a weight management intervention based on dietary knowledge and behaviour change skills to their associates. Aoun et al. (2013) trained their champions to

motivate peers using Prochaska's Transtheoretical Model (Prochaska et al. 2013, Greene et al. 1999, Prochaska et al. 1992). Using this theoretical model, the champion was able to provide the recipients with the support they were ready to accept and move them through to the next stage of change (Greene et al. 1999). This weight management intervention (Aoun et al. 2013) was successful and, through the role the champion played, they motivated an average 58% (range 23.8% to 91.6%) of their associate Rotarians to lose weight. Overall, the 52 clubs (1100 participants) achieved an average 1.07% reduction in BMI (p=.005).

In summary, recipients valued the support from a peer who had received some instruction on how to offer support; all of these peers had a formal role (Appendix 2.3). Those peers who had informal peer roles with no instruction on how to offer support were more likely to be perceived as not a valuable support, and, in many of these studies, they were described as not offering 'functional' support (one that peers want). Although these studies illustrated some information of peer support, there were no studies of peers with informal roles receiving some guidance on how best to offer support, which is the context within which this thesis is set. In addition, there was no description on whether joint peer attenders of interventions received instruction on how to support, and for peers who had received instruction on how to support, there was insufficient description to replicate the intervention. Knowing more about these gaps could increase our understanding of acceptable peer support.

This section reported on the studies that outlined the roles of peer supporters and the way in which they offered support to promote effective outcomes of weight loss. Sharing the same goals and activities, and being praised for achievements when they were ready to make changes, were valued support as perceived by study participants. Furthermore, functional support, as discussed in Verheijden et al. (2005), is identified as a key role because it is appropriate for the recipient's needs, and it will therefore have a better chance of being accepted and used (Aoun et al. 2013). Information about functional support and the times when it is acceptable would increase the value of peer support and its efficacy. The next section looks at the opportunities for valuable support to be offered and accepted.

2.7 The opportunity for peers and recipients to work together

Faw (2014) explored what opportunities there were to instigate an acceptable offer or request for peer support using individual in-depth interviews with 25 participants at an American university. By grounded theory methods (Glaser 1978; Glaser et al. 1967), she discovered a theme of support strategies based on direct and indirect requests. The most successful strategy (but still limited in success) to gain peer support was perceived to be "co-engagement" (Faw 2014, p. 271), a method to build cohesion and harmony. Co-engagement was achieved by peers suggesting they jointly participate in a goal, thus negating the need to ask directly for support. In a similar context to the setting of this thesis, Bishop et al. (2013) looked at opportunities for peers to support those in their social environment from the point of view of the peer. By using mixed methods to collect data, the researchers investigated retrospectively whether health benefits were passed from 71 weight management programme participants to untreated members of their social circle. In contrast to my thesis proposal, the participants in Bishop et al. (2013) were not specifically encouraged to cascade their knowledge and skills to their peers. The outcome data showed increases in positive changes by members in the peers' social circle, perceived by the peers to be due to unintentional modelling of healthy habits inspiring their social circle to make changes. Bishop et al. (2013) reported that peer support relied on the programme participants demonstrating their new changes, which appeared to prompt and motivate the recipient in their social environment to make changes too.

These two studies highlighted that indirect requests for support were preferable to direct requests, and acting as a role model or being inclusive in activities were deemed as being effective for offering and accepting support, and increased the recipient's motivation to make changes. However, the researchers did not investigate intentional demonstration of healthy changes or whether peers ascertained a 'right time' to demonstrate their changes.

2.8 Summary of findings from the literature review

From the literature review, we can build a synthesis of the present knowledge around peer support in weight management interventions. This synthesis includes peers with informal or formal roles, those jointly receiving a weight management

intervention with their peers, and those peers receiving or not receiving instruction on how best to offer support. Overall, the literature focused on outcomes of lifestyle changes, such as weight loss or increased exercise, and only a few produced findings on what influenced these outcomes. The literature review has identified that most peer support is informal and offered without instruction on how to do so: the potential of this role is a more easily sustainable form of support – the peers require no training. However, their success rate as valuable and acceptable support is low. Table 2.4 summarises the key points and identified gaps from the literature review.

Table 2.4: Key points and identified gaps from the literature review

Key point 1	A common theme emerges around the preferred attributes of peers that lead to acceptable support and these emphasise that having a shared culture; race; or gender, was not as important as sharing values and beliefs. Appropriate communication skills, qualities of empathy, offering support such as appraisal were more important and encouraged individuals to make changes.
Identified gap	Further research would provide information on the preferred types of support that encouraged weight loss behaviour change
Key point 2	The identity or optimum numbers of supportive peers does not specifically make peer support more effective: support can be acceptable from within all areas of the social environment. Effectiveness is created by those peers that communicate in a manner conducive to encouraging behaviour change and offering positive appraisal: the review findings suggest teaching peers supportive vocabulary and techniques.
Identified gap	Further research is needed to obtain an understanding of those who peers could offer support to and who they could accept support from. In addition, knowing about the preferred manner of offering support may make the support offer more acceptable.
Key point 3	The roles that peers play and the support they give are variable, but sharing the same goals and activities, and being praised for their achievements when they were ready to make changes were clearly preferable and increased uptake of peer support. Functional support was identified as a key role for this uptake, which implied peers received the support they wanted when they needed it. Trained peers gave valued support outcomes but there was a paucity of literature on the content of their training. A majority of the studies had variable outcomes for support from untrained peers and the researchers were only able to hypothesise reasons for these.
Identified gap	Support offered by a peer who is trained to do so had mainly positive outcomes. Knowing about the content of the training could support an acceptable peer-led intervention. Regarding an 'informal 'support role, there is a gap in our knowledge around improving the acceptability of this.

Key point 4	The capability, opportunity and motivation, for peers to informally offer support by way of a procedure to initiate peer engagement was not clear in the majority of the reviewed studies. Two mentioned approaches achieved some effective interaction.
Identified gap	To achieve the more effective functional peer support that occurs when peers are ready to make changes would require further research into the signs that recipients show when ready to receive support. Learning more about the timing and content of this could motivate peers to offer support.

These identified gaps are around the barriers and facilitators that influence the offer of acceptable peer support from an individual who has no formal role to offer support, yet receives some knowledge and instruction on how to do so. The gaps have provided justification for further research into this area for this thesis (Bruce 1998). These are refined as:

- *What support could peers offer that is acceptable?*
- *How do peers want to offer and request support?*
- *Who would offer or accept support?*
- *What are the benefits and risks to peers when they offer or accept support from each other?*

In this chapter, I reviewed the literature for information around acceptable peer support in weight management. In Chapter 3, I examine the key approaches that guide the development of this peer support intervention and, together with the summarised and refined gaps from this literature review, research questions and aims for this thesis will be developed in Chapter 4.

Chapter 3: The key approaches that guide the intervention development

3.1 Introduction to the chapter

In Chapter 2, I identified from the literature the potential for an 'informal peer-led support' intervention. Aiming to implement it within a tier 2 weight management programme would require behaviour changes by both the clients attending the programmes as well as the Leads who facilitate them. In this chapter, I will provide an overview of the key approaches that informed the design of this behaviour change intervention and will demonstrate how these influenced the development of the research questions.

In their 'Framework for the development and evaluation of complex interventions' (Moore et al. 2015, Craig et al. 2008), the Medical Research Council (MRC) stress the importance of following an evidence and theoretical base in the design and development of an intervention. Cited as a gold standard in the literature, I used this framework and its recommendations as an overarching guide to address the research purpose discussed in chapter one. I had anticipated that the proposed intervention of this thesis would be complex: it not only depends upon behaviour changes affected by "multiple, interacting components" (Moore et al. 2015, p. 1), but also requires tailoring to support clients in the different contexts that occur within their peer relationships. These contexts are affected by; the different networks, their size and hierarchies, the strength of the bonds between the members, and their influence on each other (Hunter et al. 2017). A simple intervention, where specific activities happen in a specific order or time, could not accommodate the complexities of the social environment in which peer support exists.

Following the recommendations by the MRC (Craig et al. 2008) framework, in this study, Michie et al. (2014) provide the theoretical base in the shape of the Behaviour Change Wheel (BCW) with the COM-B model at its hub. The BCW is a framework for designing interventions (Michie et al. 2014) and the part of this framework that targets and guides analysis of behaviour change is the COM-B.

The COM-B refers to the key components of behaviour change: the capability, opportunity and motivation to carry out the new behaviours (Michie et al. 2014). The BCW provides the integration of behavioural change theory into the practice of behaviour change interventions, and its use to complement the MRC framework is evidenced as effective (McEvoy et al. 2018; Murphy et al. 2017; Webb et al. 2016; Sinnott et al. 2015). Linking these approaches is the following 'logic model' (Figure 3.1).

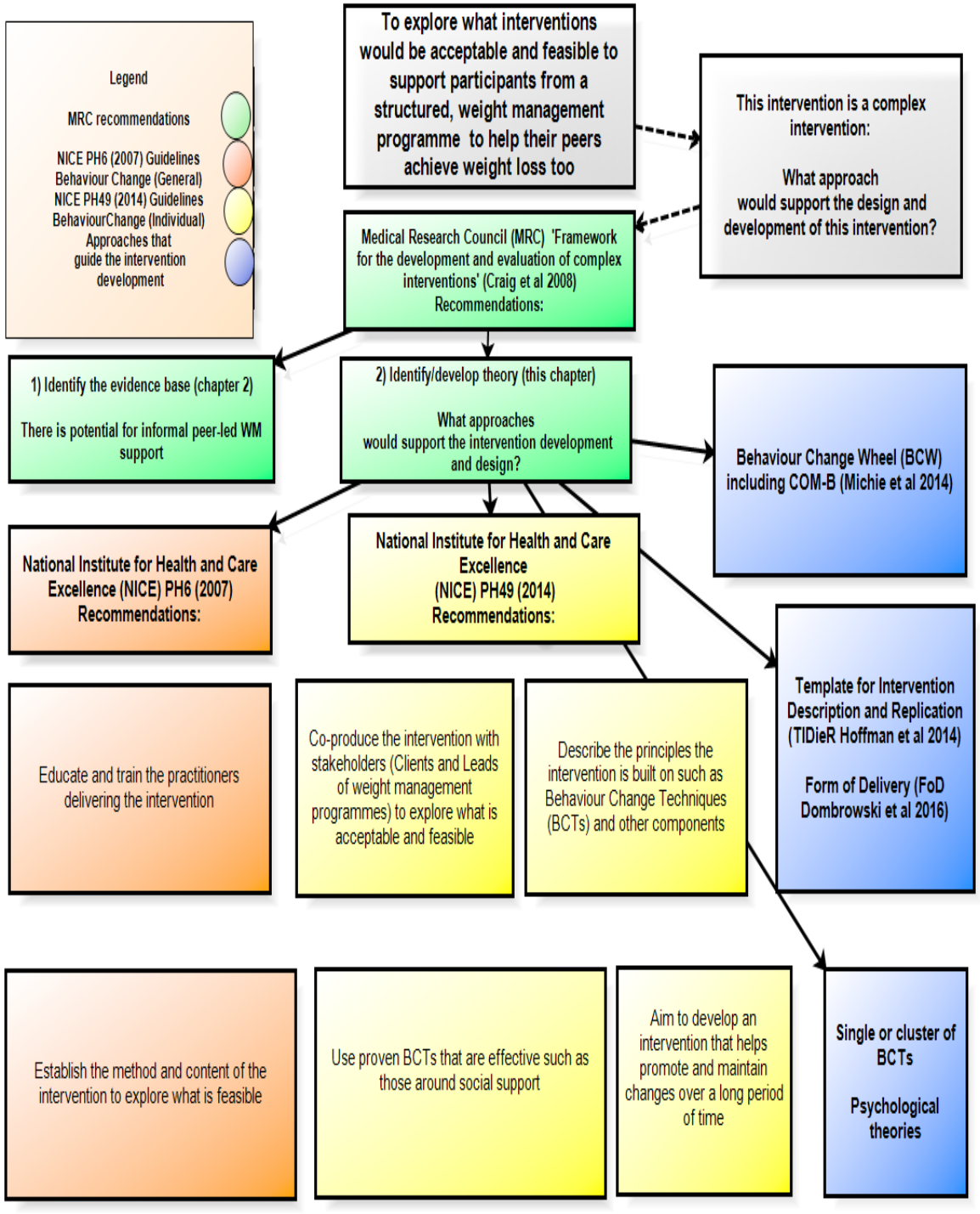


Figure 3.1: The logic model that guides the intervention design and development

This logical and visual model (Davidoff et al. 2015; Goeschel et al. 2012) illustrates the process that guides the researcher from the research purpose, through the theories and guidelines and, together with the formative research data, develops the proposed intervention. Moore et al. (2015) highlight the usefulness of these models for identifying potential problems and clarifying the proposed intervention process for the researcher and also for stakeholders or supervisors.

Beginning with the overarching guide of the MRC framework (Craig 2008), the next section looks at its importance and relevance to this intervention development

3.2 Medical Research Council (MRC) 'Framework for the development and evaluation of complex interventions' (Craig et al. 2008)

This framework, written to guide interventions that improve health, outlines four stages: Development, Feasibility and Piloting, Evaluation, and Implementation (Craig et al. 2008). Iterating that while 'development' is a lengthy process, the authors recommend investing research into this stage to create good foundations for the rest of the intervention. The development process should reach "the point where it can reasonably be expected to have a worthwhile effect" (Craig et al. 2008:9) and, to do this, the guidelines recommend these three phases: Identifying the evidence base, Identifying/developing theory, and Modelling process and outcomes. Within the confines of a doctorate study, I will develop an intervention following the first two phases only: existing evidence and theory will be combined with new data from the perspective of the stakeholder (clients and Lead practitioners at a weight management programme).

3.2.1 Identifying the evidence base

In Chapter 1, I highlighted the problem of obesity both on a national and individual level, and explained the rationale for a potential innovative resource of peer support to reduce obesity levels. In Chapter 2, I reviewed the literature for the evidence base on peer support in weight management and identified mixed outcomes. This literature review identified not only the behaviours that promote and prevent successful peer-led support, but also the gaps in our knowledge on this topic. Together, these chapters have identified the evidence base for a peer-support intervention.

3.2.2 Identifying/developing theory

The MRC recommendation to identify appropriate theories to support the development of the intervention enables new theory to be synthesised from the outcomes, regardless of their success during the evaluation stage (McEvoy et al. 2018). The MRC framework (Craig et al. 2008) does not give advice on the processes of intervention development itself, however, NICE PH49 (2014) suggest the use of the Behaviour Change Wheel (BCW) model (Michie et al. 2014) to build these stages. Because of its systematic approach, the BCW can guide the identification, as well as explaining the mechanism, of those behavioural components that promote or prevent change. The authors of this model describe the BCW as putting "flesh on the bones" of the MRC recommendations (Atkins and Michie 2015, p. 2). In the following section, I will look at the rationale for choosing the BCW model as an approach for the design and development of this research intervention followed by a description of the BCW stages in relation to the intervention build.

3.3 Behaviour Change Wheel (BCW) including COM-B (Michie et al. 2014)

I have chosen the BCW for guiding the design and development of my research intervention because it supports: "a thorough assessment of the appropriate behavioural target(s), what it would take to achieve change in these and how best to implement this" (Michie et al. 2014, p. 14). For this study, this model guides the potential process of cascading knowledge from clients at a weight management programme with the goal of offering support to those within their social network. Post-doctorate, if the intervention proves to be effective (as measured by weight loss or maintenance), the model's detailed process would enable us to know what those specific and effective components were. This model not only supports replication of the intervention but also proposes a framework to synthesise new theory. Michie et al. (2014) base their principles of action on a collation of 19 frameworks of behaviour, identified through a systematic literature review of frameworks for behaviour change interventions (Michie et al. 2011). Their addition of three further criteria – comprehensiveness, coherence and links to models of behaviour – gives the BCW an advantage over other frameworks (Michie et al. 2014). At the centre of the BCW is the COM-B model, a credible template

founded on psychological theories yet a simple process for non-psychologists. Image 3.1 illustrates the three layers of the BCW including the COM-B.

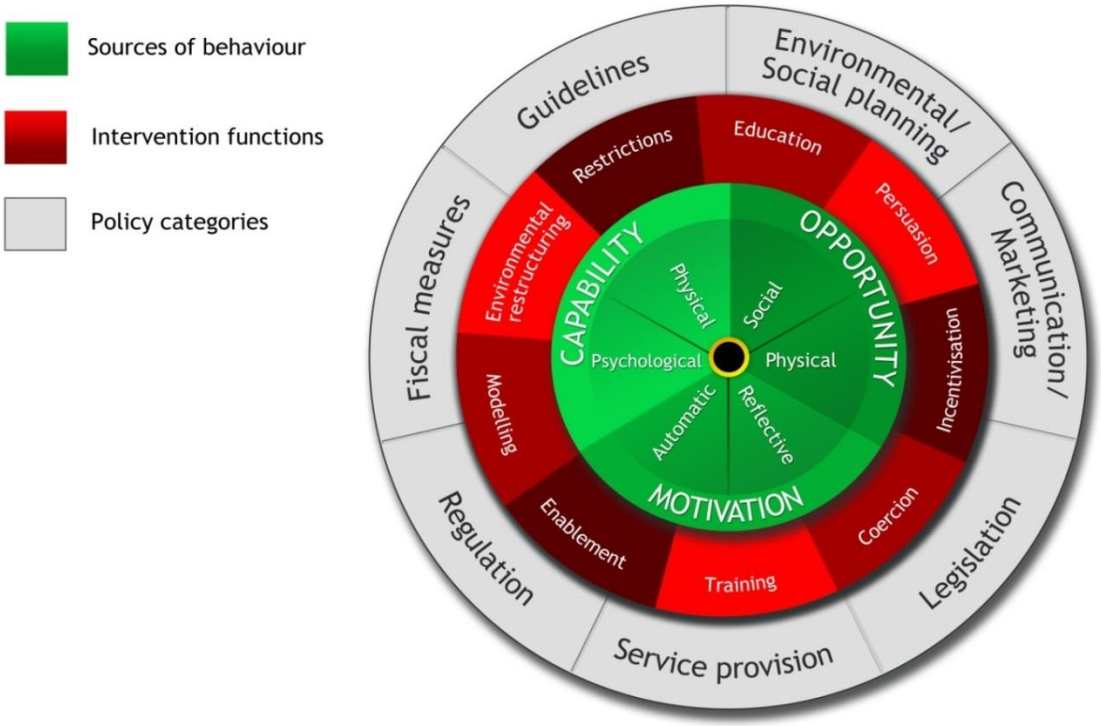


Figure 3.2: The Behaviour Change Wheel (BCW)

COM-B lies in the green 'hub' of the BCW and is central to establishing the barriers and facilitators that impact on the desired behaviour change, which, in this thesis, is to intervene with peer support (Michie et al. 2014; NICE PH49 2014). This hub guides the first four stages of a behavioural intervention design (Michie et al. 2014), and Table 3.1 presents a visual plan that summarises these in relation to the research purpose. The table includes the remainder of the eight stages of the BCW and illustrates how this model meets the recommendations in 'Development', stage 1 of the MRC framework (Craig et al. 2008). Section 3.3.1 supports the visual representation (Table 3.1).

Table 3.1: Providing a theoretical base for the Development stage of the MRC (Craig et al. 2008) through the BCW model (Michie et al. 2014)

<table>
<tr><th>MRC: Stage 1, Development</th><th>The 8 steps of the Behaviour Change Wheel</th><th>The 3 stages of the Behaviour Change Wheel Understanding and identifying the intervention options in relation to the research purpose of this thesis</th></tr>
<tr><td rowspan="3">1. Identifying the evidence base</td><td>1. Define the problem in behavioural terms.
What problem are you trying to solve?</td><td rowspan="4">Stage 1: Understand the behaviour
To reduce the prevalence of obesity and overweight

To encourage clients of a weight management programme to cascade their lifestyle knowledge and behaviour skills by interaction with their peers

By training the Leads at a weight management programme to raise the topic of peer support with their clients, to introduce a discussion on the acceptable ways to offer this to their peers

The capability, opportunity and motivation for clients to offer acceptable peer support within their social network, and the capability, opportunity and motivation for Leads to feasibly raise the topic and introduce the discussion within a weight management programme</td></tr>
<tr><td>2. Select the target behaviour

What behaviour are you trying to change?</td></tr>
<tr><td>3. Specify the target behaviour

In what way are you trying to change the behaviour?</td></tr>
<tr><td>2. Identifying/ developing theory</td><td>4. Identify what needs to change

What will it take to bring about the desired behaviour change?</td></tr>
</table>

	5. Identify intervention functions *What types of intervention are likely to bring about the desired change?*	**Stage 2: Identify intervention options** *Consider: education, persuasion, incentivisation, training, environmental restructuring, modelling and enablement*
	6. Identify policy categories *What policy categories would support the functions of the intervention?*	
3. Modelling process and outcomes	7. Identify behavioural change techniques *What should be the specific intervention content?*	**Stage 3: Identify content and implementation options** *These should be listed in specific terms, detail and context for replication such as TIDieR, a checklist that prompts these details*
	8. Identify Mode of delivery *How should it be implemented?*	*Mode of delivery using APEASE criteria: (affordability, practicability, effectiveness, acceptability, safety, equity)*

Legend: COM-B, sources of behaviour. Intervention functions. Policy categories. Intervention content/delivery

3.3.1 Using the BCW as a process for following MRC recommendations in the research intervention development

To meet the requirements of 'identifying the evidence base' (Craig et al. 2008) (Section 3.2.1), I followed steps 1–3 of the BCW (Michie et al. 2014), and explored the problem of obesity from a clinician's, client's and national point of view, and considered an innovative method to reduce the disease.

To carry out 'identifying and developing theory' (Craig et al. 2008), I followed step 4 of the BCW to identify what components should be present for informal peer-led support. Michie et al. (2014) advise that, rather than using the theoretical COM-B model alone, this area should also be explored realistically. Chapter 4 discusses the methodology used to explore the perceptions of the Participants and the Leads around the components that act as barriers or facilitators, respectively, to; offering peer support, or raising the topic within a weight management programme.

The first component of the theoretical COM-B model is 'capability', and Michie et al. (2014, p. 59) divide this skill "heuristically into two types … either physical (having the physical skills, strength or stamina) to perform the behaviour or psychological (having the knowledge, psychological skills, strength or stamina) to perform the behaviour". The capability to offer weight management support to their peers is defined for this study as both the skills that clients have, such as offering to share a healthy lunch with their friend, and also the ability to reflect on the impact of offering these skills. For Leads, they may not only require the skills and knowledge to talk about the benefits and risks of peer support, but also the ability to consider whether the client is ready to hear about these.

Regarding the second component – opportunity – Michie et al. (2014) also divide this by two definitions: the physical opportunity to help others as allowed by their availability and situation; and secondly, the social opportunity as allowed by their culture and relationships. For this study, physical opportunity for the Participants takes place within their social network such as home or work; for the Leads, this would take place at the weight management programme. Social opportunity is interpreted as the opportunity created when the Participant offers or accepts support in the manner they are accustomed to and find acceptable; for the Leads,

this would be the opportunity that arises when they see their clients ready to receive the intervention.

The third component, motivation, has to be present in order for an intervention around informal peer support to be viable (Michie et al. 2014). Motivation is also divided into two; automatic and reflective courses of action (Kahneman 2012). The Participants in this study may automatically feel the need and desire to support those in their family and social network, however, acting reflectively by making plans and having good intentions to offer and accept support may be less common. Equally, the Leads may automatically follow their teaching notes to deliver the intervention, but, if they see their clients struggling with changes, Leads may reflect negatively on introducing the topic of peer support.

To achieve phase 2 of the 'development' stage (Identifying/developing theory), I followed step 5 (Identify intervention functions) of the BCW (Michie et al. 2014). By comparing the list of intervention functions that support the behaviour change of a peer-led intervention (Table 3.1) with the preferences of the Participants and Leads (Chapters 5 and 6), I was able to generate the precise Behaviour Change Technique's (BCTs) that informed the intervention manual (Chapter 7). The last part of the BCW to support identifying/developing theory advises looking at the policies that would support the intervention functions. This step of the design and development would be dependent on local policies in my HSCP and is not explored in this study and therefore excluded from Table 3.1.

Phase 3 of the MRC stage of development of a complex intervention is not covered by this thesis in that the intervention will not be modelled before pilot or feasibility trials, however, steps 7 (Identify behavioural change techniques) and 8 (Identify Mode of delivery) of the BCW that guide the final part of the of the intervention development, will be discussed in Chapter 7.

Through the BCW model, Michie et al. (2014) have guided the translation of the MRC recommendations through a process of scientific theory into the real world where behaviours are performed. However, the authors (Michie et al. 2014) point out that, although the BCW stages can be used in sequence, in real life there may be movement back and forth across these. There is an advantage to this in that

the intervention can evolve by refining and revisiting the previous stages. Furthermore, although it is a model based on theory, it allows the intervention to be tailored according to the perceptions of the Participants and Leads if a rationale can be found for doing so.

This section provides the rationale to support my choice of the BCW model to guide this study's intervention design and development under the overarching recommendations of the MRC framework (Craig et al. 2008). The next section looks at the Behaviour Change Techniques (BCTs) that support the intervention functions outlined by the BCW (step 5) and the social and psychological theories that support the concept of peer support.

3.4 Single or cluster of Behaviour Change Techniques (BCTs)

Michie et al. (2014, p. 145) describe BCTs as "an active component of an intervention designed to change behaviour". NICE PH49 (2014, p. 46) add to this definition by quoting that: "the technique must meet specified criteria so that it can be identified, delivered and reliably replicated. It should also be observable and irreducible (behaviour change techniques are the smallest 'active' component of an intervention)". An intervention that aims to change behaviour could use a single BCT or use several working together in a cluster, and Michie et al. (2013) developed a consensus that codes the known 93 BCTs into a taxonomy. In Chapter 7, BCTs from this list are identified to deliver the intervention functions and listed in the intervention manual (Table 7.1).

The health behaviour theories, explaining the effectiveness of BCTs are many. With the support of the Health Psychologist from the Steering Group, I identified four theories that support the potential for an informal peer support intervention in weight management: the following section outlines these theories.

3.5 Psychological theories

Psychological theories were mentioned in the literature review (Chapter 2) in some of the studies to underpin the theory of the research but not discussed in detail by the researchers. One theory supporting the success of peer support is attributed to Social Cognitive theory (Bandura 1986). Bandura suggests that people learn

new healthy behaviours from ‘credible role models’ when they see positive consequences, such as a peer losing weight or becoming fitter. When they see their peer demonstrate strategies to achieve weight loss, the recipient of support may find their own self-belief increased to make lifestyle changes (Artinian et al. 2010; Burke et al. 2002; Tessaro et al. 2000). The peer who has lost weight may be asked for tips around eating habits or exercise routines that led to their successful management of energy balance. This opportunity may not only support weight loss in the recipient, but, equally, may serve as a prompt for the peer to continue their healthy goals and behaviours to maintain their weight loss (Bandura 1986).

A second quoted theory in the literature review was the ‘Social Comparison theory’ (Festinger 1955); an individual, witnessing a peer within their social network losing weight, could be inspired to make behaviour changes too. Peers can feel motivated by both comparing themselves upwards to successful weight loss peers and downwards to those less able than them to make changes. This theory has been used to support models for successful peer support in community weight management (Maitland and Chalmers 2011; Larkey et al. 1999).

A third theory for informal peer support by Ogden and Hills (2008) describes how the shift to achieving positive lifestyle changes is dependent on three factors: the individual’s knowledge of the health consequences by not changing; a reduced opportunity to overeat, and the realisation that being overweight is not insurmountable – the individual can do something about it. A peer that imparts information they have learned of the health consequences of obesity, and demonstrates new healthy behaviours could, according to this theory, influence others. Ogden and Hills (2008) describe this theory as a “process of reinvention and a shift in identity towards a new healthier individual” (p. 433).

A final theory suggested to underpin peer support is by Bellg (2003), who describes an individual making a change in health behaviours when they believe they are competent in the skills required for change. These might be coping skills or choosing healthy options: this theory is termed the Health Behaviour Internalisation Model (Bellg 2003) and may apply to the peer once they have learned skills from the weight management programme.

These theories endorse the possibilities that peers could informally promote weight loss and weight maintenance within their social network, however, there appears to be no one theory that explains the mode of action for successful peer support. The collaboration group behind NICE PH49 (2014) report that they reviewed many of the theories and models from both social and behavioural sciences, but found that the evaluation and reporting of these were inconsistent and not reproducible. They report that some models were in fact multiple adaptations of several models and that this possibly points to the fact that there are many factors affecting behaviour change. NICE PH49 (2014) conclude their recommendations with their view that behaviour change interventions should not be based on a psychological or social theory but should instead focus on the delivery of the intervention: how this is achieved and what is delivered. Whilst aiming to be cognisant of the theories that underpin peer support, the intervention of this study will be co-developed and based on Participants' and Leads' perceptions of what they consider to be acceptable and feasible (Section 3.6.2). In Chapter 8, I will discuss how these four selected theories fit in with the findings from the data.

In the next section, I look at further guidance from NICE on behaviour change at both an individual level (NICE PH49 2014), and with a general approach (NICE PH6 2007), and how these influence the approaches taken in this study.

3.6 National Institute for Health and Care Excellence (NICE): The NICE guidelines and recommendations for designing and developing behaviour change interventions

NICE have collaborated on two sets of guidelines for behaviour change, the first set (PH6 2007) details the general approaches for behaviour change that could be used at both an individual, community and population level to encourage lifestyle changes: it is intended for practitioners. After the emergence of new evidence around behaviour change, an additional set of guidelines (NICE PH49 2014) was written focusing on individual approaches.

This study is aiming to explore perceptions of the Participants around acceptable interventions to help their peers and this requires an individual behaviour change approach, hence, my consultation of NICE PH49 (2014) guidelines. Obtaining the

Leads' thoughts on the feasibility of raising the topic of peer support at the weight management programme requires not only an individual perspective but also a practitioner approach necessitating reference to both sets of NICE guidelines (NICE PH49 2014; NICE PH6 2007). In the next two sections, I will discuss the recommendations for behaviour change relevant to the gaps summarised in Chapter 2. These are:

- *What support could peers offer that is acceptable?*
- *How do peers want to offer and request support?*
- *Who would offer or accept support?*
- *What are the benefits and risks to peers when they offer or accept support from each other?*

3.6.1 NICE PH6 (2007): recommendations

This first set of guidelines give recommendations to those who are involved in helping people change their behaviour. In relation to this study, these people are identified as the Leads of the weight management programmes who support their clients to make lifestyle changes to initiate weight loss and then maintain it. The guidelines outline the most relevant and effective ways to intervene with support for lifestyle behaviour change to encourage those behaviours that are conducive to good health. The guidelines that are relevant to the research purpose are:

1. education and training for practitioners delivering the intervention
2. the method and content of the delivery of the intervention
3. evaluation of the intervention by way of effectiveness

Points one and two invite questioning around the capabilities, opportunities and motivation (BCW, Michie et al. 2014) of the Leads to deliver the potential study intervention, and these I will explore within this section. Point 3 is not covered within this study, however, considering the research by Glasgow et al. (1999), any future intervention that is trialled within the community should be carefully evaluated using a method such as Re-AIM. This method measures the impact of

an intervention by five factors: reach, efficacy, adoption, implementation and maintenance.

NICE PH6 (2007) recommend that practitioners who are involved in delivering a behaviour change intervention – in this case the Leads – should be given education and training to be competent. In addition, these competencies should be checked to ensure that not only are their skills proficient, but that the fidelity to the programmes philosophy is adhered to. They also recommend that these practitioners should have additional competencies in behaviour change such as motivational interviewing. These recommendations prompt exploration around the capabilities that Leads perceive they need to be able to support the potential intervention.

Regarding the delivery, NICE PH6 (2007) recommend that the Leads of interventions should consider the social and cultural context of their clients and adapt their methods accordingly. In addition to meeting the needs of the individual, service providers should be cognisant of the effects of group interventions and tailoring should be made accordingly, such as when and what is delivered (Hoddinott et al. 2010). These recommendations prompt a further area of exploration: what are the Leads' perceptions of the barriers and facilitators to prompting their clients to offer support within their various social and cultural situations?

3.6.2 NICE PH49 (2014): recommendations

This second set of guidelines (NICE PH49 2014) give recommendations around the modes of action for changing health behaviours at an individual level. Again, this document is intended to give guidance to those who help others make changes, and the recommendations are not solely for professionals but also for people wanting to improve their own behaviours and those around them. For this study these people are the clients of a weight management programme who may not only consider cascading their knowledge on weight management to their peers, but giving them support to make changes too.

Of the seventeen recommendations in NICE PH49 (2014), four are pertinent to the design and development phase of the intervention, and I followed these for this thesis:

> *Recommendation 1*. Co-work with those who the intervention is aimed at to ensure it meets their needs in their social environment.

This research aims to involve clients in a weight management programme to co-develop the intervention by exploring their perceptions on support within their social network. The recent guidelines, 'Involve' (NIHR 2018), which were published after my thesis started, gives guidance on co-producing in research. Although this study is not a true 'co-production' in that key decisions in the research were not collaborated on with the stakeholders, their views were expressed in informal discussions as part of a steering group to form participant information documents, and by Participant qualitative interviews to develop the intervention manual. The recommendations on co-production prompted exploration around the participants' perceptions on the barriers and facilitators that affect their motivation to informally offer or accept support for weight management within their social network.

> *Recommendation 2*. Behaviour Change techniques (BCTs) and other components of the intervention should meet the listed criteria for replication. Ensure these features are available in a manual with a description of: any tailoring to meet individual needs; the resources; the techniques used and implementation details. The manual should be publicly available with clear explanations of the mechanism of action (MRC, Craig et al. 2008).

This recommendation guided the design of the intervention and the use of the BCW (Michie et al. 2014) provided guidance on the specific BCTs used (Section 3.4). I highlight the specific key components of the intervention through the use of the BCW, and these, plus the listed criteria in the Template for Intervention Description and Replication (TIDieR) (Hoffman et al. 2014), supports replication and production of the intervention manual (Chapter 7, Table 7.1).

Recommendation 3. Aim to use proven behaviour change techniques (BCTs) including those on social support: “If appropriate advise on, and arrange for, friends, relatives, colleagues or 'buddies' to provide practical help, emotional support, praise or reward” (NICE PH49 2014, p. 14). Aim to select proven techniques that have been designed to change behaviour (NICE PH49 2014).

This prompted exploration around the type of social support participants can offer and accept from peers, and the opportunities there are for this within their network. In addition, the means by which this provision of support is initiated or requested, invited an exploration around the most appropriate cues and language for peers to use.

Recommendation 4. Aim to deliver an intervention that could help people maintain their changes for more than a year, and social support is mentioned as an option for not only change, but for long-term change.

NICE PH49 (2014) make a note that the small changes made in everyday life, within their own environment, are easier for people to maintain. Social support happens within social networks and environments and especially with those they know and have a commonality – their peers. This research aimed to use this support mechanism, not only to promote weight management, but also to make weight management sustainable. Furthermore, the weight management journey can extend along a time-line from trying to lose weight, to losing it and then maintaining it and it would be useful to find out about the most effective time to initiate or request peer-led weight management support.

3.7 Summary of Chapter 3

This chapter has outlined the key approaches to the development of the behaviour change intervention of this study under the overarching guide of the MRC Framework (Craig et al. 2008), with the BCW (Michie et al. 2014) providing the theoretical base. Together with the NICE recommendations (PH 49 2014; PH6, 2007), the key components of this theoretical base, capability, opportunity and motivation (Michie et al. 2014), will guide further exploration into the development of a peer support intervention (Table 3.2).

Table 3.2: Intervention development: areas to be explored by data collection

Clients' perceptions required on the key theoretical components that enable their behaviour change to offer a peer support intervention:
• The capability to offer an acceptable type of support • The capability to offer support in an acceptable way • The opportunity to offer and accept support • The motivation to offer and accept support
Leads' perceptions required on the key theoretical components that enable their behaviour change to prompt a peer support intervention:
• The capability to support the intervention • The opportunity to support the intervention • The motivation to support the intervention

These areas will support the development of the research questions in addition to the summarised gaps of the literature review at the end of Chapter 2. Supporting justification for the research design, these questions will be used to collect data from both the Participants and the Leads of a weight management programme in Chapter 4.

Chapter 4: Methods & Methodology

4.1 Introduction to the chapter

In the previous chapters, the gaps identified from a review of the evidence in peer-led support and the recommendations from theory- based approaches are brought together in this chapter to build the research aims and questions illustrated in Figures 4.1 and 4.2. I give a rationale that underpins the methodology to meet the research aims and questions for this thesis, and justify my selection of taking a pragmatic approach to a qualitative research design. I include the procedures for sampling and recruitment, data collection and analysis, and consider the ethical considerations for these. I conclude with an evaluation of the quality of the research process.

4.2 Research purpose, aims and questions

The overarching aim of this research is to develop an intervention that targets the clients of a weight management programme to support their peers in weight loss. Prompting the topic of peer support are the Leads who deliver this programme, and therefore they are included in the intervention development process. Reflecting this, the research purpose is broken down into two specific aims. The first, to find out whether a sample of clients attending the weight management programme perceive they have the capabilities, opportunities and motivation to offer or accept peer-led weight management support; the second, to find out whether weight management programme Leads perceive they have the capabilities, opportunities and motivation to help their clients in providing peer-led weight management support.

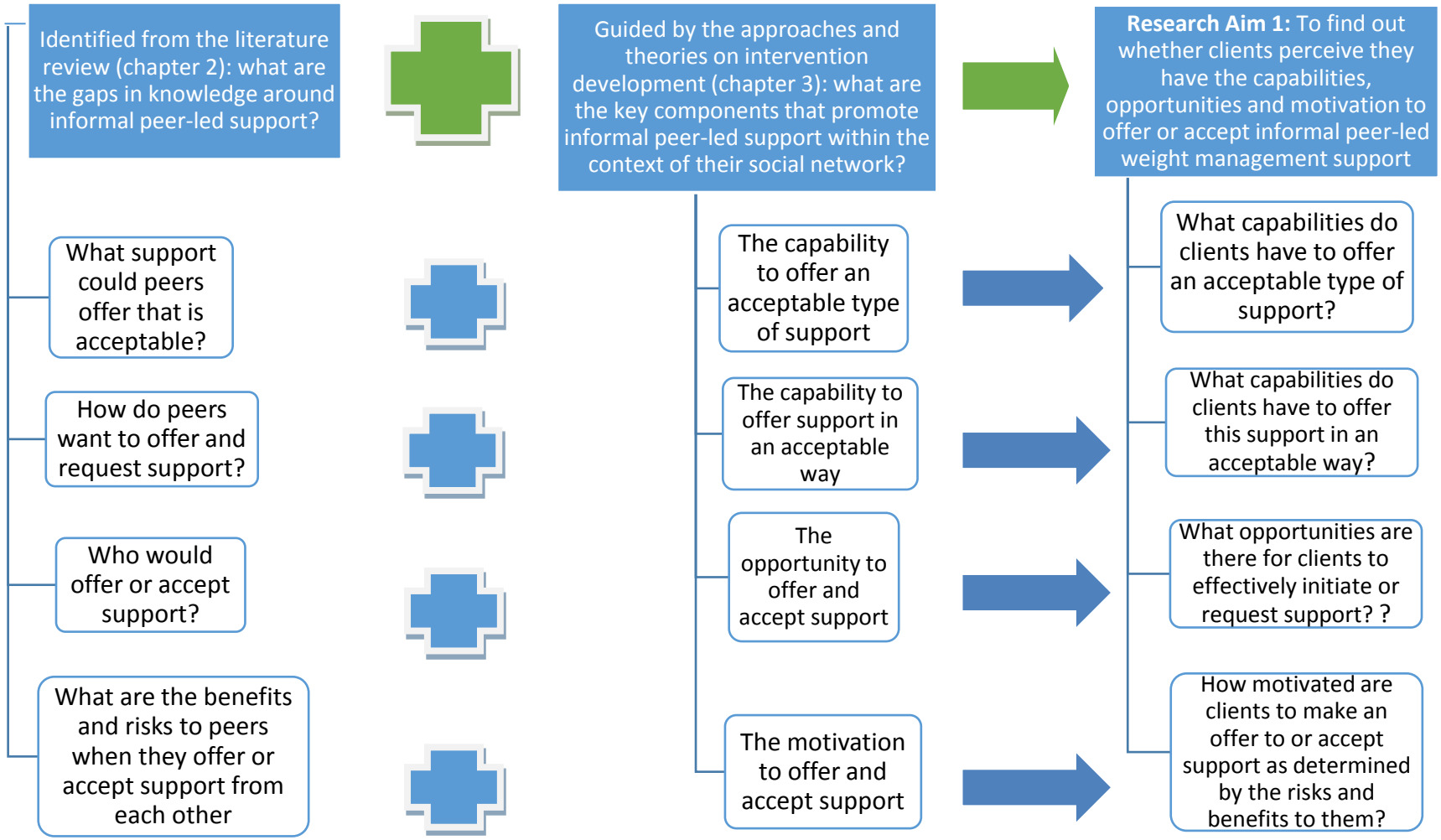


Figure 4.1: Developing research aim 1 and research questions around the acceptability of the intervention

4.2.1 Research Aim 1: to find out whether clients perceive they have the capabilities, opportunities and motivation to offer or accept informal peer-led weight management support

In the process outlined in Figure 4.1, the decisions made as a result of the research undertaken in Chapters 2 and 3 build on the first research aim to explore the key components that support a peer-led intervention (Michie et al. 2014): capability, opportunity and motivation. The peers' social network is the setting outside of the weight management programme, and efforts to implement a plausible intervention should take account of the social context (NICE PH49 2014). This setting can be complex, as described in Section 3.1, and any part of the complexities in a peer's social network can impact on these key components.

Of the three key components, capability includes these aspects: the support clients perceive they can offer their peers; and the support they are willing to accept from them. Verheijden et al. (2005) suggest that, if the peer support offered is what the recipient perceives they need, it is more likely to have an impact on the recipient's behaviour. For this study, this is the acceptance of peer-led weight management support. I define 'acceptable' as something that the participants would perceive as agreeable and would consider using (https://www.collinsdictionary.com/dictionary/english/acceptable). It is these perceptions that this study aimed to explore through research questions that distinguish between the content of the support and how it is delivered:

1. **What capabilities do clients have to offer an acceptable type of support?**
2. **What capabilities do clients have to offer this support in an acceptable way?**

Regarding the second key component from Michie et al. (2014), we have already learned in Chapter 3 that peers require an opportunity to intervene with support for others. To gain a better understanding of these opportunities, it was useful to ask about which peers that clients are able to support within their social network and where this could happen. Here I aimed to explore how opportunities to offer support arise, and whether they happen by chance or by request. In addition, within the context of various cultures and traditions of their social network, such

knowledge can provide a greater understanding of peer support to understand about clients' preferred cues for support, how they respond to these, and whether there are conditions that make their offer or request for support more acceptable. These areas were thus explored by asking clients their perceptions using this research question:

3. **What opportunities are there for clients to effectively initiate or request support?**

The third key component identified by Michie et al. (2014) is motivation. As well as being an automatic response, motivation also implies some reflection for clients on the reasons they want to offer or accept support, and these are affected by their perceived benefits and risks (West and Brown 2013). The members of the clients' network are linked to them by different bonds of various strengths and these may affect the acceptability of peer support. All of these generated the last research question to the clients:

4. **How motivated are clients to make an offer to or accept support as determined by the risks and benefits to them?**

'Peer-led support' is intended to be promoted to clients at a weight management programme and, in addition to discussions they may have informally with fellow attendees, there are Leads available to give guidance on this topic. The second research aim seeks to find out the perspective of the Leads on the feasibility to intervening in this way.

4.2.2 Research Aim 2: to find out whether weight management programme Leads perceive they have the capabilities, opportunities and motivation to help their clients in providing peer-led weight management support

Figure 4.2 outlines the summary from Chapter 3 that informed the second research aim. This aim explores the presence of the key components that promote behaviour change interventions (Michie et al. 2014), this time from the Leads' perspectives, and the target setting is within the weight management programme.

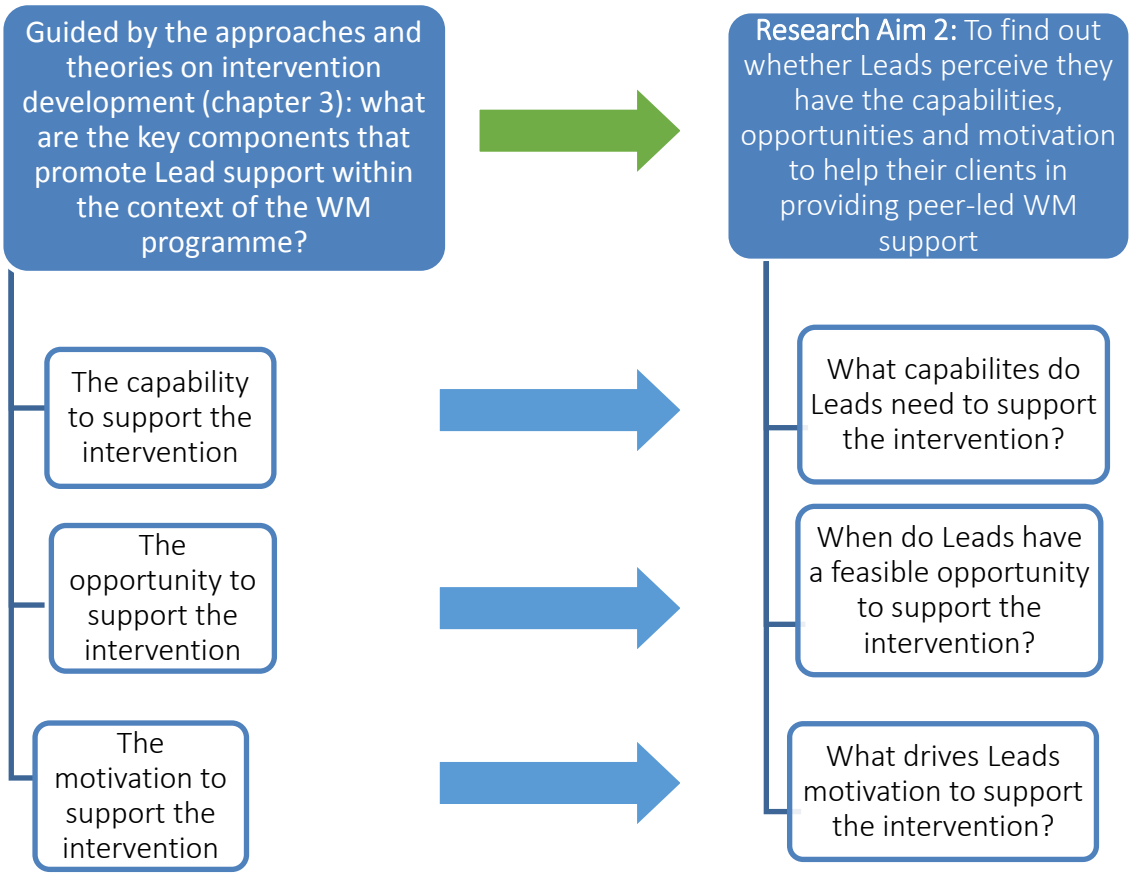


Figure 4.2: Developing research aim 2 and the research questions around the feasibility of raising the topic of peer-led weight management (WM) support

The two columns in this diagram demonstrate the important role that Leads play in influencing clients' behaviour changes in peer support that was highlighted in the literature presented in Chapter 2. The Leads deliver validated weight management programmes to enable their clients to lose weight, but I wanted to explore whether, in addition to the set programme, it would be feasible for Leads to intervene by providing guidance to their clients on an extra topic – peer support. Regarding the setting (Section 4.6.2), the programme takes place within a group context. This may affect the introduction of discussions around peer support: "Health improvement or behaviour change interventions delivered in a group setting are complex adaptive social processes with interactions between the group leader, participants, and the wider community and environment" (Hoddinott et al. 2010, p. 8). To gain an understanding of the Leads' perceptions of the extra support they could offer their clients within the complexities of the group setting, the following research questions were developed:

5. **What capabilities do Leads need to support the intervention?**
7. **When do Leads have a feasible opportunity to support the intervention?**
8. **What drives Leads' motivation to support the intervention?**

In Section 4.3, I will discuss the justification for the approach adopted to fulfill the study research aims.

4.3 Rationale for the research approach

This thesis is centred on my clinical practice as a dietitian and is expected to contribute to my evidence-based practice. My practice centres around the provision of knowledge to inform the individual on dietary and lifestyle changes, and to support them in achieving the behaviour skills required to make those changes. In an attempt to understand why and how individuals, as opposed to professionals, could offer weight management support and construct these social interactions, I aimed to explore clients' perceptions around this topic.

Chapter 2 highlighted an absence of research using the methodological approaches that would capture in detail the mechanisms that promote successful peer support and this finding influenced my research purpose. I considered that the actions of the clients in a weight management programme could support the success of an intervention, but these actions would be affected by the complex relationships in their social network. To explore the gaps in knowledge on this topic required an approach that allowed thoughts and themes to emerge from study Participants, closely resembling those in their real world.

Approaches to research are affected by the researchers "assumptions and theoretical orientations" (Sparkes and Smith 2014, p. 9) and it is true that my belief is that finding an acceptable intervention on peer support would involve valuing clients' thoughts on the topic. Together with my interpretation of these thoughts, knowledge can be co-created – an interpretivist stance. In Section 4.3.1, I will discuss this stance further by moving from the secondary research described in previous chapters to the primary research of this thesis: the design of my data collection and my selection of the qualitative approach.

4.3.1 Rationale for a qualitative approach

The literature review highlighted a mixture of methodological approaches to peer support in weight management (Chapter 2) and most outcomes were measured by weight loss or weight loss and maintenance. Those using these quantitative or mixed methods were able to test "pre-hypothesised mechanisms of impact and contextual moderators" (Moore et al. 2015, p. 6). For example, Gorin et al. (2005) proposed that more support partners correlated with more weight loss, but their findings illustrated that study participants' weight loss correlated with the weight loss success of their partners instead. The quantitative approaches revealed in the literature review could be considered a starting point to finding out about the potential that a peer support intervention could be effective in weight management. Quantitative research is underpinned by positivism which seeks to quantify the phenomena by using objective and scientific measures, keeping a clear divide between science and human perceptions (Carson et al. 2001). It has a philosophy of considering reality to be stable. However, the real world is not stable; the contexts are changeable and require an approach that captures complex information rich in its diversity of perceptions and behaviours. Flick (2006, p. 74) describes this more natural and interpretive approach to research as "understanding the phenomena or event under study from the interior". Using a qualitative approach in this thesis supported the discovery of new information in real-world terms as opposed to a confirmation of what was already known: this inductive approach allowed theory to be synthesised by the interpretation of the data collected of participants' experiences (Creswell 2013; Robson 2011; Pope et al. 2006; Denzin and Lincoln 2000). Sparkes and Smith (2014, p. 12) describe the Interpretivist researcher's process of inquiry as "a matter of interpreting the interpretations of others".

Adding a qualitative element to a study, such as the study by Gorin et al. (2005), which established that weight loss correlated with partners' weight loss, would have enabled a discussion of the "experiences of the intervention and unanticipated or complex causal pathways and to generate new theory" (Moore et al. 2015, p. 6). There are already many examples of quantitative research on peer support with variable outcomes within the literature; the gaps for intervention

development are around the experiences and the complexities of the peer relationships that affected these outcomes. The research questions of this thesis seek a deeper understanding of peer support to fill these gaps and therefore the research approach best suited to explore these was a qualitative, interpretivist approach (Ritchie et al. 2014; Corbin and Strauss 2008; Silverman 2005). In the next section, I justify the research methodology amongst the different traditions within a qualitative approach.

4.4 Identifying a suitable qualitative approach

Qualitative research has been termed as “a camp that contains a number of communities and traditions” (Sparkes and Smith 2014, p. 33). There are many similarities in approaches in qualitative research and they all aim “to understand the social reality of individuals, groups and cultures and explore their behaviours, perspectives and experiences” in their daily lives (Sparkes and Smith 2014, p. 14). The resemblances of the qualitative research processes can be seen in three main activities: theory (ontology), method (epistemology), and analysis (methodology). Denzin and Lincoln (2011a, p. 6) describe these processes “as a set of interpretive activities that privileges no single methodological practice over another”. From the perspective of a clinical academic, I reflected on the different qualitative research approaches in the literature and, using a pragmatic approach, I looked for the approaches and activities that would best fulfil the research questions (Silverman 2005). These many different approaches and activities can be labelled and sorted by their central tendencies and many complexities.

This research study proposed to explore the concept of peer support across groups with a diversity of backgrounds and not one specific group with a certain set of beliefs (Ethnography, Angrosinio 2007); it did not intend to study the experience of peer support itself (Phenomenology, Creswell 2013). In addition, this research did not propose to explore the experience of one individual (Narrative Research, Creswell 2013) nor one specific part of peer support (Case Study, Creswell 2013), nor did it aim to create a theory from data around peer support (Grounded Theory, Glaser and Strauss 1967). There are some similarities to the tradition of Action Research, as the research involved developing a solution around an acceptable intervention in collaboration with participants based on

existing theories (Argyris and Schön 1989). Although this research involved the clients and Leads of a weight management programme, and although the comments of these clients initiated the research purpose, they were not equitable partners or co-workers in the research itself (Section 3.6.2). Furthermore, there was no necessity to evaluate the proposed intervention on any existing theory. Nonetheless, this qualitative research gave power to the stakeholders by allowing them to influence the researcher on areas that were of concern or importance to them (Holloway and Wheeler 2010) and their perspectives subsequently guided the co-development of the intervention discussed in Chapter 7.

Reassured by Denzin and Lincoln (2011a) that there is not a gold standard approach and that my research did not have to fit into a pre-determined method, I used a pragmatic approach that would best explore my research purpose. I aimed to fill the gaps in existing literature by collecting new data to answer the research questions. Seeking to gain this data from clients at a weight management programme on their experiences and perceptions of peer support and from Leads on their perceptions of introducing this intervention, guided my choice of data collection methods. I chose two methods of data collection: semi-structured interviews to allow the Participant the flexibility to report on their beliefs on acceptable support, and focus groups to allow Leads to develop their perspectives on what the intervention could be, when and where it could be introduced. I considered the client's perspective important data to inform the development of the intervention - they would have insights into the elements that make peer support acceptable. Weight management is a very sensitive, personal and complex topic and because of this, I wanted the clients to have the opportunity to talk in depth. I did not want to influence data by using structured questions which made assumptions based on what I thought might be important. This justified my choice of one to one semi- structured interviews guided by topic (Section 4.7.1). The Leads perceptions on raising the intervention at the weight management programme were important too for practical and technical reasons. They could be gatekeepers to the intervention and determine the future success or failure by their choice to roll out the intervention. However, I didn't consider their thoughts to be voiced within the context of deeply personal or sensitive experiences that would necessitate an individual interview. Instead, I considered a method of data

collection that would benefit from the interactions of exploring the topic with other Leads of weight management programmes and who would be in a similar position if asked to introduce the intervention to clients. Having focus group participants with a common role, training and experiences can provide the trust necessary for sharing insightful reflections on the topic. This justified my choice of focus groups and the small size of these was pragmatic based on the availability of Leads in small rural areas (Section 4.7.6). The research design and methods for accessing and hearing their voices are outlined in the following section.

4.5 Research design and methods

Denzin and Lincoln (2011b) advise researchers to involve a wide selection of connected interpretive systems in their research design as each system may contribute to the findings in different depths and details. In practical terms, I have followed the advice of Creswell (2013), who suggests that the key to achieving different depths and levels of detail of data is to gain different perspectives, and the next section looks at the contribution of professionals in the Steering Group.

4.5.1 The Steering Group

Enlisting the support of a Steering Group enabled a fuller exploration of the complexity and richness of the data, and this group consisted of; the weight management programme dietitian, a weight management dietitian working outwith the area of the study, an ex-programme Lead, an ex-programme client, and a health psychologist. Giving a point of view from their clinical, professional or personal opinion on topics that they had expertise, knowledge, and experience of, contributed to further perspectives of the intervention development as opposed to one based solely on my biased views and assumptions. Some examples of issues discussed were around the study Participant and Lead paperwork, the intervention manual, and the theories behind peer support in weight management. The Steering Group did not meet together as a whole but participated in email discussions. Members also gave support individually, sometimes face-to-face, and sometimes by email. Nonetheless, the main perspectives that influenced the intervention development were those from clients attending a weight management programme and the Leads facilitating these: the following section outlines the

sample and recruitment strategy for inviting these individuals to participate in this study.

4.5.2 The sampling strategy

Ritchie et al. (2014, p. 112) state that "the sampling strategy for a study is an integral component of the research design because it will affect the usefulness of the data collected, the type of analysis possible and the extent of opportunities to draw wider inference". Bearing this in mind, my strategy was to aim for 'maximum diversity' sampling within the population attending a specific type of weight management programme (The Counterweight Project Team 2010). The sample was broadened in the widest sense by seeking views from a diversity of clients in terms of age, BMI, gender, area of residence; work status and social status (see Section 4.5.3, Table 4.1). Within the Counterweight programme, Leads were sampled based on those locally available. This method enabled an exploration of "the multiple facets of a problem to investigate issues holistically" (Sparkes and Smith 2014, p. 70), until I assessed that the sample size was as varied as possible and sufficient in information (Malterud et al. 2016, Section 4.5.3).

4.5.3 The setting

The setting for the research was a tier 2 weight management programme (Sections 1.4 and 1.5). In this research, time-point 1 refers to pre-programme, time-point 2 refers to completion of the 12-week core programme, and time-point 3 refers to completion of the subsequent review sessions over 12 months. The venues for these programmes were NHS function rooms at community hospitals and integrated care sites, community halls, and Council-run leisure complexes. These venues were situated in very different surroundings: in diverse geographical environments (from urban to rural areas) with varying populations (from the larger populations in the towns to the smaller close-knit populations in the community).

It was estimated that there would be approximately 12, tier 2 weight management programme groups (of an estimated 6 clients per group) commencing in January 2016 across the Health and Social Care Partnership (HSCP). This was the planned date for starting participant recruitment. Traditionally, weight

management programmes commence at times when enrolment would be high, such as pre- and post-Christmas and pre-Easter/holidays: historically these are the times that the local overweight and obese population are motivated to make lifestyle behaviour changes. Using the HSCP trends around programme attrition over the previous 4 years gave some indication of the numbers to expect at different time points in the programme: 66% completing the 3-month core programme (time-point 2) and 16% completing the total 12-month inclusive programme (time-point 3). These local figures were compared to national ones for further guidance on achieving a sufficient sample size. The Scottish average over 2006–2010 was, respectively: 55% and 28%, which showed a smaller national participant loss at time-point 3 (The Counterweight Project Team 2012). The projected recruitment for 12 x 6 groups would give 72 attendees at time-point 1; 47 at time-point 2, and 11 at time-point 3. These estimated enrolment and completion rates were considered sufficient in number for recruitment selection. If this sample size was not achieved, it was planned that clients would be recruited from future tier 2 programmes after January 2016. In addition, achieving the views of clients from an area wide in its diversity of geographical areas would be valuable for designing an intervention, therefore the possibility of using other HSCPs to achieve this diversity was also considered.

4.5.4 Participant sampling strategy

Geographic area, working status, social status and ethnicity were variants identified in the literature as having effects on peer support (NICE PH6 2007). Aiming to gain the widest variation in the participant sample, I examined the key features of the area weight management programme clients that were shared by the managing dietitian and found them to be proportionately women (73%), have a mean BMI of 37.2kg/m^2 (obese), and a mean age of 53. Finding as diverse a sample as possible from these key features, plus the variants from the literature, gave some guidance on the possible variants for inclusion to the study: their importance for selection is outlined in Table 4.1.

Table 4.1: Possible diversities of Participants to support variation within the weight management programme sample

Diversities of participants	Importance for selection
Age categories	Age may influence the opportunity to meet others to give and receive support. Support may be acquired in the workplace or if not working, may come from various clubs/hobbies.
BMI	BMI and their health/co-morbidities could affect the risks and benefits to give support.
Gender	Gender may influence types of work, clubs/hobbies and also affect opportunities as above.
Geographics	Location could affect access for support and size of population could affect opportunities for support within rural areas
Working status	Working away from their home environment may define opportunities and access to those for support.
Social status	Relationships improve/reduce capabilities to offer or accept support.
Ethnicity	Ethnicity may affect opportunities for support, however, in this area of Scotland, this diversity was limited and all participants were white, British.

This method enabled me to aim for maximum diversity at recruitment within the sample and highlighted any gaps for future recruitment at later time-points (Table 5.1). At the beginning of the research, it was not known which of the variations might show greater and richer data around support, so I wanted to aim for a wide selection of participants to avoid missing a diverse selection of perceptions: it was a process and not a pre-calculated number.

Sample numbers in qualitative studies are generally much lower than those of quantitative research because statistical generalisations are not required: instead, this qualitative study looked for an illuminating account of the issue of peer support in weight management (Polit and Beck 2017). I judged my sample size complete when I had heard perspectives from as diverse a sample as possible and heard no new viewpoints: the point of a redundancy of information or saturation (Trotter 2012; Jansen 2010). This approach was initially conceived as a specific part of

Grounded Theory by Glaser and Strauss (1999), but cannot be a justified concept in qualitative research outwith a Grounded Theory approach. Guided by Malterud et al. (2016), I reflected on their model of 'Information Power' that allows a standardisation for assessing sample sizes in all qualitative research. Using their five criteria of study aim, sample specificity, established theory, quality of dialogue, and analysis strategy, I reviewed my data throughout and adjusted the recruitment process accordingly. This is discussed in further detail in Section 4.7.2.

4.5.5 Recruitment: inclusion and exclusion criteria for participants

To ensure the sampling strategy was valid and rational, individuals were only eligible to participate in the study if they had been referred to the weight management programme. Individuals referred for weight loss support are triaged into a weight management tier appropriate for their requirements; if they meet the criteria for a level of intervention at tier 2 (Blackshaw et al. 2014), they also meet the criteria for inclusion to this research (Appendix 1.1). Those who do not meet these criteria are usually triaged into other tiers of the weight management pathway (Section 1.6) and were thus excluded from the sample population for participation in this study.

Local Health Board figures show a trend for few men participating in tier 2 weight management (27%), although this is higher than commercial weight management programmes, where a systematic review reported that only 10% were men (Robertson et al. 2014). I aimed to recruit as balanced a sample as possible in regards to gender within the available consenting participants to allow me to gather information on men's perceptions for peer-led weight management support.

4.5.6 Recruitment process: Participants

The recruitment followed a protocol approved by ethics review (Appendix 4.1) and this is discussed in more detail in Section 4.6. The weight management programme Lead for the HSCP was approached and they gave details of the Leads who deliver tier 2 weight management programmes in the HSCP. The Leads were contacted by email, informed about the study and their support was requested in recruiting participants. Those who had plans to start a weight management programme that fitted within the study timescale and were in

agreement to support the study, were given a copy of the study protocol (Appendix 4.1), Participant Information Sheets (PIS) (Appendix 4.2), plus consent forms (Appendix 4.3) for potential participants to share their contact details. Out of 12 possible weight management programmes delivered by 11 Leads, all were agreeable in principle to recruiting participants. Leads sent the PIS to clients with their weight management programme enrolment information, and shared with me the contact information of consenting potential participants. I contacted these potential participants within 4–7 days and invited them to take part in the study by way of a one-hour recorded interview. Any queries were answered, and it was reiterated that participation was on a voluntary basis and did not affect their weight management support. A suitable time and place was arranged with the consenting participants and, with their written consent (Appendix 4.4), data collection began using the techniques outlined in Section 4.7.1. Participants from this time frame were agreeable for further interview at time point 2 and 3.

4.5.7 Lead sampling strategy

I aimed to have maximum variation of backgrounds for the sample Leads. A balance of gender may have given important information around delivering the intervention but, historically, Leads have been predominantly women with only three men delivering programmes locally out of 18 trained professionals over the last four years. None of these men were running programmes at the time of recruitment.

4.5.8 Recruitment: inclusion and exclusion criteria for Leads

To ensure the sampling technique was valid and rational, Leads were only eligible to participate in the study if they were competent programme facilitators. This involved them undertaking training to deliver the weight management programme and participating in an annual check to ensure their competencies were maintained. In addition, they were required to receive training in 'behaviour change' as described and recommended in the NICE CG43 (2014) update and in NICE PH49 (2014). Without training, Leads are not able to deliver the programme and would be excluded from the research.

4.5.9 Recruitment process: Leads

Leads also received a participant information sheet (Appendix 4.5), followed by a telephone call to inform them of the research proposal. They were invited to a focus group to give their views on the proposed intervention and, with their written consent (Appendix 4.4), I commenced data collection as detailed in Section 4.7.2.

Section 4.5 has given an outline of the sampling and recruitment strategies used for data collection. During this process, I considered my ethical conduct and other ethical issues to ensure the safety of those involved in the study (Cleary et al. 2014; Robson 2011) and in the next section I explore in detail whether these were addressed.

4.6 Ethical considerations

Historically, unethical human research has been carried out, but, since the end of World War 2, codes of ethics have been developed to prevent this (Sprumont 1999; Eby 2000). These codes ensure that researchers behave in the right manner to avoid doing harm to those that participate in research. Taking the responsibility from the researcher on what is or is not an ethical piece of research are the university ethic committees and the ethical review boards. For this piece of research, approval was sought from the School of Health Sciences Research Ethics Committee (SREC) at Stirling University, the NHS Highland R & D office (REC) and also the Integrated Research Application System (IRAS). Through the completion of the ethics forms, the research proposal followed both the committee's and IRAS guidelines to safeguard those researched and those researching (Robson 2011).

The guidelines made it clear that ethical considerations should be made when the research idea is formed and should continue through to the dissemination of the study findings (Robson 2011): it is a dynamic process and should be present in every part of the research process. The main principles to reflect upon are outlined in guidelines offered by many (Bryman 2012; Robson 2011; Silverman 2010). In addition to ensuring that research is valuable by its contribution to knowledge and improvements in health care, participants should be assured that:

- Participation should be by informed consent
- Confidentiality and anonymity will be honoured
- Participation is voluntary and coercion should not be applied
- Participation should not be onerous
- Adverse consequences of participation should be avoided

4.6.1 Informed consent

The time between receiving the PIS and start of the weight management programme was considered to give the potential Participant sufficient time to consider participation in the study. This was variable depending on date of triage and date of the weight management programme, but, in practice, was at least two weeks. The interested potential Participant consented to share their contact details with the researcher (Appendix 4.3) and, if they were willing to join the study after discussion with the researcher, they signed another consent form (Appendix 4.4). At the beginning of each subsequent interview, the researcher ensured there was opportunity for the study participant to voice any concerns or queries around the research. The programme Leads were given a similar PIS with a similar time period to reflect over their participation in the study. Those who were willing to participate provided written consent. Both PIS had been reviewed by the study Steering Group, as outlined in Section 4.5. They gave comments on the clarity of the information and ease of comprehension regarding involvement. Suggestions by this group were heeded and corrections made accordingly.

4.6.2 Confidentiality

Once participants had consented to participate in the study, they were given an identifier code for data analysis, reports and publications. The database with identifier codes and participants' names was filed securely, safely and separately from the data analysis and will be protected on completion for ten years. Computers storing this information are password-protected and access to this information is only available to myself as Chief Investigator (CI). Working as an NHS employee, I follow the policies and Good Practice Guides of the NHS in respect of patient Information Security (Information Services Division, Scotland) and similar documents produced by NHS Highland (Information Security Policy

reference number 1436). The rich nature of qualitative research could give information in great detail about a particular Participant, however, this research focused more on their views than their life history as in narrative or ethnographic research (Kaiser 2009). A salient aspect was being cognisant of the small communities in the study area, not only were the Participants' names kept anonymous, but also any other details that could identify them. Damianakis and Woodford (2012) highlight that keeping Participants' identities secret is at a higher risk of accidental disclosure in communities that are bonded geographically.

Informing Participants of the methods used to protect their identity when presenting the study findings should be clear, but the extent of their anonymity should be discussed throughout the data collection (Kaiser 2009) and this I did at every interview.

4.6.3 Coercion

As Professional Lead for dietetics in this health board locality, I was responsible for the weight management pathways, however, this was only from a strategic level and not a practitioner level: this prevented any undue influence upon participants to take part in the study. The potential Participants were offered no reward for taking part and no pressure was made to persuade them to participate.

4.6.4 Benefits and risks to participation

Being asked for an interview at a maximum of 3 time-points in 12 months may have proved burdensome to participants, but keeping the interviews to a maximum of 1 hour (as per the PIS) prepared the Participant for this. In addition, there was an open discussion at the end of each interview on whether they wanted to participate at the next time point, and this was repeated before the next interview commenced. Boynton (2005) advises this continual checking to ensure the well-being of the Participant, especially if they had appeared upset by some of the discussions. There was a possible burden of intrusion or inconvenience to the Participant when they were interviewed, but the intrusion into their private areas, such as home or work, was minimised by giving the Participant an opportunity to choose where these took place. The inconvenience of time was minimised by giving the participant an opportunity to choose when the interviews took place.

Participants also chose the method of contact for interview arrangements in case they did not want the intrusion of telephone calls to their house/work area. In summary, the date, timing and venue of the interview was based on the Participants' preferences.

Conversely, some Participants find the time spent being interviewed to be a beneficial time (Coombs et al. 2016; Hutchinson et al. 1994). The opportunity to talk to someone about their experiences, especially a health professional who has experience, knowledge and skills around their issues, can have a therapeutic effect: this phenomenon has been described as 'unintentional therapy' (Hewitt 2007). This can happen in several ways: as a dietitian with knowledge of weight management, the interview process is an ideal opportunity for them to find out more on weight loss. Secondly, having someone listen to them in a non-judgmental way can create an environment of reflection that can be conducive to a problem-solving session. The explorations of their perceptions could create a deeper understanding of their own problems or others around them. One Participant had a 'light bulb' moment when suddenly realizing that a relation had been hinting for help, but they had not heard this at the time. Sharing their views about their family and friends and the ways in which they helped each other seemed to create an opportunity to reflect on family values.

4.6.5 Adverse consequences

The similarity between some qualitative research inquiry and therapy can be an advantage to the Participant; it could equally be a disadvantage when the researcher retreats and this support disappears. In addition, the longitudinal, serial type of interviewing that was undertaken by some Participants in this research, could have enhanced this reliance by virtue of repeated interactions. Hewitt (2007) advises making the participant/researcher relationship clear at the onset and again throughout the research to remind both of their roles and the reason for the interview. To reduce this risk of an advisory or therapeutic session, I redirected any questions on weight management back to the programme Leads and if I felt that the Participant needed support for their health, I advised they contact their GP: this advice was also written into the PIS (Appendix 4.2).

Following the 'Caldicott Principles' (2013), the welfare and safety of the Participant was considered an utmost priority. This research did not involve the Participant undergoing different treatments or drug trials: instead they were only asked their views and I explored these. The study had minimal risks and minimal burdens but there was a possibility that questions about losing weight or helping others would provoke memories of past events which could be upsetting. I was careful to observe any distress, for example, if the questioning was too upsetting or lengthy.

Regarding the Leads, I considered that there were unlikely to be any risks to them taking part. The inconvenience of time or place for the focus groups were minimised by giving the Lead an opportunity to choose when and where these took place. One group opted to participate by video-conferencing to save time travelling and because of this, we were able to arrange a time and date to meet.

I was realistic in the research design to ensure it was feasible for the project, especially around the research settings, the research topic, and timetable (Ritchie et al. 2014). The potential risks to the researcher when interviewing Participants, especially in their homes, are known to NHS staff, and I followed the NHSH Highland lone working policy. I reflected on the amount of data I was collecting to ensure that there wasn't more than was possible to process. As a practising clinician, I also considered my time with work commitments.

The qualitative approach for this research explored the views of those trying to lose weight and accounts described could sometimes leave me feeling emotional: sometimes drained, but often inspired by the Participants' efforts. I found I was motivated after data collection to move forward to collate an intervention from the stories I was privileged to hear. My options for debriefing were mainly informal, from: supervisors, colleagues, and Steering Group members (Section 4.8.2) and allowed reflection to support self-care and self-development (Sanjari et al. 2014).

This section around the ethical considerations in research has highlighted that, during this dynamic process, as researchers we should endeavour to be reflective and communicative in an honest and responsible way when engaging with our study participants. In the following section, I will address the research design and data collection methods from the Participants', then the Leads perspective.

4.7 Research Design and Data collection

4.7.1 Research Aim 1: the Participants (See Section 4.2.1)

An important part of the research purpose is about Participants' perceptions and the support they would find acceptable. This governed the design and co-development of an acceptable intervention. The weight management journey is a long process with many stages, and an individual's experiences and perceptions may change throughout, along with their requirements for support. Participants may move from being motivated to make changes, to achieving weight loss, and then attempting weight maintenance (Prochaska et al. 2013; Greene et al. 1999). Their circumstances, according to life events and health, may also impact on these requirements (NICE PH53 2014; Lang and Froelicher 2006). For these reasons, I chose an iterative qualitative approach with a prospective longitudinal design using some serial interviews. I used cognitive interviewing (Section 4.8.6) to verify Participants' views on the analysed data around the intervention development.

In the next sections, I will outline the methods in which information was collected over the 12-month period (Table 4.2) and discuss the tools used to gain the rich textual information to meet research aim 1 of the study.

Table 4.2: Outline of data collection time points at the weight management (WM) programme

Time point	Sample for data collection	Significance of time	Tools of data collection
1	Study Participants (clients of WM programme)	Pre WM programme (0 months)	Individual semi-structured interviews (some serial interviews)
2	Study Participants (clients of WM programme)	Post WM programme (3 months from start)	Individual semi-structured interviews (some serial interviews)
3	Sub-sample of Study Participants (clients of WM programme)	Post WM programme (12 months from start)	Individual Cognitive interviews (some serial interviews)

4.7.2 Prospective Longitudinal design

The advantages of longitudinal research have been discussed in the literature as not only showing change, such as a change in the needs for peer support in weight management, but also focusing on the perceived causes of this change, its complexities, and allowing exploration of the process of change over time (Murray et al. 2009). Using this method of data collection increased the potential of the intervention developed in this study by providing evidence that appropriate support is given at a fitting time, in the best way, and by the most suitable person.

In determining the number and time of data collection periods necessary in a study, Ritchie et al. (2014, p. 64) suggest that "the optimal design will reflect the dynamic of the process being observed and the research objectives". The timeframe for this research was designed to allow for the naturally lengthy period of time it can take to change behaviours to those that are conducive to weight loss (The Counterweight Project Team 2012; Prochaska et al. 2013). The weight management programme used in this study is based on this progression and allows 6 sessions over 12 weeks for individuals to see effects of their changes.

To hear Participants' perceptions on the support they might accept, it was valuable for my understanding to interview them before they attended the weight management programme; when they had not yet had the benefit of learning how to make lifestyle changes or lose weight: classed as time-point 1. To hear Participants' perceptions on the support they could offer, it was valuable to interview them at the end of the 12-week programme, when they had had the benefit of the knowledge to make lifestyle changes and had achieved weight loss: classed as time-point 2. These Participants were aiming to maintain their weight and may have been looking for a different, yet specific, type of support.

It could be argued that one episode of data collection could be used to explore Participants' perceptions around their present support needs and those they needed at the start of their weight management journey in a retrospective manner. But the complexity of the support researched in this thesis may double the emotions or difficulties experienced by the Participants and be too much for one

data collection episode (Ritchie et al. 2014). Thus, it was more appropriate to collect data at two time-points.

A Longitudinal design "involves more than one episode of data collection and usually involve the same people being interviewed more than once" (Ritchie et al. 2014, p. 62). Many longitudinal studies follow the same sample of Participants in order to describe the Participants' changes, but this research question sought to explore the changes and requirements of useful peer support in a process – the weight management journey. For this reason, the Participants in time-point 1 and time-point 2 need not necessarily have been the same Participant, and the Participants who were interviewed more than once, known as serial interviewees, are detailed in Appendix 5.1. There is an advantage to this type of data collection, and Murray et al. (2009, p. 5) discuss this in their paper; that "Experiences since the last interview can be shared, with the earlier findings being developed and reflected on in the context of an evolving Participant-researcher relationship". These expansions gained by serial interviewing included deeper descriptions around more sensitive issues that were excluded in initial discussions and provided more detail about the support that is needed, when it should be given and by whom which is the advantage of conducting serial interviews (Murray et al. 2009).

Because I wanted to explore the change in requirements of peer support as a process and not in relation to a Participant, I anticipated that it would not affect the research results if the longitudinal Participants were different across the time-points, and indeed may even add to the sample diversity. It is well documented that retention of participants in longitudinal studies is difficult, owing to changes in their circumstances, and attrition rates can be high due to health problems (Robson 2011; Murray et al. 2009). For example, the overweight or obese individual may find that their additional co-existing morbidities will change their priorities, the motivation to lose weight, or support research. Literature advises us to ensure the initial sample size for data collection is large enough to allow for attrition (Carduff et al. 2015), yet qualitative interviewing is self-limiting by its 'information power' (Malterud et al. 2016). In addition, it is important to acknowledge that research objectives should be achievable within the resources

available, and that interviewing more Participants than necessary is not realistic (Robson 2011). The interview technique chosen was conducted in a semi-structured manner and the next section explains this process.

4.7.3 Semi-structured interviewing

The techniques used in any data collection process should lead to a better understanding of the topic, allowing different perspectives to emerge, making the best use of time available (Glesne and Peshkin 1992). The process chosen for collecting the data in this research was the qualitative interview, which Holloway describes as a "conversation with a purpose" (1997, p. 94). By using set open-ended questions, in the technique of 'semi-structured interviewing', the conversation allowed the Participant the flexibility to report on the beliefs and attitudes that shape their behaviours and actions within the context of peer-led weight management support. This enabled probing, with additional unplanned questions, to explore in greater detail the Participants' replies and any relevant information to reach a deeper understanding of the topic. This 'inductive' and flexible approach generated a variety of themes, many of which had not be considered, and provided rich textual information (Robson 2011). I actively engaged the Participants in discussion to "jointly construct knowledge about themselves and the social world … in a certain context" (Sparkes and Smith 2014, p. 83).

Consideration of the data analysis is important at this stage and there should be a plan for how the information generated from the interviews can be feasibly analysed (Galletta 2013). Deciding on an approach for data analysis after it has been collected is probably too late and too difficult to manage (Kvale and Brinkman 2009). A planned interview guide (Appendix 4.6) controlled the data collection to a certain extent so that conversation was steered to meet the aims of the research purpose thus giving it some structure. This facilitated a reduction of irrelevant information and allowed the focused information to be themed and sorted more easily (Section 4.9.9).

The first part of the interview guide allowed the Participant to talk freely and explore their experiences and this was followed by introducing the concept of the

intervention as short vignettes (Appendix 4.6) to provide a more concrete example of what the intervention might look like (Hoddinott et al. 2013). This enabled Participants to reflect on a situation they may not have considered, or experienced or found too sensitive to talk about. This method of bringing a topic into the discussions gave further understanding of peer support (Blodgett et al. 2011).

I considered structured interview techniques too inflexible to explore opinions and feelings around the research questions (Sparkes and Smith 2014) and these were not used in the study. On the other hand, unstructured interviewing was considered but was dismissed because of the possibilities of generating a high volume of data that may not fulfil the research questions; it is also time-consuming and more difficult to sort and analyse (Holloway 1997).

4.7.4 Iterative questioning

I analysed the data as each Participant's perceptions emerged, and used the findings in further questioning: a process known as iterative questioning. This style of data collection allowed analysis to be checked and interpreted continually and new topics or views of interest were identified for further probing at the next interview or time point (Pope et al. 2006). This method of data analysis allowed a focus not only on the end result of the research but also on the process itself (Moore et al. 2015). This also allowed any errors in the research design to be identified and altered during the course of the research and built in a method of concurrent verification. The iterative process allowed flexibility in data collection to follow pointers within the purpose and objectives of the research (Silverman 2010). The plan of inquiry evolved from the original interview guide and, as the study moved forward, I was able to follow the direction of inquiry (Avis 2005; Holloway 1997) which ensured that the Participants' perspectives were captured.

4.7.5 Cognitive interviewing

To support the design and development of the intervention, I chose to carry out Cognitive interviewing at the final 12-month time point. This is an evidence-based, qualitative procedure used for evaluation based on the 'Think aloud' interview (Beatty and Willis 2007) and verbal, 'concurrent -probing techniques' (Willis and Artino 2013; Willis 1999) that presents a summary of the analysis to the

Participants and asks them to reflect on the key themes. These techniques allow an insight to the thoughts of those Participants viewing the information and can help determine whether the message is understood in the way the authors intend (Beatty and Willis 2007). The final draft of the Participants' perceptions on peer support from the iterative analysis and the interpretation of their views was collated into a leaflet as part of the intervention development process. This leaflet was shown to a sub-sample of the Participants and a set of questions (Chapter 7) was asked to find out whether the leaflet 'fits the purpose' of guiding peers to support others in acceptable way. The processes used were to determine:

- Non-cognitive defects of the product
- Comprehension of the product message and its match to their views
- Interpretation of terms within the product
- Knowledge learned from the product

This method of interviewing uses a purposively selected small sample: it is not intended to represent a certain population, but to highlight the thoughts of those reading the materials (DeMaio and Landreth 2004). The guidance around participant samples advises aiming for maximum diversity (Beatty and Willis 2007). The recommended numbers for interview are as small as six, as this is considered enough variation for effective evaluation (Willis and Artino 2013).

The intervention leaflet was based solely on the views of the Participants and my interpretation of these from the data analysis, and these were collated using the same language that the Participants had used. I felt that there should be some evaluation by the Participants on how faithful the representation of their views were, and how usable the product was (Section 4.8.3). I am a dietitian, with limited skills at technical writing and document design, and felt that the collated intervention leaflet could benefit from the views of the intended recipients of the intervention. The following section outlines the data collection procedures with the Leads and Table 4.3 illustrates this.

4.7.6 Research Aim 2: the Leads (see Section 4.2.2)

In the following sections, I will discuss the choice of focus groups as my method of data collection to explore Leads' perceptions of the acceptability and feasibility of

bringing the proposed intervention to the attention of their clients. After analysing the Participant data that were collected, their findings were summarised and relayed to the Leads at the beginning of their focus group interviews at time-point 4 (Table 4.4).

Table 4.3: Recruitment and data collection time point of the Leads of the weight management (WM) programme

Time point	Sample of data collection	Significance of time	Tools of data collection
4	Study Leads at 12 months (Leads of WM programme)	Post participants interviews at time point 1 and 2 on their perceptions of peer support	Focus groups

4.7.7 Focus groups

Focus groups are considered to work well in exploratory research and can provide an opportunity for collective interaction (Sparkes and Smith 2014). These interactional dynamics, sparked by different perspectives, can be used for challenging, developing, extending or building on many views and ideas. For these reasons, I considered it an appropriate method of data collection to fulfil the second research aim. Moore et al. (2015) outline the advantages of inviting those with a shared interest, which I have interpreted in this study as those delivering the weight management programme and potentially in regular contact, as this generates rapport. But equally, Moore et al. (2015) outline the possible disadvantages of a focus group when members perceive they have less experience and knowledge compared to the rest of the group and avoid giving perspectives that may conflict with the statements of others. This could result in the researcher hearing fewer perspectives and even hearing skewing consensus of views. I was aware of the possibility that this method of data collection could be influenced by the diversities of the group, but this I offset with the benefits of having those different experiences and perceptions. I planned to observe the groups' interactions to prompt views from any members that appeared quieter. In addition, the groups invited would be of 2 or 3 members which could promote the views of each individual.

To support accessibility at convenient venues and to prevent excessive travel across the locality, the study Leads were invited to participate in the focus groups by a mode of their choice: either face-to-face or by teleconference at the venue of the Leads' weight management class or the researcher's workplace. The use of a planned topic guide focused the conversation (Appendix 4.7) to meet the aims of the research purpose and reduced the risk of an unrealistic number of topics being discussed (Flick 2006). However, I aimed to balance this set guide by allowing the members of the group to generate discussions by their interaction and introduce topics spontaneously (Berg and Lune 2012).

4.7.8 Data collection procedures for Participants and Leads

The setting for the research is discussed in detail in Section 4.5.2 and the initial approach, invitations and consent procedures, are outlined as per the ethical approval process described in Section 4.6. Interviews were commenced with the Participants and Leads. Participants were interviewed alone, apart from two in time-point 1, whose partners (one female, one male) stayed in the background and did not answer any questions or intervene with the discussions as directed by the participant. Leads were interviewed in groups of 2 or 3. The interviews were carried out at various sites and at different times to suit. These were the: Participants' or Leads' workplace; the venue of Participants' or Leads' weight management class; the Participants' home or the researcher's workplace. With the permission of the Participant and Leads, the interviews were digitally recorded and transcribed *verbatim* by the researcher to gain familiarity of the emerging concepts. The interviews were anonymised and stored securely according to the ethics approved protocol. Recordings were destroyed as soon as the accuracy of the transcripts had been checked and it was certain that they would not need to be referred to again.

4.8 Method of Data analysis

This section looks at the procedure for data analysis and the process used is one developed by the National Centre for Social Research in the 1980s – Framework analysis (Ritchie et al. 2014). Gale et al. (2013, p. 4–5) discuss this method of data analysis from data collection to interpretation in 7 steps: "transcription, familiarization with the interview, coding, developing a working analytical

framework, applying the working analytical framework, charting data into the framework matrix, and interpreting the data". The aim was to capture the Participants' perceptions on helping their peers and the Leads' perceptions on supporting this. To interpret their meanings, a method of analysis approach known as 'substantive' (Ritchie et al. 2014) was used, because the focus of this study was to explore what Participants and Leads were saying as opposed to how they said it.

4.8.1 Transcription and familiarisation

Transcribing the digitally recorded interviews enabled me to become familiar with the content. Due to the iterative nature of the data collection, I transcribed the audio recording after each interview and reflected on the themes as they emerged, in a form of continuous analysis. It was apparent after reading the first transcript that the topic guide and open questions had generated discussion that was relevant to peer support.

4.8.2 Coding and developing a working analytical framework

Identifying a range of data, also known as 'codes' (Gibbs 2007), and sorting them under initial themes and sub-themes by time-points, allowed them to be compared according to their meaning and similarities to other data (Ryan and Bernard 2003). This process of coding or grouping sections of data enabled me to see patterns and, subsequently, new insights to the data collection and thereby supported the progress of the analysis. The 30 individual and 4 group interviews generated a large volume of text, and Table 4.4 illustrates the spread of the original themes from the framework analysis by time point. The full list can be viewed in Appendix 4.8.

Table 4.4: Themes and sub-themes analysed at each time-point

	Time point 1 Participants	Time point 2 Participants	Time point 3 Participants	Time point 4 Leads
Themes	8	3	7	3
Sub-themes	37	24	0	17

To ensure the quality of this procedure, the thematic headings were checked to ensure they were representative of the data listed under them and that patterns were noted and consistently themed. The first three transcripts were independently reviewed by my two supervisors, and the codes were considered to be relevant and appropriate. When I considered that there was code saturation, I moved to a second level of management – applying the framework.

4.8.3 Applying the working analytical framework

Using a Computer Assisted/Aided Qualitative Data Analysis Software (CAQDAS) I organised and managed the large amount of data. The package chosen for this was NVivo 10 and, with the support of tutorials, I learnt the steps to run the collected data through this program. Its main function is organization, and the process effectively reduces the data to a number that is relevant and manageable (Davis and Meyer 2009). The transcripts were loaded into NVivo and data having the same meaning were indexed together for interpretation (Miles and Huberman 1994). This subjective procedure requires repeated questioning over which data should be part of which theme, and is considered to be the foundation of further analysis and interpretation of the findings (Robson 2011).

4.8.4 Charting data into the matrix

The Framework Method of Analysis approach was used to provide a matrix to manage the cases or participants, and codes for themes and sub-themes of the Participants' perceptions were applied. The thematic matrix provided the opportunity to summarise the dialogues with a couple of sentences. My intention was to write these sections of themed conversation in the language of the Participants so that the spirit of their thoughts was not lost, yet was accurate enough to negate the need to refer back to the original transcript (Ritchie et al. 2014).

4.8.5 Interpreting the data

Whilst I reflected on the text, I was able to write memos of my thoughts ensuring these were not lost when writing up the findings (Corbin and Strauss 2008; Glaser 1978). Needing a separation of my thoughts from the Participant dialogue, I highlighted my memos in italic. Through this thematic matrix, it was possible to

explore the findings for patterns and themes between and within the Participants or Lead groups: a comparison and contrasting action (Gale et al. 2013).

A developing picture of peer support in weight management emerged (Ritchie et al. 2014) and using the 'model' function in NVivo, a thematic map was drawn to visually support understanding (Figure 4.3). This visual thematic map helped me to develop initial reflections on the findings, and highlighted the overarching themes and common links that ran through the data. Although a connection may not be a specific finding in itself, it indicates further exploration (Ritchie et al. 2014). The example model shown (Figure 4.3), shows how the themes from the Leads focus groups are linked by their discussion around the opportunities for delivering the intervention, and this supported my interpretation of their perceptions, presented in Chapter 6. I produced nine of these visual maps: four on the barriers and facilitators to peer support for time-points 1 and 2 from the Participants' perspective; four from the Leads' perspective on how to introduce the intervention, when and in what way, and the opportunities (Figure 4.3) for doing so; and one as a logic guide to the proposed research intervention design and development (Figure 3.1). Only two are included in the presentation of this thesis due to space limitations, but the remaining seven are available on request.

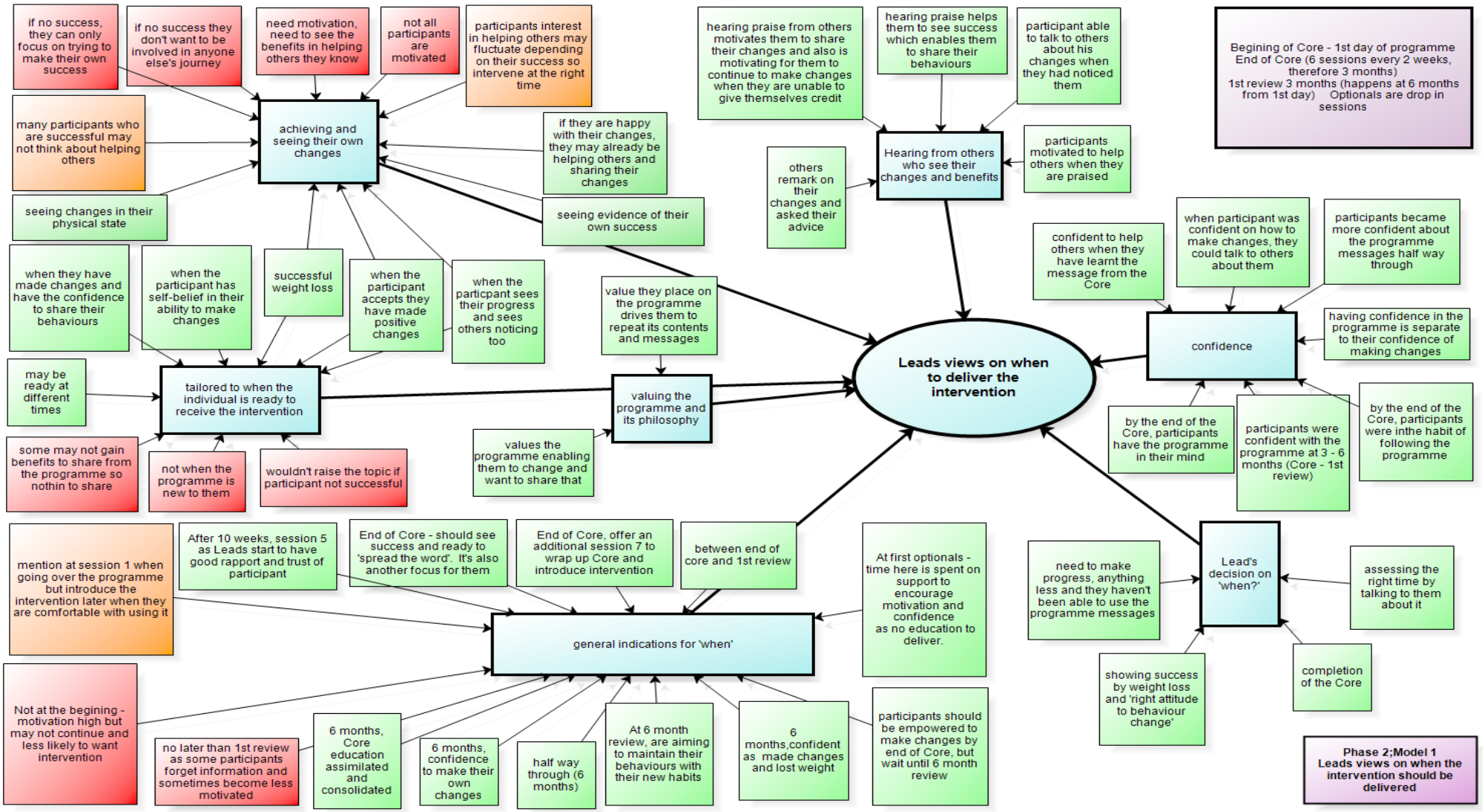


Figure 4.3: processing themes and sub themes of the Leads perceptions regarding intervention delivery

Framework Analysis cannot manage highly diverse information: it is an approach designed for applied research for a specific purpose and "is most commonly used for the thematic analysis of semi-structured interview transcripts" (Gale et al. 2013, p. 2). I considered that it fit well in this research because the topic guide had helped to focus the discussion to specific areas with the specific purpose of intervention development.

In summary, in this chapter, I have described and justified the methodology chosen to meet the research purpose which was guided by the MRC framework (Craig et al. 2008) and the BCW (Michie et al. 2014). I have detailed the ethical sampling for diversity, recruitment, and types of data collection with individuals and focus groups, including serial, longitudinal and cognitive methods. The generation of themes and sub-themes from the data analysis, and organized by the framework method, will now be interpreted to gain some meaning from it (Miles and Huberman 1994): Chapter 5 will focus on the findings from the Participants' perspective, followed by Chapter 6, which focuses on the findings from the Leads' discussions.

Chapter 5: Findings from the Participants' perspective on a peer-led weight management intervention

5.1 Introduction to the chapter

In this chapter, I shall be exploring the themes that emerged from the Participants' perceptions of peer support. Within their social environment, it is these themes that determined a peer's acceptability of an intervention to cascade support and that provided information for the first research aim:

To find out whether clients perceive they have the capabilities, opportunities and motivation to offer or accept informal peer-led weight management support.

5.1.1 Participant sample characteristics

Twenty-one Participants from three weight management programmes in three different localities accepted the invitation to participate over three time-points. Table 5.1 shows their characteristics. From three programmes: 12 clients were recruited from programme 1, held in a Remote Small Town; 5 from programme 2, held in an Urban Area; and 4 from programme 3, held in a Very Remote Small Town. No Participants withdrew after an interview had been scheduled, however, 14 Participants elected to be interviewed once, and seven were serial interviewees; of these, five were interviewed twice, and the remaining two were interviewed three times. The invitation of other weight management programme clients to participate in the original sample made up for attrition at the second and third time-points of data collection. This had additional benefits; it increased the sample diversity that was not available at the first time-point, and enabled new perceptions as well as continued thoughts to be gathered from the existing sample.

My aim to recruit a typical sample, as similar as that of the weight management programme population, especially around gender, was achieved, and the male

Participants at 28% of the total Participant sample matched the male programme attendee figures of 27%.

Due to difficulties around finding venues and obtaining/training new staff resources, only four weight management programmes were ready for delivery by January 2016. From these available programmes, two Leads were not able to recruit any participants (see Section 8.3.1 on gate keeping).

Table 5.1: Sample characteristics of recruited Participants

Age Group	**Time-point 1: Pre – core programme (0 months)** **12 Participants**	**Time-point 2: Post – core programme (3 months)** **12 Participants** (5 serial interviewees 7 new Participants)	**Time-point 3: End of programme (12 months)** **6 Participants** (4 serial interviewees 2 new Participants)
30–39	1	2	0
40–49	2	2	1
50–59	4	3	1
60+	5	5	4
BMI			
25–29.9 (overweight)	0	2	0
30–39.9 (obese)	5	5	3
40–49.9 (obese)	4	2	2
50+ (obese)	3	3	1
Gender			
Women	8	8	4
Men	4	4	2
Area of residence (Scottish Government 2014)			
Large urban area	1	1	1
Urban area (UA)	4	3	1
Remote small town (RST)	6	1	2

Very remote small town (VRST)	0	4	0
Accessible rural	1	0	1
Remote rural	0	3	1
Work status			
Not working	10	6	5
Working	2	6	1
Social status			
Lives alone	3	1	1
Lives with others	9	11	5

At time-point 1 (see Table 4.2), 12 participants from two weight management programmes consented to participate in the study, and I considered their perspectives to give a saturation of views. Participant characteristics did not cover all variations; namely: BMI classifications, (overweight) or classifications of post code (remote rural and very remote small town). In addition, there was only one Participant in the younger age group (30–39) and one in the older age group (70+), and only two Participants were employed in a working status.

At time-point 2 there was attrition from those who had either dropped out of the programme or were unable to participate in these post-programme interviews – seven in total. This reduction in number, plus the gaps in variation of diversity, led to new invites being issued to clients from a third weight management programme that had started after January 2016. This resulted in a greater diversity of age range, BMI category, and urban/rural classification of postcode of residence. Twelve participants from three weight management programmes consented to participate, and I considered that their perspectives provided a saturation of views.

At time-point 3, six Participants were recruited for cognitive interviewing of the draft intervention leaflet, and this was as diverse a sample as possible, even though the sample size was smaller (time-point 3 findings are discussed in Chapter 7).

5.1.2 The chapter layout

This chapter presents the interpretation of the findings from the Participant data analysis. These are organised by the high-level components of behaviour change, (COM-B, Michie et al. 2014), which were decided a priori; the absence or presence of these act as facilitators or barriers to acceptable peer support. However, they are discussed in the order in which they were dominant in the data: Opportunity, Capability and Motivation. Although these three theoretical components were applied as an approach to the analysis, they are not separate entities and their interaction is apparent in the real world; they influence and are influenced by each other. Where there is substantial overlap of themes across the theoretical components, I have signposted those sections that explore the theme from a different view: Figure 5.1 summarises the three theoretical components and the key themes.

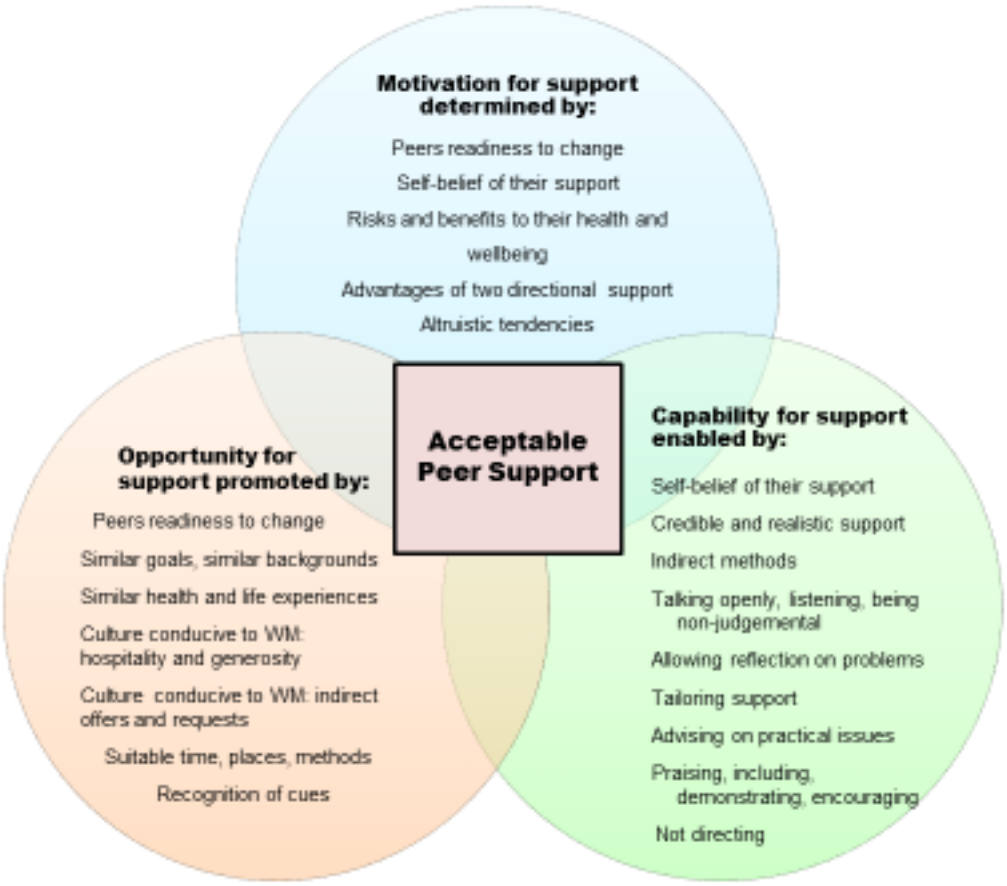


Figure 5.1: Participants' perceptions of the acceptable elements of peer support

The remainder of this chapter focuses on the eleven themes identified in the Participant data at time-points 1 and 2, and these are outlined in Table 5.2; I discuss my interpretation of these findings in the following sections, 5.2, 5.3, and 5.4. Participants' data are presented by verbatim quotes to illustrate the identified themes. The coded quotes represent the time-point of the interviews (1 or 2), followed by the Participant number and gender, man (M) or woman (W), to help contextualise their quotes (the full list of Participant codes can be found in Appendix 5.1).

Table 5.2: Themes identified from the Participant data that are barriers or facilitators to peer-led weight management (WM) support, organised by COM-B

5.2: Opportunity	**5.3: Capability**	**5.4: Motivation**
5.2.1 The opportunity for support within participants social network	*5.3.1 The types of support participants find unhelpful*	*5.4.1 The motivation to support and the readiness of peers to change*
5.2.2 The opportunity for support and the readiness of peers to change	*5.3.2 The capability to support resulting from participants own experiences*	*5.4.2 The motivation to support and the associated risks and benefits*
5.2.3 The opportunity for support presented by social occasions or crises	*5.3.3 The capability to support subsequent to participants completion of the WM programme*	*5.4.3 Summary: 'Motivation'*
5.2.4 The opportunity for support governed by time and place	*5.3.4 The capability to offer support in a manner that participants perceive peers would find valuable*	
5.2.5 Participants awareness of the opportunity for support	*5.3.5 Summary: 'Capability'*	
5.2.6 Summary: 'Opportunity'		

5.2 Opportunity

Participants' perceptions around the opportunity to offer and receive support are discussed first, followed by peers' readiness to change and how this impacts on the opportunities for support. The third part presents the Participants' thoughts on the effect of social occasions on support followed by the availability and accessibility to support and, finally, the social cues and traditions that create opportunities to offer and accept support.

5.2.1 The opportunity for support within Participants' social networks

Participants talked about those around them in their social network who present an opportunity to offer or accept support for weight management. There was a consensus from all Participants that they had an opportunity to provide support because they all knew of someone who had a problem with their weight. These were: spouse, sibling, the generation below, the generation above, work colleagues, acquaintances at groups attended, friends, neighbours, partners of those they know, and others they didn't see locally but were in touch with via various technologies.

There were comments about the peers from whom Participants would not offer or accept weight management support. Some peers would not have the acceptable characteristics or share the common ground that Participants felt would present an opportunity for support. Participants talked about these preferred peer characteristics and gave variable views. Participants did not point to one stereo-type when describing the desired attributes of their weight management support peer, but they felt that it could not be just anyone – there were conditions attached.

Commonalities were one important condition highlighted as creating opportunity for support, and Participants felt a shared problem of obesity was the most important commonality. Other commonalities were around sharing similar goals, having similar social backgrounds, and having similar life experiences. Describing how her daughter was too young, and her aunt too old for her to have anything in common around her weight problem, this participant felt differently about her neighbour:

> *I'm 10 years older than S but she tells you how it is: she lays her cards right on the table. She doesn't banter about and try and hide things and I've admired that about her for nine years and so we get on good … I would probably listen more, if they are on the same wave length, you know, and we are eating the same things. (1.15W)*

Likewise, another comment was the commonalities looked for but not experienced at the local commercial slimming club:

> *The people I have met there that have been younger and have made it a kind of religion to lose weight … I just look at them, I don't want to go there, I prefer the same kind of peer group. (1.13W)*

Having comparable physical health was another desired commonality and poor health or poor mobility was a barrier to taking up opportunities to support or be supported by others. One Participant described an incident when a mobile acquaintance invited him out walking, providing a potential opportunity for support that unfortunately did not materialise:

> *I would hold him up though because I would take too long to walk. I left that hostel one day and the boy that came out with me said: 'Listen big man, I'll need to go' ….. Once I get past 10 yards I go at a snail's pace. (1.20M)*

A disappointed Participant went into further details to say that family and friends accepted her poor health and her inability to join in, but they did not give her an opportunity to take part in an easier activity (1.18W).

There were many positive comments on the advantages of supporting someone with whom they had a close relationship. The closeness enabled these Participants to see how miserable or sensitive the person was about their weight, but it did not prevent them from broaching the subject:

> *She is struggling with her weight, but I do know what is happening in her life at the moment and I worry for her … she's got problems but she'll phone me up and we'll talk about them. (2.12W)*

Some Participants felt that their closeness gave them an insight into how best to gain an opportunity to give that support (and the capability, as discussed in Section 5.3.4):

Rather than being dictatorial I think it's that recognition that there's times that you can say to her: 'Do you really need it (a cake)?' But there's other times where it's not appropriate to say that. (2.21M)

On the other hand, supporting a close member of their social network was viewed as a difficult task for some. They described the potential risks to these relationships that decreased the opportunity for support (potential risks to the participant's health and the subsequent impact on their motivation for support are discussed in Section 5.4.2). One husband, regarding his wife, commented that:

Supporting somebody who's close to you is much more difficult I find ……. familiarity can breed contempt. (2.29M)

There were further comments from mothers talking about the problems they perceived from supporting their daughters. Some felt their relationship was too precious to risk:

That's very difficult with my daughter because I mean … I don't want her to hold that against me but I do keep trying … (2.25W)

5.2.2 The opportunity for support and the readiness of peers to change

Participants commented that if they or their peers were not ready to make any lifestyle changes, then they would not accept or offer support: this theme was identified as a major barrier to opportunities for support. In addition, it affected the participant's motivation to offer peer support, and this theme is revisited and discussed in the Motivation section (5.4.1).

Participants made assessments of peers' readiness to change through informal conversations, using listening skills and making observations of their peers' behaviour. Participants gave many reflective comments around seeing peers trying to make changes or even just hearing them talk about changing, and this, they felt, gave them an opportunity to offer support (and drove their Motivation to do so; see Section 5.4.1). This participant's daughter talked about wanting to do something about her weight:

I think she might listen to me this time, I see she is annoyed with herself that she has put on so much weight. (2.24W)

Opportunities that demonstrated a move in the right direction towards behaviour change should not be ignored:

> *Well if someone made a point of coming to ask you I don't think you could turn them down. (2.26W)*

On the other hand, participants talked about a peer's lack of readiness to make changes having reduced the opportunity to offer them support. In this example, the participant highlights seeing and hearing her daughter's lack of readiness to do anything about her weight and how it influences her mother to hold back from saying anything:

> *I couldn't help my elder daughter … she'll say, 'I've put on a lot of weight,' but she doesn't really do much about it! ... She will squeeze into clothes that are too small and moans how tight they are and I feel like saying: 'Do something about it or buy a size bigger,' but that wouldn't go down very well. (2.25W)*

Participants talked about the advice they had been offered when they were not ready to change (see Motivation, Section 5.4.1) and this participant in particular commented on how it prevented her from taking up the opportunity for obtaining support:

> *She would tell me that I need to do something about my weight … that I am far too big for my height and my health. And she would give me lectures and they were constant … (1.15W)*

However, when the participant had stopped grieving for the loss of her partner, and could address her own health, she sought help*:*

> *… I wasn't doing it because she was telling me to do it, I was doing it because I realised I needed to do something. (1.15W)*

Participants talked about other signs showing that peers were not ready to make changes. One of these signs was a reticence towards the topic of weight management:

> *I kind of got the impression that she just didn't really want to help me put up the posters for the weight loss class. And I might be jumping to conclusions but I wondered if she thought that I might want her to come to the class because she was overweight. (2.24W)*

This participant did not feel that she could ask her peer about their reluctance to help, and this inability to broach peer support is discussed further in the Capability section (5.3.4).

Participants also identified when peers were not ready to change by their denial of the link between their obesity and their ill health. In this example, the peer demonstrated giving a low importance to making lifestyle changes and thus reduced any opportunity that the health professional participant had to offer in terms of support:

> *I do have a lot of very overweight and obese patients and I say to them, you know, what's your thoughts about your weight …. and somebody says: 'I know plenty of folk that are overweight and they are fine,' and you just know that's the end of that conversation. (2.23W)*

Past experiences of trying to help a peer guided participants' decisions to not offer support if they felt it was an inappropriate time:

> *When I go shopping with her and she puts a really big bag of crisps in her trolley I, want to say: 'Put them back,' but she has said, 'I'm not in the right place, I need them,' they're like a crutch. (2.27W)*

5.2.3 The opportunity for support presented by social occasions or crises

One theme rich in descriptive text was related to the opportunities for peer support during times of social occasions or crises. Some of these occasions provided Participants the opportunity to experience some positive support for weight management (one of which is explored in more detail under the heading of 'role model' in the Capability section; 5.3.4.) One Participant commented on the sad occasion of ill health creating an occasion for peer support, and this is also described later as a benefit of giving support in the Motivation section (5.4.2). But here, this close moment is perceived to be an opportunity to support her nephew with the added benefit of distraction:

> *His mom had been, had been unwell, but then she was diagnosed with cancer so I just gave him something to … helped him as well … it brought us that bit closer because I felt he could speak to me because through speaking about that (his weight problem), he wouldn't think about his mom and her illness. (2.26W)*

There were many negative outcomes from social occasions where Participants did not receive peer support conducive to weight management. Regarding any hospitality they had received, both in the home and outside within the wider social network, only a few Participants talked about receiving opportunities for eating healthily. This component of behavioural change interacts and overlaps greatly with the providers' capability to offer foods that are supportive of weight management, and their motivation to do so when they would appear generous and provide rich food in plenty. This hospitality attitude decreases opportunity for weight management support:

> *A best pal, he's overweight like myself, but if I go to his house it'll be a Budweiser and a take away, and he just has mountains of stuff … takeaway stuff … and I just sat shaking ma head. (1.20M)*

> *She (a friend) wouldn't come without a cake. And I said, 'Don't bring the cake because I'll eat it.' But she brought them a couple of times each week and if she was off work that day the cake would be bigger. (1.19W)*

Negotiating support for the reduction in availability of high calorie foods appeared difficult: some Participants felt they could not be direct in asking for healthy foods and had no right to expect anything different:

> *You can't live in a vacuum: just because I'm trying to lose weight doesn't mean to say everyone else in the family is penalised by that. I can't not have crisps in the house because my daughter wants a packet now and again, or my husband wants a packet now and again and that's something I have to deal with: it's my black beast. I have to cope with that … but I feel sabotaged (laughing). (1.17W)*

Similarly, this Participant wanted family meals to be an opportunity for support:

> *I feel that I need someone to stand over me with a big stick. If I just decided we'll have a pie today – we haven't had one for a while – he (husband) would cook me a pie and make some chips with it, something like that. And when we share he knows to give me the biggest half and I accept it. (1.13W)*

On the other hand, one Participant was quite clear that he only wanted his wife to give support if he directly asked her. He described his resentment at a meal time:

I feel I was being denied (his wife had given him a small portion) … it was a smaller turkey pie than before and that made me angry. (1.16M)

Eating out with peers also took away the opportunity for healthy eating support, and this time the Participants were unhappy that they were encouraged to overeat:

When I went to Glasgow, with a friend, we went for lunch. We had a nice meal and I was persuaded to have a dessert. And I had this almighty dessert and I felt so ill after this. And the friend knew I was on a diet, and she has a weight problem as well. And she wanted a dessert, and she was quite huffy because I wasn't going to have one. So I capitulated and had a dessert, and then felt ill for the rest of the day. (1.18W)

We would go through the mixed starter, have your main course and have a bucket of rice, Yum Chow it was, so we had two buckets of rice at one time between us, two, and then we had a sweet. That's why I don't go out with him that much, I'm not picking on him but that's what was usual for us. (1.16M)

5.2.4 The opportunity for support governed by time and place

Participants commented on their availability to offer support and these views were about finding a suitable time and place for the support to happen so that it was achievable. In addition, this theme is about the self-preservation of their health and is mentioned again in Section 5.4.2.

A Participant talked about her work colleague who had asked about the changes she had made to lose weight. She outlined the time she felt she could spend supporting him:

I wouldn't want to have to sit and listen to him every day (laughing) but certainly once a week if he wanted to touch base and say: 'This is what I've done and what I've achieved this week and this is what I want to achieve next week'; at least certainly once a week. Usually we have some time to chat about non-working things. (2.23W)

Overall, the Participants felt that support could be offered or accepted in the places that they normally would interact with the others: either by way of a regular phone call; or a usual meeting place. There were comments about accessibility to peers living away that created opportunities for support:

Well, I look forward to her phone calls anyway as it's not just about food; it's about how she is doing and other things. (2.25W)

Finding time to help was not always perceived easy. Knowing of someone in particular she could help, there were difficulties in finding an opportune time and place to do that:

I work full time and she works part time so … no I couldn't see that fitting in … so it would have to be opportunistic or be on Facebook. (2.24W)

There were further comments from past experiences around the lack of opportunity for useful, practical support in their social circle. One Participant felt her mother or aunt had been too busy to give her the opportunity to learn about healthy cooking or the importance of being active (Participant 1.12F). Another talked about caring for her mother without help from her brothers: they had not offered her a break and she perceived this gave her no opportunity to make healthy meals or to exercise (1.19W).

The theme of time that facilitates or prevents opportunities to offer or accept weight management support is presented, and the last paragraph highlights the lack of offers for help. This may have been down to unclear signals or missed messages that support was needed or offered, yet, on the whole, Participants preferred these socially acceptable, indirect methods. This next section looks at this new theme in detail.

5.2.5 Participants' awareness of the opportunities for support

Participants spoke in detail about the opportunities for obtaining support and they were clear that support should be proposed in a way that is acceptable to both the peer offering and the peer receiving support. There were only a few positive comments around directly asking for support and these were in situations with someone they were very close to. This Participant did not worry about offending his three daughters:

And I tell them when they come in not to bring cakes and buns in when they come to visit. 'Cos I'll eat them,' … I told them last week, I was fed up telling them. Aye, I tell them: 'That's the only time I eat junk is when you lot bring it.' (1.22M)

Instead, most comments about gaining or giving support were based on an indirect approach. This method was about the setting being conducive for open and informal communication with someone within their social network that allowed the Participant to judge whether it was a good time to raise the topic of weight: it is a more subtle and covert technique. There appeared to be many reasons for this preference and one widely held view was about not wanting to offend their peers by appearing to be critical of their obesity. One Participant mentioned that her daughter did not like anyone to talk about her weight unless the daughter introduced the idea:

> *She would just moan and say, 'Oh I'm so heavy,' and I would then start to discuss my programme with her or how she could go about it. She knows it's her weight that's the problem but she gets very uppity about anyone mentioning it to her. (2.27W)*

Another view that supported indirect methods for support was Participants' anxieties that they would not be able to accept a direct offer of help and may cause embarrassment to both parties. Participants acknowledged that they may not be ready to accept help and would need some time to consider the offer; one example given of a preferred indirect method was texting – this would give them some time to:

> *Gradually be persuaded to accept help. (1.13W)*

Texting was seen as a method of keeping an offer on hold that did not require justification for refusal at that point of time. Explaining the awkwardness around opportunities to offer weight management support, this participant noted:

> *The strange thing, if someone has got the common cold or the 'flu or some aches and pains, I would say: 'I think you should do so and so,' but funny thing about weight is that you are reluctant … personally I feel reluctant to bring that up directly. (2.29M)*

The negative outcomes from not accepting direct offers of support were worry, anger and acting in an unhealthy way. This links in with the way that support is offered, as outlined in Section 5.3.4, and the types of support participants prefer, in Section 5.3.1.

Moving from comments made around the negative consequences of direct offers and requests for support, Participants talked about the opportunities for support using indirect approaches. Participants reported the times someone had shown interest in their weight loss, making them feel they had an opportunity to say more. One example of this indirect but acceptable approach came about in general conversation between a Participant and an upstairs neighbour:

> *One of the days she said: 'You've lost a bit of weight … how did you do it?' 'Well,' I said that I'm going to the weight management class … so I think in fact last week she told me she had asked her doctor and she is going too. (2.12W)*

A theme of opportunities through listening for cues was highlighted in many comments as being a valuable method to hear an indirect request for support. This Participant spoke about the way he offered support to his wife, again overlapping with Capabilities in Section 5.3.4:

> *I would tread quite carefully … I think I'm fairly good at picking up on cues on where to go with a conversation and the non-verbals as well. (2.29M)*

> *There's always the opportunity (to talk) and sometimes you just need to listen intently to find out what the message is. (2.21M)*

Hearing these indirect requests for support was widely viewed as generating an opportunity to raise the topic of support:

> *I don't think I would initiate it (support) but if someone said, 'I'm fed up with my weight,' I would say have you tried, you know, doing this … (2.25W)*

However, Participants commented on missed opportunities for support due to their preference for indirect approaches. These were based on the difficulties in recognising the cues for requesting or offering support. This husband talked about the problem he faced in conversations with his wife:

> *She would probably bring it up (a hint that she wanted support) and sort of slip it into the conversation. It'll be mixed up in that and it's up to me to identify this is what she's really asking so I would have to be a little bit perceptive and I'd probably recognise that and provide the information that she needed. (2.29M)*

He related that he 'probably' recognised the request, but he was not totally convinced that he always did so, thus missing opportunities to help. Another Participant, when reflecting on a conversation with a relative, realised she had not recognised a signal for help and her relative's indirect plea went unnoticed. This example resulted in no support being offered:

> *I realise now that when my sister raised the topic of weight when relating her conversations with the health visitor … she gave me a way in. (2.24W)*

5.2.6 Thematic summary – 'Opportunity'

Participants identified many opportunities to support and be supported by peers of their social network both physically and socially. They didn't describe a specific preference but gave conditions for attributes of similar goals, backgrounds, health and life experiences. Offering support to someone close seemed to have both benefits and risks and again was a very individual preference. Participants recognised that not all their peers were open and available for support due to these peers not being ready to make lifestyle changes (covered in more detail in Section 5.4.1). They talked about the effects that their social network and culture had on their opportunities to eat healthily and often this culture of hospitality and generosity manifested in foods not conducive to weight management. There were anxieties about the ways in which support is offered, in either dictatorial versus indirect ways (Section 5.3.4), which reduced opportunities for support. Participants felt that, for an opportunity for support to be present, there should be a suitable time, place and method to create these. Some Participants felt they could offer support whenever the opportunity was there in their day-to-day lives, while some felt they missed out on support due to others being too busy or there were missed signals for help. Participants felt that these missed signals were due to their preferences for indirect offers and requests for support. But indirect requests and offers for support were the unanimous preference and were viewed as generating an opportunity to raise the topic of support in an unthreatening way. One suggestion of an indirect method was texting to allow peers some reflection on the subject of support.

5.3 Capability

The overarching theme for the second section of the findings is 'capability'. In this section, I am investigating the capabilities, in the form of physical and psychological skills, Participants perceive they should have to cascade their support to peers. This study aimed to explore whether Participants could cascade knowledge learned from their attendance at a weight management programme, in addition to their experiential learning, to peers in their social network and could do that in a manner that is acceptable to both Participant and peer. Transferring knowledge to their peers through the process of cascading may not necessarily support their peers in changing behaviour. Although the Participants have learned new skills and knowledge to manage their own weight, they have received no training on delivering these in an effective manner to their peers, unlike the Leads who are delivering the weight management programme. Any capabilities to offer peer support would be gained through their own knowledge, experiences and behaviour change.

To explore what acceptable peer support would look like, it is important to consider the role the peer plays, especially around context and style from the Participants' perspectives. Some aspects of style have already been raised, such as lecturing and listening, and the way this can affect the opportunity for support (5.2). Their thoughts are presented by theme under four headings: the first explores the unhelpful support Participants have received from those around them who have not experienced the weight management programme. This is followed by Participants' perceptions of their capabilities to offer useful support based on both their own experiences and on their experiential learning after attending the weight management programme. The final section gives details on Participants' views on their capabilities to offer support in a manner that their peers would find valuable.

5.3.1 The types of support participants find unhelpful

Under this theme, Participants on the weight management programme describe their experiences of receiving unhelpful offers of support and these experiences shaped their values around both receiving and offering support and what they perceived their peers would find acceptable. These offers were from peers in their

social networks who may not have attended the weight management programme. In addition Participants provided many comments around the style of communication used by these peers which was often neither credible nor realistic, thus making it unacceptable.

> *It's just in the passing they say: 'You need to lose weight, you know you are really heavy,' and when you look at them and they are so slim you think, how can you say that to me? They are not experiencing my feelings about my weight … I don't think they have the knowledge of what to do. (1.12W)*

> *He (son) is a big long stringy thing and he doesn't practice what he preaches. He eats chocolate cake and he doesn't eat a good variety of vegetables or fruit yet he would be inclined to turn around and say to me: 'You should eat less and move more,' because he is a doctor and he thinks he knows it all. (1.13W)*

Helping out at a local commercial slimming club caused this Participant to question the capabilities of the club's programme Lead to instruct members on realistic and sustainable dietary advice:

> *I must have seen hundreds of people coming through the slimming club but there are only two target members (who have maintained their weight over a certain period of time) which I think is an indication of how little it works long term. (1.18W)*

Other views were based on unhelpful remarks made by peers outwith the programme regarding the Participants' attempts to be healthy. Both of the following examples appeared to be said with good intentions of concern, but were not supportive of the healthy changes:

> *I think I was under 13 stone 12lb (with a normal BMI) when I met M and she thought I was too thin. (1.16M)*

> *I walk down the town and sometimes I get a row for that from friends because I had the stroke and they think I would have another one. But I say: 'I'm fine, just leave me alone.' And my daughter, if she sees me not eating a big meal asks me: 'Is that all I'm having?' (1.11W)*

More unsupportive comments were received from peers who directly mentioned the Participant's obesity:

> *They're not being mean about it because they're comparing you to what you used to be like and you've changed. But you're not going to make changes because of that comment, it can actually demote me because, actually, I had lost a stone when he said that, I think I could have done without that. (1.21M)*

In a similar theme, this comment was made about tolerating a close friend being direct about his weight but not others:

> *One of them calls me 'fat man' … one of my wee pals … he knows he gets away with it, but if someone else said it to me I would be really mad. (1.22M)*

Apart from the content of what was said, Participants mentioned that the manner in which advice was given was not helpful:

> *My family tend to be very self-righteous in that my son will say to me, 'Mother, dieting is easy, you just eat less,' and my daughter points her finger and says, 'You don't eat fancy stuff,' and that is totally the wrong way to go about me because when they say that to me I want to eat more of that. (1.13W)*

Participants highlighted having received unhelpful peer support from those outwith the weight management programme, and, in the next section, they comment on the support they would find useful and their capability to offer this is based on their own experiences.

5.3.2 The capability to support resulting from Participants' own experiences

Under this theme, Participants comment on support they offer based on their own experiences of what has worked well for them and what has not. The comments are taken from those Participants interviewed at time-point 1 before they had gained any skills or knowledge from the weight management programme.

Practical support in daily living was an area perceived to be a form of support that the Participant felt capable of offering or accepting from others on any occasion if it was conducive to losing weight. The comments were mainly around the provision of healthy meals or healthy snacks. One example is a wife who made healthy packed lunches for her husband to help prevent him from snacking from the vending machine at work (1.21M). Another participant offered to do the weekly

shop for his partner when she was unable to stop buying biscuits when she shopped herself (2.28M). He felt that this would help reduce her triggers for overeating and give her support to eat healthily whilst she established her healthy behaviours.

Advice on 'how not to lose weight' was a topic that Participants felt capable of giving, based on their unsuccessful weight management experiences of faddy diets, strict food restriction and 'yo-yo dieting'. One Participant, who had attempted most diets in his weight loss journey, felt he knew from these experiences that quick fixes were not sustainable and tried to convey that to his step daughter:

> *We're trying to say to her, look, try and eat more varied foods, rather than restricting yourself to eating sweets and crisps and then going back to Slimfast … (2.16M)*

Offering confidentiality was a common support that Participants felt they had appreciated when trying to lose weight and felt capable of offering. They commented that whatever was discussed within their conversations with others, they would be discreet:

> *Not to be judgemental and to be open, and you know, confidential, and I wouldn't discuss it with anyone else, and say I was here to offer support and whatever … (2.14W)*

Networking was an advantage:

> *I think that support for other people and for myself to keep on track, is being with likeminded people and not only learning from them, but knowing you are not alone in the world. (2.19W)*

Forming a relationship with her weight management group colleagues by listening to them talk was a benefit from meeting with like-minded people and a chance for humour:

> *Well, we'd exchanged phone numbers and we've texted and emailed the group and I asked one of them to come out for a coffee and I quite enjoyed that. I said: 'Hope you're not eating all of the biscuits' (laughing), but I said we could meet up for a coffee and make it a treat – a cake and coffee maybe once a week or once a fortnight if you just want to talk. (2.14W)*

Regarding her relationship with family members, this Participant felt she was considered capable of offering support by way of talking and listening and her daughter considered this favourable compared to consultations with health professionals or a GP:

> *I feel, I have encouraged her to go to the doctor and she still hasn't … just to back her up a bit, and to put things into perspective. I've tried sitting and talked to her and discussing her problems which with me, she is quite open about. (2.27W)*

The specifics of why this support from an untrained person was preferable to that from a trained person was not clear (see Chapter 8), however, there were many comments from Participants around their capabilities for listening. They identified 'listening to others talk' as allowing someone to be reflective. Participants viewed that permitting peers the time to talk was not only an opportunity for them to relate their issues (see Section 5.2.5), but it also gave them a chance to hear what they are saying. Participants felt that this helped peers to identify their own problems and barriers to weight loss, and empowered them to make progress in solving these issues:

> *So he (work colleague) didn't approach me (with a request for support), it was just conversation and he was talking himself into it (his own solutions) and just looking for a bit of peer reinforcement. (2.23W)*

> *I listen to what people have to say and I think I am a much better listener than I am talker. And I like to listen to what conflicts they have, what difficulties they are experiencing … share their problem … there's more space then, for them to think about their goals. (2.29M)*

There was no mention of a specific group of people who benefit from listening and reflective support, but some Participants felt that time with peers was support they were capable of offering. Further comments were that talking with peers when they were 'low' helped them to maintain or make healthy changes and overlaps with creating an opportunity to offer support. This Participant discussed the phone calls she would have with a friend:

> *It would be when they were feeling low; a point of contact of why they are feeling low. And I'd say: 'How was that going to affect what they were eating and what exercise they were doing?' (2.19W)*

Another Participant commented that he would talk to his wife during her low times:

> *You know when she's picking the unhealthy option that she's slipped by the wayside and that's my trigger to know how well she's doing. I'd talk to her: you don't want her to get too disheartened. (1.21M)*

In addition to talking about what they would say to their peers, Participants commented on their capabilities to say it well, based on their own preferences from past experiences:

> *Saying it … in a supportive way … not to put them down. (1.14W)*

Tailoring the support he offered, based on the knowledge and experience of his wife, enabled this Participant to make his support specific to her needs.

> *I would to have to think how I would word it to her so that I wouldn't (say the wrong thing) … I would need to pick my words. She doesn't take advice too readily and I have to do it in a roundabout way. (2.29M)*

And similarly, this mother's experience of supporting her daughter:

> *I adjust the advice to the person (laughs). It's no good telling her to do something because she will do the opposite (laughs) so I kind of encourage her. (2.25W)*

5.3.3 The capability to support subsequent to participants' completion of the weight management programme

This third theme is about the specific weight management support that Participants could offer peers at time-point 2, after attending the core weight management programme for 12 weeks. The capabilities for support under this theme include the Participant's level of confidence, self-belief, and feelings of credibility that enabled their support.

The majority of comments on Participants' capabilities for cascading their learning down to their peers were positive – in addition, Participants felt they had many skills to offer support and only one Participant voiced a concern over what he considered his 'lack of knowledge':

I wouldn't know enough to talk to him about looking at the labels and discussing them because I don't know enough about the detail of those. (2.28M)

The remaining Participants' comments were centred on their capabilities to share the knowledge and skills they had learned from the weight management programme.

Goal setting is one of the main principles of the weight management programme, but helping others to set realistic goals for healthy changes was only mentioned in the data occasionally. These Participants did not report using the same detail as that in the weight management programme, but they appreciated the importance of the process for making progress. The programme method focuses on the achievement of goals, and this Participant was confident of the process and her interpretation of it:

I don't want to tell her anything wrong but I think it's quite simple to say to her that I found it quite helpful to have a goal in mind and also, em … to plan a bit ahead. (2.25W)

Talking about practical and specific advice was viewed as a popular method of peer-led weight management support. This theme differed from giving the practical and general support based on their past experiences (Section 5.3.2): instead, this new theme is about the acceptable peer support they could offer based on their group discussions and experiences at the weight management programme. This advice is illustrated in Table 5.3.

Table 5.3: Participants' perceptions of acceptable advice and feasible solutions for weight loss support

Topics advised	Participant Quotes
Coping with hunger	*Its picking out the times you're really hungry and it's being prepared for it…a sandwich there or a piece of fruit…. so you are passing on that knowledge. (participant 2.21M)*
Cooking healthy meals for others	*If they know there's something to eat down at mine they won't buy a take away. (participant 1.20M*)
Accessing information to help	*I would show them my programme book; show them the whole programme: I got a positive outcome from it and it*

with weight loss	*might help them just the same. (Participant 2.29M)*
Shopping	*I do go shopping with her sometimes and I do kind of steer her but I managed to get her on to the mince with no fat in. (Participant 2.25F)*
Showing correct portion sizes	*I could talk about what they could change…. what they could cut down … or show them the size of plate. (Participant 2.12F)*
Giving examples of healthy option recipes	*He asked for recipes and he asked what is it you are allowed to eat? And I said you are really allowed anything but it's how you cook it and I would tell him what to do … (Participant 2.26F)*
Helping with the practical aspects of menu planning	*I was thinking more about the meal planning and that kind of thing, I could give her (internet) links too. (Participant 2.24F)*
Avoiding triggers for overeating	*I'm hungry at lunch and I eat the first thing I come across. So, a goal is to have something ready for lunch. (Participant 2.23F)*
Discussing general tips on losing weight	*Talking to her and then encouraging her to write it down so that she can see on paper what she's putting in her mouth. (Participant 2.27F)*
Suggesting what food to pack when travelling	*If they were going somewhere and there was a journey ahead, there's not always choices at a service station and if it's possible, take with you what you need to eat. (Participant 2.19F)*
Advising on types of exercise equipment	*I don't have a Fitbit but on our phones you do steps and the steps also tell you not just the distance but also the calories you are burning. (Participant 2.16M)*
Planning healthy lifestyle changes	*I know my neighbour drinks a bottle of wine every night so we talked about her having a bottle of wine one night at the weekend. (Participant 2.14F)*

Reflecting on their eating and activity behaviours was a skill that Participants felt capable of as opposed to following a set of directions such as following a strict diet regime (2.19W, 2.12W, 2.24W, 2.26W). One Participant summed this up as follows:

> *I think there was a bit of consensus that we don't need to bar ourselves from something we really like; you know … don't deny yourself because then at the end of the day you just wanna go back to your old diet eh … So … I think really it's more than dieting, it's more sort of working out a lifestyle change. (2.16M)*

Credibility was an area identified as something that should be present before peers could believe and accept support. In the next two examples, Participants find that peers are non-credible because they were not demonstrating lifestyle changes. In this first example, the Participant comments on a peer who no longer demonstrates healthy habits and thus loses her capability to be supportive. Demonstration and role models are discussed in further detail in Section 5.3.4:

> *She used to do a lot of walking, used to walk with me, do a lot of walking but now she doesn't go walking with me anymore and she's put it (weight) all back on. (1:11W)*

In the second example, the Participant comments on his daughter who offers him praise. The Participant considers his daughter incapable of support because she has not tried to make any lifestyle changes: he judges her as being without credibility or qualification to make a judgement on his progress:

> *My daughter says about me losing weight and I think they're just kidding me on to keep me happy. I just don't think they are serious … it's just hard to believe them. If you (professional) told me, I would believe you. (1.22M)*

Finding the weight management programme itself credible was also an area Participants commented on: they felt they could use the knowledge and skills learned to support their peers as they found the message and principles believable. They felt they were able to use the same programme philosophy:

> *I believe passionately that anything I do that works (his weight loss), I would be passionate in sharing it to sell it. (2.16M)*

More specifically, there were comments that Participants would model the same non-judgemental methods and phrases that they had experienced at the weight management programme: the next section explores this in more detail.

5.3.4 The capability to support in a manner Participants perceive peers would find valuable

The final theme in this section is based on the Participants' perceptions of their capabilities to cascade their support in a useful way. It addresses their feelings on how to give useful support, in a manner that is acceptable to their peers. Participants described the four main methods for giving support as: praise, inclusion, demonstration and encouragement. They talked about the presence or absence of these actions and how they affected behaviour changes.

Praising a peer for making a healthy change was considered by many to be supportive. Participants viewed words of praise as a method of affirming peers' healthy actions and helping them to acknowledge their successes. These are some examples of their comments:

> *She came over and she was running towards the bus stop and said: 'Hold the bus for us.' And she said: "G (who had lost a lot of weight), can that be you? Is it you?' It made me feel wonderful, wonderful. (2.19W)*

> *K says: 'You have done really well, you have cut down on your sugar,' and that's really supportive to me. (2.12W)*

However, there were some negative comments on praising a peer's changes, such as being given too much information. This Participant felt that in praising someone's weight loss, they may have to stop to listen to their peer and give up some precious time: this impact on their time is discussed as affecting motivation to offer support (Section 5.4.2). Another negative comment was a worry that the weight loss might be unintentional and due to disease.

Inclusion was described by participants as 'inviting someone to join in with their healthy habit' and was described as being supportive in two ways: the enjoyment of being in a group setting that took the sting out of failures and magnified successes; and secondly, sharing the problem of losing weight to make attempted weight loss more manageable:

> *The actual group (a slimming club) is fun … and usually on the Thursday night I come out feeling quite motivated. (1.18W)*

She (her friend) was actually getting married so she had a real goal in mind and I didn't, I just went along (to the slimming club) because … well, we'd all do it together, and it was a good thing to keep me going as well … we were people that had a similar sense of humour and similar problems. We had minds alike. We all did a charity slim and we did really, really well: it was good fun (1.17W)

The fun aspect was confirmed by others and by the men of the study in particular: there were comments from them about how the fun was achieved, and it usually involved setting challenges together, competitions and betting/rewards for the person who does the best:

It started from my 'steps'. And my daughter's birthday was coming up and she wanted one. And she's actually doing the challenge with me and I said to M and she got one. And now my oldest daughter has one and everyone has gone into the same momentum. (2.21M)

We try and beat each other at losing weight. (1.22M)

If you can get a laugh out of it you know, you are doing yourself a bit of good and still getting a laugh … if it's no funny, it's no good, there's a wee bit of a competitive edge there … you can get a wee punt (bet) against each other. (1:20M)

Discussing how she found she was capable of helping her overweight teenage son make changes through inclusion as well as discussing their similar quest to lose weight had increased his motivation:

We did have a little talk about it, and I said it's the sweets and all the bits between meals. And I think it was our joint decision not having them in the house that he then made his own decision that he wanted to lose his tummy and you know … he did. (1.18W)

Including peers in their own healthy habits was a common offer of support, and one they felt capable of, especially around activities. There were many comments around inviting others to play golf, swim, walk, go to keep-fit classes and even sharing a personal trainer to increase their energy expenditure (2.14W, 2.16M, 2.17W, 2.26W). In a different vein, some comments were around inviting others to join them for a coffee to talk about their weight problems (see Section 5.3.). These are two very different invitations – one supports by encouraging changes and the

other supports by allowing listening and reflection to take place – but both with the intent of supporting peers with their weight management.

Forms of demonstration or being a 'role model' was often mentioned in the same sentence as the theme 'inclusion', in that some Participants wanted to join in healthy activities after seeing the activities happen as opposed to accepting an invitation. Demonstration was defined as a form of acting, as a role model carrying out healthy habits and behaviours that peers became aware of – 'prompts by actions' rather than giving verbal support. Sometimes these habits and behaviours themselves were noticed: sometimes it was the end result – weight loss. Demonstration was perceived as a specific tactic in peer support and a method that Participants preferred – an indirect approach (Section 5.2.5). They felt it reminded peers to maintain their healthy goals or give them an idea of new ones. Participants felt strongly that they were capable of offering demonstration as support. Some examples were: seeing the choices that others made for healthy foods and meals; watching others walk rather than drive. Demonstration allowed their peers to see what was possible and gave inspiration to do something similar:

> *You see the end goal, they have done it, I can do it, they keep you going so that you are not thinking negative, it just pushes you along. It gives a sense of direction, if I go down that path of no change, I'm doomed to failure but if I keep going their way … (1.14w)*

As a role model, they felt they were capable of understanding the challenges of change:

> *I felt her support was better because she had been through it. (1.17W)*

Recounting his example of choosing a healthy menu option that he did not particularly like but knew his wife did, he hoped this would support her to do the same.

> *When we were on holiday, I took the 'tomatoey', vegetarian option and not pasta with cream sauce, and that influenced M to take it as well. And she thoroughly enjoyed it. (2.21M)*

Participants felt that peers would follow their example because Participants were deemed to be credible, and this would be based on observations of their good changes:

> *Deep down I think she has watched me because I know for a fact that she has changed her behaviour. She (his wife) loves buying sweets, these little chocolate sweets and puts them in her drawer by the side of the bed and feeding on them but she's stopped that to a certain degree … so I think some of it's definitely sunk in even though she might 'poo-poo' my ideas. (2.29M)*

Conversely, there appeared to be a detrimental effect of being a role model and this affected their capacity to be supportive. This Participant added that when his or his wife's good habits slipped, it was difficult to stop the spread of 'bad' behaviours:

> *I think then that I need to be quite focused on my changes because her relapsing means I might relapse and I don't want to. If she chooses to lapse that's fine, but don't involve me in that (laughing). (2.21M)*

Encouraging peers to try new changes or maintain present healthy behaviours was the second theme mentioned as being valuable support and viewed as a preference to 'being told what to do'. The Participants commented on how encouragement guided them towards making a change and helped them to set goals. There were feelings that this encouragement helped them to resolve any ambivalence they felt about making the change: it helped them to weigh up the 'pros and cons':

> *But they didn't tell me I had to do it, just what the benefits if I did do it: it was just in my time. (1.15W)*

> *People don't often buy sweets for us now and I do find that supportive. (1.13W)*

> *Well, um … I started keeping a log – my son had said, 'Have you thought about writing down what you are eating?' … and it helps. (2.12W)*

Even though Participants knew that encouragement was a valued support, there were worries about their capability to sound encouraging. They felt they may say the wrong things in the wrong way and cause upset. This was a risk of peer

support and is discussed in more detail in Section 5.4.2. Summing this up, this participant stated:

> *You never know exactly how you will say it (the offer of support) and how they will respond to it … so there is only some experience of that person … but there are always things in the background that you don't know about. (2.19W)*

But, for some, knowing the person or background well enabled them to feel more capable of giving encouragement:

> *Nobody likes being told they are overweight and she (daughter) is a bit overweight, not monstrously overweight but she is fit and healthy so … so I would probably say, I would to have to think how I would word it to her so that I wouldn't … yes, I would need to pick my words. (2.23W)*

Mentioning the topic of weight in this non-offensive way without being critical or judgemental was a frequent comment on 'how to be encouraging'. This Participant recounts an example of not feeling encouraged by his GP and how he feels he has the capability to give support in a more acceptable way:

> *He told me to take Draconian measures to lose weight and I think he was trying to jolt me to do something and I can understand why he said that to some degree but … how I react, I would actually rebel against something like that … so I think just going on at them you know … would not help them 'cos they would then sort of get their back up and put them on a downer and then think 'stuff that, I'll just eat anyway' so … I think it's just a case of better to encourage … it's like the carrot and the stick. I'm more for the carrot than the stick … (2.16M)*

5.3.5 Thematic summary – 'Capability'

Overall, Participants considered they had the capabilities to offer peer support. They felt capable due to two main reasons: the first is based on communication. Their own experiences of peer support, that was neither credible nor realistic, made it unacceptable. Credibility came from being in a similar situation of weight management and being seen to attempt to maintain and try new changes. However, not being able to make changes or going back to previous unhealthy habits was perceived as a non-credible source of support: this removed the Participant's self-belief that they could be a valuable source of support. Advice from peers who made negative comments on their weight management was not

encouraging. This included comments from those peers who directly mentioned their weight and advised them what to do to lose it and those who discouraged their healthy changes. Weight management was considered a very sensitive area and Participants preferred an indirect method of support, such as raising the topic. One common support preference was talking openly and listening to their peers to allow them to reflect on their problems, especially when they were feeling low. Another popular support preference was to make the process fun. Participants felt they were mostly capable of working out what their peers needed and being able to tailor their support to make it specific to their different peers' different needs.

Secondly, once they had attended the weight management programme, Participants felt that the value they placed on the programmes messages and philosophy encouraged them to cascade these to their peers in a similar non-judgemental manner. Goal setting and monitoring – two of the main stays of the programme were only briefly mentioned for support by Participants. Instead, the knowledge and skills gained at the weight management programme enabled Participants to solve their own problems rather than follow a set of directions such as following a strict diet regime. Participants had appreciated not being told what to do and supported their peers in the same way by allowing them to solve their own problems, sometimes by giving examples of what others had done to make changes. By using both experience and skills gained from the programme they felt that practical advice on healthy lifestyle could be cascaded to their peers by four main methods: praise, inclusion, demonstration and encouragement.

5.4 Motivation

Participants commented on their motivation to give peer support: their reflections and intentions to help their peers and their automatic desires to give that help. These reflective and automatic elements of motivation are grouped under two themes. The first theme continues on from the opportunities for support that are affected by Participants' awareness of peer's readiness to change (Section 5.2.2), to how this impacts on Participants' motivation to support them (Section 5.4.1). This is followed by a theme of the risks and benefits that Participants perceive will be the consequences of offering support.

5.4.1 The motivation to support and the readiness of others to change

Seeing a readiness to change puts a value on their input: Participants felt it was more likely that their peer would use their support. Participants reported a 'feeling of helplessness' when the ones they wanted to help knew what to change, but could not make those changes. This appeared to arise when peers had struggled with obesity for many years and had tried everything they could think of to lose weight. The Participants reflected that they understood the other person's weariness and vexations, and this made some Participants unmotivated to offer any support; they queried its value at that time. This mother, knowing well her overweight daughter's frustrations around weight loss, commented:

> *It is quite difficult to help, because she knows what she should be doing, she knows herself. (2.27W)*

Although many Participants felt their support would not be valued at that stage, they were motivated to help their peer by staying vigilant for signs of readiness to make changes:

> *Folks do say there must be a time that is right for them to change and the support is always there if you are quite open and honest. (2.29M)*

> *When we go shopping and she doesn't wasn't to buy anything because nothing's nice on, she gets upset and she goes into the changing room but then if she says, 'I'm going to lose some weight,' that's when I'll say something. (2.26W)*

Similarly, one Participant felt she would not automatically lose her motivation to offer support as long as at some point there appeared some flicker of readiness to change:

> *I'm fine (offering support) as long as I'm seeing 'I could do something about this' but if someone is not at that point and are resistant to making changes, if they are not at that point ... (2.23W)*

Feeling she could go a step further when peers feel they do not have the ability to lose weight and become resigned to carry on with their old habits, this next comment is about hinting about change and waiting for the reaction:

> *But others say they have been trying (to lose weight) and nothing works and that gets a conversation started so I'm quite happy to discuss it. … It would be the factor of whether I am motivated to do it: if I have a way in, I might add in a conversation and whether she then comes back to me in terms of picking up on those hooks (hints). (2.24W)*

This Participant did not see any signs at all that his wife was continuing her healthy lifestyle changes, but he had seen her past success at making changes and this motivated him to support her. Feeling it was important to offer her words of support, he dropped more than a small hint about making changes by openly speaking about it, but he was not sure of her response to him:

> *She's stuck in the revolving door at the moment and I'm sure she went through this same weight programme before. And what I'm trying to say to her is: 'Have you thought about going back, you know, maybe you're needing more support than the (slimming) club gives you now.' And she never really said anything back, but I've said it. (2.21M)*

5.4.2 The motivation to support and the associated benefits and risks

Under this theme, Participants reported the effects on them from supporting their peers: many were positive, but some were negative. Starting with the positive comments, most of these I interpreted under the heading of altruism.

Altruism was a strong facilitator in motivating Participants to support others:

> *You want to see your family as well as they can be, and I do try with my husband as well. (2.25W)*

Participants were motivated by wanting the same benefits they had gained to be replicated by their peers; especially, their offspring. They talked about the health problems their children already had and how losing weight may lessen these:

> *You want the kids to have that healthy lifestyle because I definitely feel the benefit. (2.21M)*

Talking about accepting support, participants felt more motivated to do so if the support was mutual: if they had something to offer in return it would not be a 'one-sided favour', and even then, offering help to others was more preferable than receiving help. This altruistic trend continued: some comments were made around accepting support if it helped the supporter, or helped to achieve joint goals:

I have got a very good friend; she is also my neighbour … She's got an eye problem and she's just been given a blind (guide) dog, and she has asked if I will go out with the dogs when the better weather comes. And she's very supportive, she's aware I am doing this, you know … the weight thing. (1.15W)

Following on with the altruistic theme, many comments were based around Participants' memories of the difficulties they had experienced in trying to lose weight. And these recollections motivated Participants to support others. The comments were centred on what support they would have liked, and what it was like not to have received that:

I know how hard it is to be a certain way (overweight) and to feel horrible and feel let down and you don't want to ask anyone for help. (2.12W)

Moving from the intentional element of offering peer support to the natural cascade effect that Participants' changes were having on their peers, the Participants spoke about bringing healthy choices by way of diet and activity to their social network (see Section 5.3.2). In addition to Participants intentionally giving this support, peers, without making conscious changes to their lifestyle, were automatically benefitting from Participants' healthy choices. Participants explained how they enjoyed seeing and fondly monitoring their peers as they made their natural progression to making changes:

I use Slimming World meals for us and as long as he didn't know it was a Slimming World meal he would sit and eat it quite happily but the minute he knew it was diet food he would say: 'I'm not eating that.' (2.25W)

Feeling valuable was another motivating benefit to supporting their peers:

There's quite a strong bond there, and she values and respects my opinion. She uses me as a good sounding board and I think that's what she responds to, and if I suggested a walk it would happen. (2.21M)

Feeling valued as a catalyst in helping peers become successful in making changes, this Participant had a 'light bulb moment' when he realised he could burn off calories as well as eat them:

I would say to people, even if you can do a little and whether that's swimming or walking, then sort of do it 'cos it all counts. (2.16M)

A benefit that motivated Participants to offer support was its twofold mechanism: to the peer they were supporting and to the Participant themselves. These benefits came when the support they offered to peers helped the Participants to maintain the changes they had already made. There were different scenarios of how this happened:

> *My sisters would just ask for a wee bit of help and I would just be like, 'Yes, let's do it.' And it would encourage me as well. (2.14W)*

> *She helps to make my food, she always makes sure my food is ok and it's keeping her on the straight and narrow to make her own food healthy too. (2.16M)*

Ensuring he praised his colleagues on the changes they had made when they lost weight, one Participant discovered that he did not need words of praise in return. He knew that they could see the difference in his weight and it gave him self-belief and reassurance to carry on with his own changes:

> *And the motivating thing is that folks are really noticing the difference in me as well. (2.21M)*

As well as maintaining their healthy lifestyle changes, Participants felt that helping peers achieve new goals could help Participants achieve new goals too. One Participant had not yet gained the courage to go swimming by herself and perceived that all eyes around the pool were on her. When she invited a peer to go with her, she felt the unwelcome attention was now shared and both were benefiting from an increase in their activity levels:

> *We walked the 'walk of shame' from changing room to pool together. (2.14W)*

A final benefit that motivated Participants to support peers was the legitimate reason to spend time with friends and family. Supporting those who were close to them introduced a new (and sometimes reintroduced an old) element that they had something to offer and this enhanced their relationship (1.16M, 1.28M, 2.16W).

Participants were realistic about offering peer support and, in addition to the benefits received, they also talked about the risks to their health. The comments

were divided into two areas; the first, which is the main area, is based on the detriment to the Participants' health and well-being. This risk to their health applied to both their physical and mental health:

> *I would take a lot of their problems on board and worry about it – if only they would do this … But I shouldn't have to tell them to do it … it's got to come from them. (2.29M)*

> *I just sometimes do feel that it's all on me for some things. I do tend to be … the 'go to person' sometimes, and that can be a bit tiring, especially as I'm getting older. I just feel … that I would quite like a bit more time to myself. (2.25W)*

The second area regards the lack of motivation to help peers because of a lack of self-belief (Section 5.3.3). Unable to change his behaviours made this Participant feel quite hopeless about helping someone else:

> *I wouldn't be able to help because I hold back a lot simply because I can't do it myself: I've not yet been able to make changes. My principles are such that if I can't do it ... (2.28M)*

5.4.3 Thematic summary: 'Motivation'

In this section, I presented the Participants' perceptions around the facilitators and barriers that affected their motivation to support peers. Motivation to offer support came from seeing a readiness to change: if Participants perceived a peer would take up support at that time, it put a value on the support and placed an importance on the role. Participants understood their peers' difficulties to change and they talked about the actions they would take: some would wait until their peers felt differently before they approached them, while other Participants reported feeling motivated to help by staying vigilant for signs of readiness.

Participants were motivated to offer support because of altruistic tendencies: they wanted the same benefits they had gained to be replicated by their peers. Their memories of trying to lose weight motivated them to offer support, and they were pleased when their peer gained benefit from the Participant's own changes in a natural, cascading fashion. From a personal viewpoint, Participants had the pleasure of feeling valuable, as peer support and appreciated a twofold benefit from this role: it maintained the changes that the Participants had already made

and helped them to make new ones. Furthermore, words of praise were not always needed to feel this benefit, they could feel motivated to support by the reactions of their peers and this gave a reassuring feeling they were doing well. In addition, offering support gave Participants a legitimate reason to spend time with friends and family.

There were barriers to giving support, and these were mainly the risks to their health and their peer relationships. There was detriment to the Participants' health and well-being, both physically and mentally. Finally, a lack of self-belief affected the perceived value of support.

5.5 Summary of Chapter 5

In this chapter, I presented the findings of the Participants' perspectives on the acceptability and feasibility of supporting others in their social network. The Participants' rich texts were presented as themes emerging from the data under each COM-B heading as they discussed their real-world choices and behaviours concerning their peer relationships. In summary, the Participants' findings are grouped under four main overarching headings:

The benefits and risks to offering peer support
Participants talked about the things that motivated them to offer or accept peer support. Health, time and family relationships were major determinants, plus support to their own goals around weight management. The provision of peer support was considered to be a risk by some to their time and health.

The readiness of their peers to make lifestyle changes
There was a lot of emphasis placed on seeing others ready to make lifestyle changes before Participants would offer support, but they felt they could be available to give support as soon as the opportunity arose.

The methods of offering, and the types of peer support
Participants considered themselves to be capable and confident in offering support by using their knowledge and skills learned from their own experiences and from the weight management programme. Participants appreciated being listened to, praise, inclusion, encouragement and someone demonstrating their healthy

changes were all types of weight management support that Participants valued. However, Participants needed to feel credible in their ability to offer support; without credibility, support was perceived as being of no value and not acceptable.

The effects of culture and environment on peer support

An intervention designed to give support would be ineffective if there was no-one to offer weight management support, or if a request for support went unnoticed. This highlights that opportunities, or the lack of them, were a major influence on offering and accepting support. All Participants had the opportunity to access someone they could share their weight management skills with, and using media as opposed to face-to-face support was acceptable. Participants were very sure that they preferred an indirect method for providing and receiving support through opportunistic conversation and these preferences were affected by their culture and social network, but there was evidence of Participants missing the cues that could initiate support.

In this chapter, the theoretical approaches from Chapter 3 were brought together with the Participants' perceptions and have outlined the elements of an acceptable intervention from the Participants' perspectives. However, this is only one part in the process of offering support (Figure 5.2): the second part of the research purpose is to explore whether the intervention is not only acceptable, but also that it is feasible within practice. This will be explored in Chapter 6 with the Leads of the weight management groups, and both sets of findings will be used to co-develop the intervention in Chapter 7.

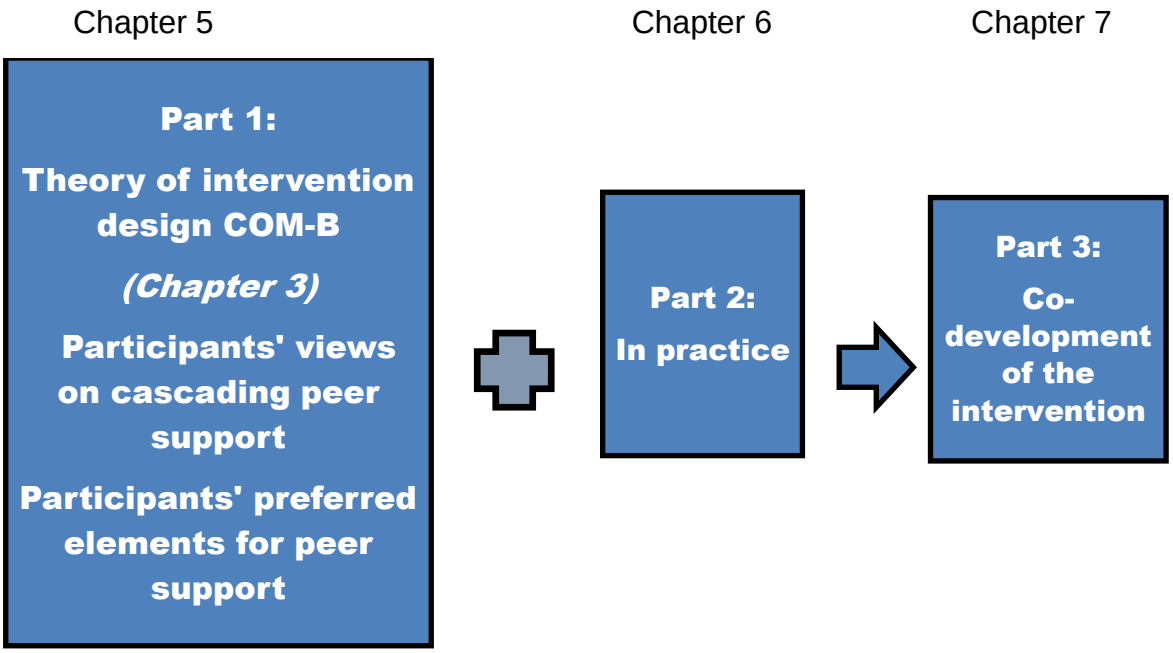


Figure 5.2: Intervention build – Part 1, Elements of an acceptable intervention from the Participants' perspective

Chapter 6: Findings from the Leads of the weight management programmes on their perceptions of a peer-led weight management intervention

6.1 Introduction

In Chapter 5, I outlined the elements of informal peer-led weight management support that Participants found acceptable, and those that challenged their support, and these elements have started to shape the intervention development (Figure 5.3). The Participants' findings were summarised for the Leads and presented to them at the beginning of their focus group interviews. In this Chapter, I interpret the data produced by the Leads on the acceptability and feasibility of introducing a peer support intervention to their clients and provide information for the second research aim:

> *To find out whether weight management programme Leads perceive they have the capabilities, opportunities and motivation to help their clients in providing peer-led weight management support*

6.1.1 The Lead sample characteristics

The Leads in the Health and Social Care Partnership (HSCP) come from a wide range of backgrounds and they delivered their programmes in four different localities. Their backgrounds included: NHS health care assistants (HCA), dietitians, dietetic assistants, practice nurses, council staff based in leisure services, and members of the third (volunteer) sector. Leads are trained to achieve competency of programme delivery, but their proficiencies varied by the additional qualifications and experiences created by their professional grades and supervisory roles. Nine Leads accepted the invitation to take part in this study and a diverse sample was achieved from all possible working backgrounds (Table 6.1). There were no men delivering the weight management programme during the study period.

The Leads' views are quoted from the four focus group transcripts to support my interpretation of the themes identified and these are coded to give context to the text. These codes are listed in the following table along with characteristics of the Leads sample (Table 6.1).

Table 6.1: Sample characteristics of recruited Leads

Lead number	**Working background**	**Lead code**	**Focus group**	**Leading a WM programme of study participants** (Scottish Government 2014)
1	HCA (NHS: health care assistant)	1HCA	1	Yes (Remote small town)
2	HCA (NHS: health care assistant)	2HCA	1	Yes (Remote small town)
3	DA (NHS: dietetic assistant)	3DA	1	Yes (Remote small town)
4	C (Council)	4C	2	Yes (Urban Area)
5	DA (NHS: dietetic assistant)	5DA	2	Yes (Urban Area)
6	D (NHS: dietitian)	6D	3	No (Urban Area)
7	DA (NHS: dietetic assistant)	7DA	3	No (Urban Area)
8	PN (NHS: practice nurse)	8PN	4	No (Accessible rural)
9	T (Third sector)	9T	4	No (Accessible rural)

6.1.2 The chapter layout

In this chapter, the findings from the Leads' focus group interviews are organised by themes under the components of behaviour change (COM-B, Michie et al. 2014), which were decided *a priori* (Table 6.2). They are discussed in the order in which they were dominant in the data: Motivation, Opportunity, and Capability. Where there is substantial overlap of themes across the theoretical components, I have signposted those sections that explore the theme from a different viewpoint.

Table 6.2: Themes raised by the Leads of the weight management (WM) programmes

Section 6.2 Motivation	Section 6.3 Opportunity	Section 6.4 Capability
6.2.1 Prompting a discussion within the group	*6.3.1 Physical opportunities: the introduction of a peer support intervention within WM programme sessions*	*6.4.1 Training on introducing the topic of support to peers*
6.2.2 Encouraging reflection and sharing of WM experiences	*6.3.2 Social opportunities: looking for cues that the time is right to offer support*	
6.2.3 Guiding the clients around ways to give support		
6.2.4 Acting as 'Gate Keepers'		

The Leads' perceptions on the acceptability and feasibility of an intervention are explored first under the heading of 'motivation'. Motivation appeared to be the most important of the COM-B theoretical components: it governed whether the Leads would be willing to prompt peer support to their clients. Leads already have an opportunity to speak to their clients on peer support, they have the capability to interact with their clients due to their programme training in group facilitation and negotiating behaviour change, but without their motivation to raise the topic of peer support, the intervention will not be achievable.

6.2 Motivation

The focus group discussions had a common finding: the Leads believed they were motivated to facilitate a peer support intervention, demonstrating their acceptance of the concept. But, there were caveats to their motivation, and the following four themes relay both the facilitators and barriers to introducing the intervention.

6.2.1 Prompting a discussion within the group

The Leads felt that the Participants' perceptions of acceptable support were very similar to the philosophy of the weight management programme and would fit in well with the programme sessions. They talked about the clients of their programmes having already received a clear message on how to make changes, and they felt they could encourage clients to refer back to this and cascade the information:

> *So the key is, if you really enforce the (programme) messages, that client already knows what to say. They know they have to maintain their behaviours, they know they have to carry on with their goal setting. (Lead 6D)*

> *If anybody, say somebody comes to them (client) and asks: 'What did you do: how did you lose your weight?' You tell them (client), 'It's all in your (programme) packs.' (Lead 1HCA)*

> *You could even do an off-the-cuff remark that some people may come to you for advice and you wouldn't nag them because we haven't nagged you, or you would give advice in the way we have. (Lead 7DA)*

Satisfied that their clients have experienced the weight management programme and its philosophy has supported these Leads in their motivation to talk to clients about helping others:

> *If they are making good progress and if they are motivated, you could raise the topic about helping others. (Lead 5DA)*

> *Just ask them: 'How would they feel (about helping others), now that they have come so far?' Just ask them: 'How would they feel about asking others?' (Lead 6C)*

The Leads felt confident their clients would be inspired to help their peers by the potential mutual benefits they would receive, and clients' inspiration gave the Leads motivation to raise the topic of peers support:

> *The Leads could mention how helping others could help them (clients) with their changes … and how they could share these with others. (Lead 3DA)*

> *I think they will get a reward from working with people around their weight issues: once you get them in that door (to the weight management*

programme); they feel empowerment from being with other people, it is a knock-on effect, it gives them confidence to continue with their weight management. (Lead 8PN)

6.2.2 Encouraging reflection and sharing of weight management experiences

Leads believed they should encourage their clients to reflect on their own experiences of trying to lose weight: both the positive and negative experiences. They felt that clients' reflections on their own achievements would give them the confidence to help others. In addition, they considered that, by reflecting on their negative experiences, clients could be inspired to offer peer support:

> *The clients could be encouraged to reflect on their journey and changes made. I think their diary could come into that … : 'Think about before you came and started the programme, and compare that with what changes you have made now, and look at what the old you would have done once upon a time, and see what the new you does.' If they can actually visualise their own progress, it could give them confidence to help others. (Lead 2HCA)*

> *Just talk to them about giving support around the things that they have already done, and around the things they would have wanted help in. (Lead 4C)*

> *You could say at the end of the programme, when they've done well, something like: 'You have been successful, look at what you have done: please go out and talk to other people, and spread the word.' (Lead 6D)*

There was mention that once Leads had raised the topic of helping others and generated some reflections and discussions on how that could be offered, they felt that the next step would be finding out what support clients would find helpful to achieve this:

> *The intervention should be discussions centred about asking the clients their views on helping others, and whether they would need anything to do this. (Lead 3DA)*

This quote was not considered to be an offer from the Lead to provide specific training in this area, but more about encouraging their clients to be reflective on their own solutions and actions; however, the Leads' language implies that the client's 'need' can be fixed by the professional.

6.2.3 Guiding the clients on the approaches to support

The Leads believed it is important for their clients to say 'the right things in the right way' to ensure their support was acceptable:

> *We would talk about being non-judgmental … they should have picked that up as they have gone through (the programme). As you are delivering, you hear peoples phrasing change. Sometimes you do forget yourself, being caught up with things, you might say something you shouldn't have … but the clients are correcting you: Such as talking about good or bad foods or the rest of it. I think, if people come to you looking for advice on giving support … this is what we recommend, with this use of language or phrasing. (Lead 7DA)*

> *It's about equipping people so when they are asked, they know what to say and say the right thing using the right phrasing and language – 'what to say and how to say it'. (Lead 6D)*

The Leads' perceptions of the right phrasing and language may be acceptable from their health professional viewpoint, but may not necessarily fit their clients' culture. In addition, the language of 'right' from the Leads' point of view could imply a judgement that the clients' language could be wrong. Yet, in Section 5.2.5, the participants had spoken about their preferences for an acceptable approach to their peers and this was similar to the phrasing and language that the Leads recommended, based on the weight management programme philosophy. Leads and Participants alike believed that a direct approach was not conducive to peer support and suggested that clients create an opportunity for peers to talk.

In agreement with the unanimous indirect approach for support, Leads talked about letting their clients know that this approach affected the opportunity for accessing support as the message was often hidden. This echoed the Participant findings outlined in Section 5.2.5 that, although Participants were sometimes aware of hidden requests for support, they also missed some. Leads felt they would advise clients to be aware that others may seek support, but may not ask for it, and they should be ready to see or hear the cues for this:

> *Even if you mention it several times, let the clients know, let them just be aware of other friends and family that are out there, that may be looking for that support. (Lead 8PN)*

Looking for cues … that's what we should let them know (clients). They should look for cues that someone needs help. (Lead 5DA)

Continuing with further similar perceptions to the Participants, the Leads felt that there was an inference that needing help was not a comfortable position to be in:

It's a … permission thing … people don't like asking for help, so it could be talking about an invitation; a general invitation; just a few words; it's an opener … it's all you need … how that person can say, 'I am here to offer you support … here is an invitation if you want to take it.' (Lead 1HCA)

Participants felt that a preferred type of support was 'encouragement' and, similarly, these Leads felt that they could suggest encouragement as an approach to offer support:

Can we get them to say something short and sweet such as: 'But this is maybe how you could offer support,' to give that encouragement to their peers …' (Lead 6D)

Can you say to them: 'There is your opportunity to jump in and say I've been doing this and it's really good,' … that's a really non-judgmental way. 'Do you fancy? … I'll show you what I've done.' (Lead 7DA)

The Leads felt they could draw on their positive stories of what approaches other clients had successfully managed when offering peer support:

Leads could give examples of what others have done to help others and they could do this informally throughout the programme. (Lead 4C)

They could give examples of ways to give help, for example, face-to-face, by phone, texts, email etc. (Lead 8PN)

In Chapter 5, Participants discussed some examples of tailoring the type of support they offered and the manner in which it was given (Section 5.3.2). Likewise, Leads believed support would be more acceptable if clients could tailor the way they offered support according to the different people in their social network. An example was using a different approach for the different genders:

Leads should go into details on how they should make their support to others individual: for example, for males versus females, and their cues for asking for support and their preferred language … so that both feel

comfortable with the help … it's not natural for some to praise and say: 'Really well done.' It has to be more acceptable. (Lead 5DA)

There was acknowledgement from one Lead that there were difficulties in determining how to say the best thing to those who want support. As well as describing the benefits of offering support (Section 6.2.1) she felt the Leads could be honest with the clients about the difficulties around offering support to others:

It's quite a responsibility for the person trying to help without being patronising: there's a fine line there definitely with trying to get others to do what you are doing. (Lead 9T)

This Lead continued by saying that, if the client was not able to offer support, they could always signpost peers to other areas for support, such as a formal weight management programme:

That might be a way in to helping someone if they weren't prepared to take that (peer support) on or aren't confident to help others. (Lead 9T)

Finally, the Leads felt that theirs and the Participants' perceptions on the best approaches to support should be guided by something in writing. Within the programme sessions, the Leads felt that a leaflet would focus their discussions on the Participants' preferences and suggestions for support, and, in addition, could be used by their clients for future reference. There was concurrence amongst the group that the leaflet should be short and to the point so that it would not be an onerous task to read through:

You could always put down some guidelines. Make up a ready reckoner, a flyer of some sort to say: 'How you can help others'. (Lead 1HCA)

Maybe you could give them a list of things you could encourage somebody to do? (Lead 9T)

You could put that together in a wee handout you know … especially the phrasing. (Lead 5DA)

These three sections have outlined many of the Leads' beliefs in favour of promoting a peer support intervention: the next section provides detail on Leads' thoughts that may be barriers to the promotion of the intervention.

6.2.4 Acting as 'Gate Keepers'

The Leads indicated that they would want to act as 'gate keepers' regarding clients' access to the intervention. A 'gate keeping' affect could result in the reduced opportunity for clients to hear about peer support, and this is highlighted in Section 6.3.2 and 8.3.1. In this role, the Leads' beliefs and motivation to prompt the intervention to their clients are driven by Leads' perceptions on clients' abilities to support their peers, and there were two aspects to this.

The Leads described the first aspect as the signs they perceived indicated that clients would be ready to offer peer support:

> *He should complete his programme first before he comes back (for the intervention promotion) but ultimately I need to see if he not only has the ability to change, but he has the right attitude to doing so. (Lead 6D)*

This Lead was looking for a client, who could be relied upon, to help peers in a comparable fashion to which the clients had been supported at the weight management programme. This discussion was around ensuring that clients completed the programme so they would know what advice is conducive to behaviour change rather than giving incorrect advice based on fad diets. Without this evidence, the Lead did not want to promote peer support.

The Leads assessed the second aspect by the presence or absence of signs that their client is making positive weight management changes. Leads were less motivated to promote the topic of helping others when they perceived that a client in the group could not help themselves. This led to the Leads being in a quandary over whether they should mention peer support in private to those successful in changing and, therefore, suitable in the Leads' eyes for hearing about the intervention, or to proceed and deliver to the whole group at the same time, whether they had managed to make changes or not:

> *We can't rely on the presumption that they have all been successful in weight loss because we have had people go through the (weight management) programme unsuccessfully. (Lead 7DA)*

On reflection, this Lead felt they should offer the intervention regardless of a client's results: she had heard many examples of clients' families making some

good changes, regardless of the client's personal progress, a passive form of support (as discussed in Section 8.2.3).

6.2.5 Thematic summary: 'Motivation'

Leads perceived they could support their clients in delivering a peer-led intervention by:

- Having an informal discussion with clients on sharing their skills including those learned at their weight management programme
- Exploring how clients feel about supporting their peers
- Highlighting the benefits of peer support
- Encouraging clients' reflection on their own progress
- Discussing acceptable approaches to support, including 'tailoring'
- Emphasising the importance of clients' language and phrasing
- Using a leaflet to underpin their discussions, not as a stand-alone
- Acting as gate keepers to the introduction of peer support to ensure clients are ready to give support in a way that Leads feel is appropriate and in line with the philosophy of the weight management programme

6.3 Opportunity

This section presents the Leads perceptions of the opportunities to introduce the topic of peer support to their clients. The Leads talk about two types of opportunity: the first, 'physical', includes the barriers and facilitators to introducing the topic within the environment of the weight management programme. The Leads give their thoughts around the availability of time and appropriateness of when to deliver the intervention. Secondly, 'social', encompasses the influence of culture that affects the Leads' opportunities to raise the topic of a peer support intervention. The following section explores the first of these themes.

6.3.1 The introduction of a peer support intervention within weight management programme sessions

The physical opportunity to introduce peer support was viewed by some to be at the beginning of the weight management programme at the first session, and then throughout the length of the programme. For example, peer support could be

introduced by referring to the programme they had just commenced, and how those in their social network may be interested to hear what they are doing. Social support is already included in the first programme session and it was felt that this created an opportunity for the Leads to mention the topic of peer support under this umbrella. This would give clients a prospect of cascading to peers the information they are learning as they go through the programme before they start to offer support on changing their behaviours, however, the quote below highlights that, for some, it would only be a 'mention' and not a full discussion with clients:

> *I would even mention it at day one: 'This is for the future, something for you to think about … but how would you feel about doing this? But don't answer that now … give it some thought and maybe 6 months down the line when you're ready or comfortable, or not comfortable …' (Lead 8PN)*

Another Lead reflected that:

> *They might pass information on to someone because somebody will ask (about the weight management programme): 'What's it like, what do you do there?' (Lead 9T)*

These Leads considered that raising the topic early on in the programme would 'sow the seed' of peer support. On the other hand, other Leads felt that this was not the best opportunity. They felt that the success of the client to make changes would be unknown at the beginning of the weight management programme. Without this ability, the Leads perceived their client would not be a credible peer-support:

> *If you are going to recommend anything to anybody you have got to have experienced it yourself … like if you are only just into your (weight management) journey, you wouldn't know then if it was going to be successful or not. (Lead 7DA)*

> *At the first (weight management programme) session, you cannot introduce something like that when they themselves don't know what the programme is about and they don't have that confidence yet … They have to see their results first, for themselves, and to just think about it … before they could deliver that help to someone else. (Lead 1HCA)*

Another Lead felt that some clients seemed to grasp the concept of the programme message quicker than others. Clients demonstrated this by the

changes they had achieved and by the language they used. Different times and stages of understanding were perceived by the Leads to be a barrier to introducing the intervention to all their clients at the same time. They went on to discuss that tailoring the timing of the intervention introduction could only be done with a client on a 1:1 basis, and if that opportunity was not possible, the timing would fall at a time that would not suit all clients:

> *Then we have had people who have got it (the programme message) by week 2. It's difficult to quantify it for your study but you would hope that people are empowered enough to have had the gist by the end of the 3-month programme; but you might want to wait until the 6-month review before you ask them about supporting others. (Lead 6D)*

The remainder of opinions was similar, 6–12 months from the beginning of the programme:

> *I would say at the 6-month review so that the information is still fresh. (Lead 2HCA)*

> *Wait for it all to assimilate and then consolidate it by the time of the reviews (6–12 months). (Lead 4C)*

> *Any later (than the 12-month programme end) and they may forget a lot of the information, so I think it's at the reiterating stage in the review sessions. It's just keeping that message foremost in their mind. (Lead 9T)*

Further reasons that Leads gave to waiting until 6–12 months from the start of the programme were that clients would have learned and experienced behaviour change; they would have built up a rapport with the Leads so that informal discussions could take place and thus clients would have more motivation and confidence to maintain changes.

These varied comments on timing could potentially narrow the window of opportunity to prompt the intervention if Leads decided to wait until they were sure that clients were ready (see Section 6.2.4). Some Leads commented that this barrier could be removed or reduced by using public forums or social media to prompt clients to help others. This method, they felt, would allow full access to the concept of peer support without assessing the client for their readiness to be able to help. Still, these Leads' comments focused on using this media to 'support' the

intervention rather than a ‘stand-alone’ method of delivery. Social media was discussed as allowing clients to have time to reflect before agreeing to any aspects of peer support, and would help them to avoid any confrontation that could be associated with a face-to-face method.

> *It could allow participants to give and accept support or avoid it. (Lead 9T)*

> *If you want it to work … if you want a recurring theme throughout the weight management pathways and all of the communities you work in, you are going to need good communication about helping – not just the old-fashioned newsletters. (Lead 6D)*

A variation on introducing the intervention in a group setting was the method of ‘peer invite’. This would generate an opportunity to speak about the intervention to not only the clients but their peers too. This Lead commented that the clients could be encouraged to identify someone in their social network who they would like to support, and invite them to the group session when the intervention is delivered:

> *They could empower them (peers) to be as successful as they (clients) have by bringing them into the group and letting them hear about the messages for support. (Lead 1HCA)*

She considered it a favourable method of increasing the success of peer support because it made the concept familiar and comfortable to both the client and their peer. Yet, expecting the peer to attend a weight management session in a formal setting may itself be a barrier to the intervention: it may be something peers wanted to avoid, hence the reason they did not attend the weight management programme themselves. But having this individual, client-centred approach may be a preferred option for some clients and peers.

There were mentions of having a visual prompt to encourage clients to think about peer-led support. These were around displaying a leaflet (mentioned in Section 6.2.3) at the venue during the weight management sessions for clients to pick up if they were interested. This opportunity for the client to receive the intervention would be without input from the Leads and more about the clients being intrinsically motivated to read about the idea:

Face-to-face talking will do more than just say a leaflet but I couldn't see it doing any harm having that around and it could pick up the odd person here and there. (Lead 7DA)

6.3.2 Looking for cues that the time is right to offer support

The second theme that Leads perceived to regulate the opportunity to introduce the intervention was described as being less of a physical opportunity and more of a social one. This theme continues on from Section 6.2.4 on the Leads' role as gate keepers and explores the cues that indicate to the Leads when clients are ready to hear about peer support. These cues either reduce or promote the opportunity to introduce the intervention.

The Leads commented on wanting to see a cue that their client valued the weight management programme content and its philosophy. Valuing the programme, the Leads believed, would encourage clients to cascade their knowledge and skills learned to their peers. Leads felt that clients would have to show they considered the weight management programme to be a credible model compared to other diets.

Even if they are still not confident in the group setting, I still see them valuing the programme and its learning and they have confidence that this is something to tell others about. (Lead 3DA)

Understanding the concept of how to change their behaviour and lose weight for good as opposed to short term measures and 'quick fixes' was considered a means to give clients the confidence to pass on the programme messages:

When they're familiar with the language and the goal setting; and the things that we're asking them to do (intervention) in a way they're comfortable with, they are ready to share that information. (Lead 1HCA)

Once they've reached that point when they are confident with the programme, they will say things like: 'I was talking to my husband about this the other week and between us we've decided we're going to do this together'. But up until that point, I don't think very many people have the confidence to be able to share what they're learning with others in a meaningful way; it's still too new for them. (Lead 4C)

In addition to finding the message of the weight management programme credible, the Leads perceived that clients would want to feel credible themselves if they were going to offer peer support. Leads felt that this would occur when clients achieved change, and when they received praise and encouragement from others over the changes they have made:

> *When the person is acceptant that they have made changes, and they feel confident about their changes, and they are aware of what they are doing is beneficial to them, they feel genuine. I've had a gentleman who had progressed very well with his programme. And one of his daughters has got on board because she has seen the achievements he has made, and saw how positive he was with the changes he was making and he was quite supportive with her. (Lead 1HCA)*

> *When people start to notice and people say to them: 'Hey you look well, you look good, have you been doing something different?' And then they engage in conversation. We are our own worst enemies and the last people to praise ourselves but if it was noticed … that would help them to help people. (Lead 2HCA)*

Finding the weight management programme and their own progress credible was considered by the Leads to be a big factor in whether their clients would want to help anyone else. The Leads felt they should be mindful of this important stage and that clients reached it at different times: seeing these signs would dictate to them the opportunity to deliver the intervention.

Leads talked about the potential ease of introducing peer support: some clients had started to think about the concept naturally without any prompts. This elicited some favour by Leads to prompt the intervention when the client showed these signs rather than waiting for a specific time within the weight management programme. It suggests that a spontaneous and informal introduction to peer-led support would be beneficial, as opposed to setting a fixed time to introduce the topic. Examples that demonstrate an informal approach are presented from two Leads talking about clients at their groups, who had succeeded in making some changes:

> *But the group are coming to him: 'what have you done? How have you lost this weight?' Basically he is waiting for them to come to him because they have seen how successful he is. (Lead 6D)*

I happened to mention to one of the girls who comes: 'You're looking really well,' and she just stood in front of us and said: 'I've lost a stone and I'm feeling great.' And went on to tell everyone else what she had done. She's feeling really confident with herself, no doubt about it, and she was ready to share that information. (Lead 9T)

The topic of spontaneous discussion continued with further emphasis that the intervention should be a natural, informal way of getting their clients to think about offering support to others. Commenting that some groups were naturally supportive, the Leads were able to offer their support with only minimal direction. One Lead described how their group moved towards support:

It might just happen naturally … it was as much the guys chatting amongst themselves in their group session, about what they had done and achieved and I didn't do much but they were there as a group and talked about giving each other support. (Lead 5DA)

There were some concerns that a formal education session on peer support may be too much for clients to learn in addition to the rest of the weight management programme content. If 'helping others' was a 'mandatory session'; it may be perceived as taking the focus away from clients trying to help themselves to one focused on helping others:

I think making the intervention too formal might mess with things to a point that people might be too reluctant to either offer help or seek help, whereas if it is a general observation … you know? (Lead 6C)

There were comments of waiting for informal talk on peer support to begin naturally within the group, and letting the clients be the gate keepers on whether they want the intervention to be discussed:

Do they want the Lead to go ahead with it, with no pressure? (Lead 4C)

I would ask them: 'Would you like to know more about it?' … they must be motivated and interested themselves if they ask but if they say, 'Oh it's ok, I'm fine,' … you know they aren't interested and they could just leave it. (Lead 7DA)

6.3.3 Thematic summary: 'Opportunities'

The Leads agreed that there are opportunities to introduce an intervention within the weight management programme but, equally, there were barriers too. Their suggestions on introducing peer support were:

- Introducing briefly, the topic of peer support at the first session and maintain the topic throughout the length of the weight management programme
- Introducing the topic when the clients have completed the core programme and are attending review sessions
- Assessing their clients' readiness to give peer support in an appropriate way
- Introducing the topic when the clients show they value the programme message, are feeling credible as role models, and have confidence in their abilities to make changes
- Allowing clients to raise the topic themselves
- Encouraging the clients to lead an informal discussion
- Encouraging the clients to invite a peer to attend an intervention session with them
- Using Social media or public forums to enhance the accessibility of peer support
- Encouraging the clients to pick up written information to prompt them on peer-led support

6.4 Capability

Having given indication of their motivation to introduce a peer-led intervention, and the opportunities that might enable this, the Leads talked about the skills and knowledge they perceived would be necessary to do so, and these included their training requirements. The next section looks at this theme in more detail.

6.4.1 Training on introducing the topic of support to peers

The Leads felt that written information in the form of a leaflet (discussed in Section 6.2.3) would be useful as a reference to guide both Leads and clients on

acceptable peer support. Using this leaflet in conjunction with some structured teaching notes and lesson plans on how to introduce peer support, was perceived by the Leads to be necessary. Their comments were unanimous in that training and written resources for delivering the intervention should be added to the Leads' formal training for delivering the weight management programme or be included in the updates for those already trained:

> *When the Leads are being trained (for the Weight Management programme), this could be discussed and say to them: 'Some people, if they're motivated, could be prompted to help others and this is what they could do.' (Lead 4C)*

> *Obviously it could be included in the training programme from now on. (Lead 6D)*

Leads mentioned in previous sections that they would only promote the intervention if clients showed signs of motivation to make changes (Section 6.2.4). The Leads perceived they would be able to measure this readiness, and did not express doubt in their capability to do so. They described clients as being ready or not ready for the intervention: they did not talk about trying to move clients forward in their motivation to make changes either to their lifestyle or to support others.

6.4.2 Thematic summary: 'Capabilities'

The Leads felt that they would need support to enable them to be capable of introducing the concept of peer support. Although they did not feel presently competent, they felt they could achieve these capabilities through:

- Receiving training to explore ways to raise the topic of peer support with clients
- Using structured lesson plans and teaching notes
- Referring to a leaflet based on participants' perceptions of useful support

6.5 Summary of Chapter 6

In this chapter, I interpreted the Leads' perceptions on introducing the concept of peer support within their role as weight management Leads. Focused by the

interview topic guide and COM-B as the theoretical framework underpinning this behaviour change intervention (Michie et al. 2014), the Leads talked about the facilitators as well as barriers to promoting and delivering the intervention to clients, and these are summarised under three main headings.

Leads as Gate Keepers to the intervention introduction

Many Leads felt there would be no opportunity to introduce peer support if they perceived that their clients were not ready to hear about it. Without this readiness, the Leads believed theirs, and clients' time, would be wasted. With these perceptions, the Leads believed they should be the Gate Keepers to the intervention introduction using their judgements. They would base their decisions on seeing whether their clients could make changes in a way the Leads perceived would fit with the philosophy of the weight management programme.

Training and planning required to promote the intervention

Leads believe a feasible introduction would be one that is an informal discussion with their clients prompting the topic of peer support. The discussions would be based on what Participants perceive to be acceptable support, and Leads would encourage their clients to reflect on their experiences, knowledge and preferences for support. They believed their clients would need some written information to help them support peers and the Leads proposed a guide in the form of a leaflet based on Participants' preferences. Considered by Leads to be a useful reference for clients and themselves, it would reinforce the acceptable messages on peer support and the manner in which it is was deemed to be acceptable. This would include giving advice for clients to listen for cues that peers give when they are ready for support. Resources suggested by Leads to increase their own capabilities were teaching notes and resources, such as session plans and training on using these, could be incorporated into existing competency updates.

Some Leads felt that the opportunity to introduce an intervention could be planned for the start of the weight management programme by incorporating it under the umbrella of social support. These Leads thought they could give clients more detail on peer support as they progressed through the programme and as further opportunities presented themselves. The Leads' motivation to introduce the

intervention was their belief that clients echoed the Leads' thoughts on the philosophy and value of the weight management programme. Because of these similarities, the Leads felt it would be possible to introduce the concept of peer support within the existing weight management sessions.

Skills and abilities required to promote the intervention

The Leads felt that training incorporated into their existing competency updates would increase their skills needed to promote the introduction.

This chapter has concluded with a summary of Leads' perspectives on an intervention that promotes informal peer-led support. Together, with the Participants' preferences that make peer support acceptable, these will contribute to the development of the intervention outlined in Chapter 7 (Figure 6.1)

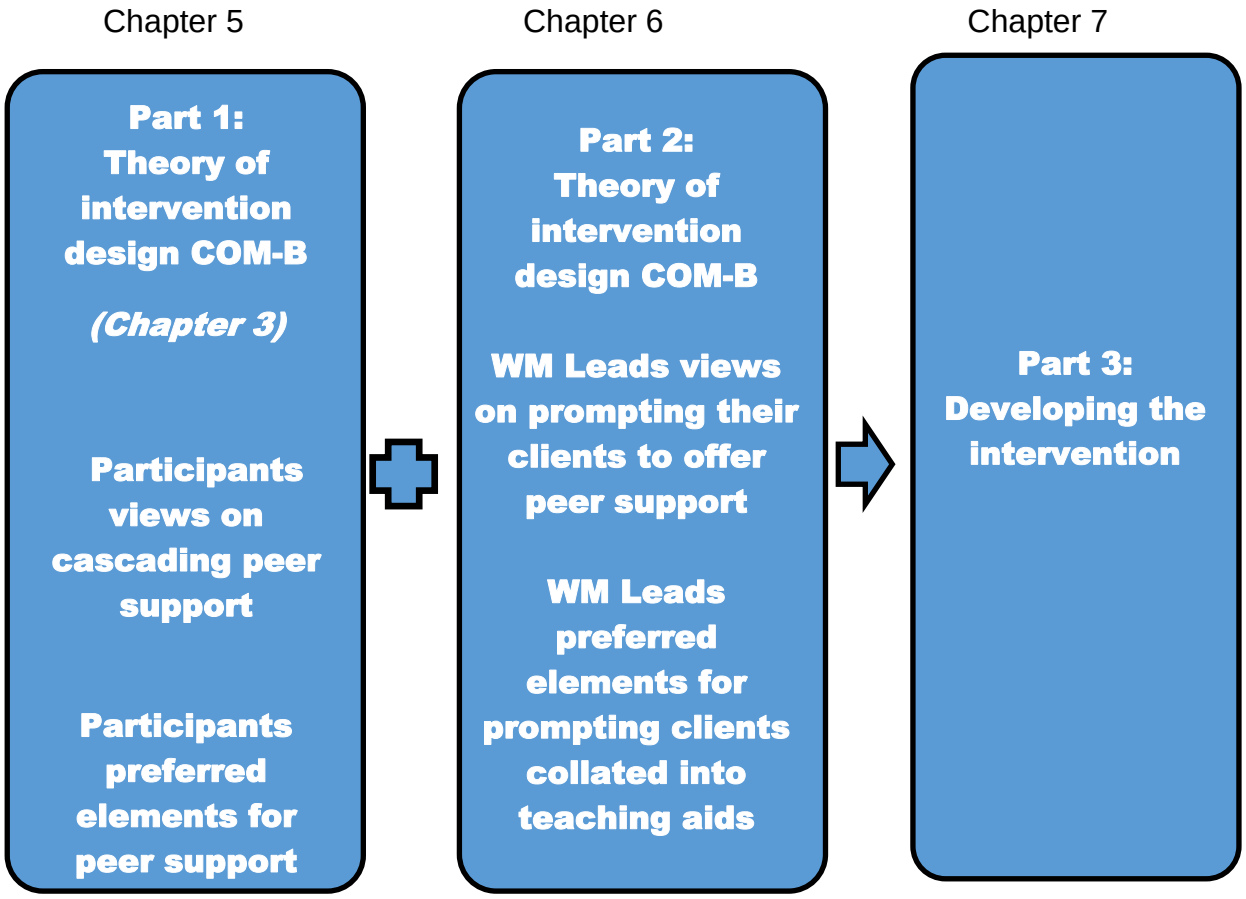


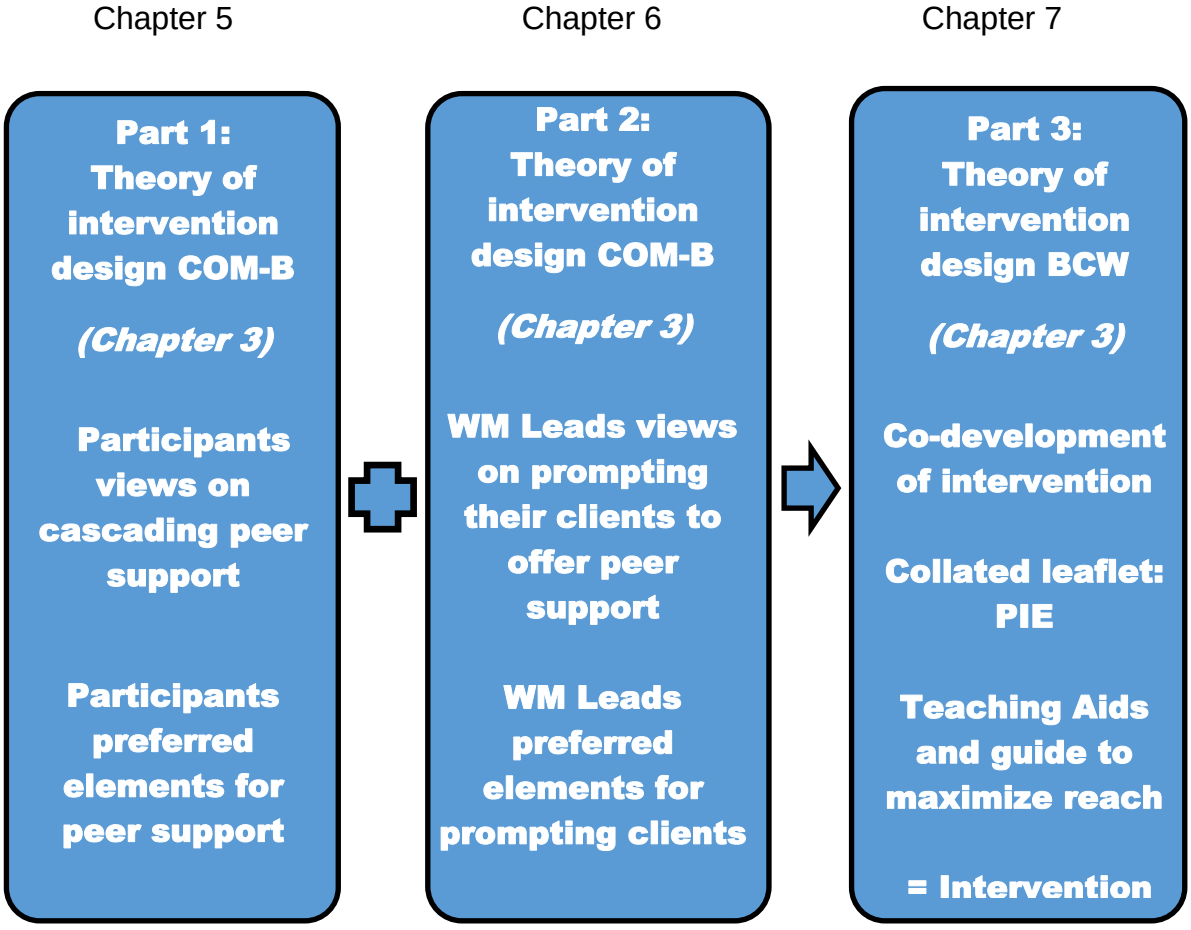
Figure 6.1: Intervention build – Part 2, Elements of an acceptable and feasible intervention from the Participants' and weight management (WM) Leads' perspectives

Chapter 7: Intervention development

7.1 Introduction

In Chapter 3, I presented the approaches that would guide the development of the intervention, including the theory, methods, and perceptions of the stakeholders. In this chapter I present the final part of the development process integrating the content and delivery function illustrated by Model 7.1.

Model 7.1: The Intervention build – Part 3. Elements of an acceptable intervention collated from Participant - Lead interaction



The findings from the cognitive interviews (methods in Chapter 4) with Participants at 12 months (time point 3) informed the development of client materials for the intervention. I conclude this chapter with a specification of these materials, and guidance around training gleaned from the Leads Focus Group data necessary to deliver the intervention to weight management clients. This is presented as an intervention manual (Table 7.5) to aid future replication and mode of delivery.

7.2 Putting views into actions: the intervention content

The proposed intervention of this thesis is to prompt the interactions between peers that promote positive behaviour change. Having identified from the Participants and Leads perspectives what needs to happen for this change to be acceptable and feasible (stage 4 BCW), this section now looks at the 'intervention functions' that could promote peer support and its delivery by using stage 5 of the BCW (Michie et al. 2014). Four of the intervention functions have been identified to help Leads prompt the concept of peer support and five have been identified to help clients offer the peer support intervention itself. These functions are broken down into achievable and specific parts (stage 7 BCW) by examples of behaviour change techniques (BCTs) (Michie et al. 2013). The stages in this process are presented in table 7.1, and the practical BCTs are described in Sections 7.2.1 and 7.2.3. The build of the resources identified in these subsections are described in Sections 7.2.3 and 7.2.4.

Table 7.1: The Intervention design based on Michie et al. (2014) incorporating the Leads and Participants perspectives

Stage 1. Reducing obesity. Who is involved?	**Stage 2 and 3. What behaviour are you trying to change?**	**Stage 4. From their perspective, what acceptable interactions and feasible approaches create the behaviour changes to prompt or to offer the intervention?**	**Stage 5. What Intervention functions can facilitate these behaviour changes?** *Stage 7. What are the specified Behaviour Change Techniques (BCTs) as listed in Michie et al. 2013?*	**Stage 6. When and where?**
Leads of weight management (WM) programmes	To prompt their clients to offer (WM) support to their peers	**Capability:** • Training on introducing the topic of support to peers **Opportunity**: • During WM programme sessions • Looking for cues that the time is right to introduce the topic of peer support **Motivation**: • Prompting a discussion within the group • Encouraging reflection and sharing of WM experiences • Guiding the clients around ways to give support • Acting as 'Gate Keepers' to the intervention introduction	**Training and Educating Leads with:** *Graded tasks* *Instruction on how to perform a behaviour* *Demonstration of behaviour (role playing)* *Information about health consequences* *Information about social and environmental consequences* **Enabling Leads by:** *Problem solving* *Action planning* *Social support* *Review behaviour goals* **Persuading Leads with:** *Information about social and environmental consequences*	First core session at WM programme and throughout the programme Or First review session Or when the client appears ready to offer support to their peer

Clients of weight management (WM) programmes	To cascade their knowledge and experience of making positive lifestyle changes to their peers	**Capability:** • Indirectly offering support by raising the topic • Offering support that they and their peers value including: praise, inclusion and demonstration, and encouragement • Being able to listen and hear that peers want support • Being able to allow peers to explore their options and tailoring any advice **Opportunity:** • Seeing and listening for cues that peers would accept support **Motivation:** • Seeing their peers achieve the same health benefits when they too make changes • Seeing peers ready to make changes • Achieving their own lifestyle changes gives them confidence to help their peers • Receiving benefits to themselves when supporting peers • Remembering their own struggle to make changes • Feeling ready to help their peers	**Educating Clients with:** *Information about health consequences* *Information about social and environmental consequences* **Encouraging Clients on Modelling:** *Demonstration of the behaviour* *Social comparison* **Enabling Clients by:** *Problem solving* *Action planning* *Social support* **Persuading Clients with:** *Information about health consequences* *Information about social and environmental consequences* *Focus on past success* *Credible source* *Feedback on outcome(s) of the behaviour* *Identification of self as role model* **Incentivisation:** *Social reward* *Self-reward*	Within their social environment when the client's peer shows signs of making changes

7.2.1 Stage 5, Stage 7: Training, Education, Enablement and Persuasion: the Intervention Functions that support Lead behaviour change and the Behaviour Change Techniques (BCT) that enable the changes

In Chapter 6, the Leads suggested training aids to give them guidance on raising the topic of peer support. They described these as 'structured teaching notes' (Appendix 7.2) that could be added to those already used in training Leads to deliver the weight management programmes. Built on graded tasks, the 'teaching notes' would provide information and instruction on introducing the intervention. The 'session planner' (Appendix 7.3) would highlight when the topic should be introduced and list the task and discussion points to be covered, including the resources that support this topic area.

The weight management programme dietitian who trains the Leads already demonstrates training aids such as role play and educates the Leads on the importance of health consequences. In addition to what is already delivered, this dietitian could inform the Leads on the importance of peer support and of the preferences indicated by the Participants that make it acceptable. Discussing methods of introducing peer support and the problems and actions that other Leads have experienced could increase their confidence to raise the topic. In addition, feeling positive about the social consequences of peer support could drive the Leads' motivation to introduce the intervention.

7.2.2 Production of the Teaching aids

The drafted teaching notes and session plans incorporate the findings from the Leads' data in Chapter 6 and the Participants' preferences for peer support discussed in Chapter 5. They are based on the present weight management programme teaching notes and session plans, and are written in the same style and format. Both were reviewed by the weight management programme dietitian for the Health and Social Care Partnership (HSCP), and an external dietitian who works in weight management from another HSCP. Both sit on the Study Steering Group and give support with their specialist skills.

The weight management programme dietitian agreed that the teaching aids were appropriate for training or updating the Leads. In addition, the concept of peer

support was considered feasible at the beginning, during the core programme, and at review sessions because the topic of social support, including its value, is already part of the programme content. Under this umbrella, the dietitian believed that the Leads could emphasise the value of peer support and its benefits, not only when introducing lifestyle changes, but also at review sessions when encouraging maintenance of these changes.

Similarly, the external dietitian on the Steering Group made suggestions for changing the teaching notes to focus on both weight loss and weight maintenance. In addition, feeling that the Lead should not be identified as the clients' only role model for talking and listening skills, the clients should also think about someone they know who listens well to them, and who gives them support in the way they prefer, as supported by the findings in Chapter 5.

7.2.3 Stage 5 and Stage 7: Education, Modelling, Enablement, Persuasion and Incentivisation: the Intervention Functions that support clients' behaviour change and the Behaviour Change Techniques (BCT) that enable these

The weight management programme already gives information about the beneficial health consequences of making changes, and including further information on sharing these consequences with their peers may increase their motivation to offer support. In Chapter 5, the Participants talked about the ways in which they could help their peers and their methods of doing so: some of their comments originated from past experiences of losing weight, and others were based on new experiences from the programme they were attending. If Participants perceive the messages of the programme as being credible, they may feel persuaded to cascade these messages to their peers. In addition, receiving positive feedback on their own changes may provide motivation to offer peer support, and this can be both socially rewarding and self-rewarding if offering support has a positive influence on their own weight management. Demonstrating positive changes may also help clients to feel credible as a role model, especially if they see their peers not managing their weight management.

Incorporating the identified BCTs with the study Participants' preferences for acceptable peer support, as listed in stage 7 (Table 7.1) would enable Leads to deliver these preferences to clients of the weight management programmes in a

practical and replicable way. Leads suggested these preferences could be compiled into a leaflet for reference for both clients and the Leads. The next subsection of this chapter discusses the development of this guidance leaflet.

7.2.4 Production of the Guidance leaflet – 'It's as easy as PIE'

The Participants' perceptions of the key components for peer support with the identified BCTs to enable these preferences were drafted into a leaflet (Appendix 7.1a, b, c) and the format was based on the Leads' suggestions (Table 7.2) including the size, content and writing style.

Table 7.2: A summary of Leads' suggestions on the guidance leaflet (PIE)

Leads' suggestions	Leaflet wording/appearance
'Some guidelines in the form of a ready reckoner or flyer on 'How to help others'"	'Helping others to make lifestyle changes: It can be "As easy as PIE"'
'A simple flyer on an A4 paper in a simple form'	'1 sheet of A4 paper folded in half with text boxes of participants' experiences and plain writing to encourage reading'
'The leaflet could guide the language the client uses to offer the support as expressed by the participants'	'We know that people don't like to be told what to do'
'The leaflet could remind the client of the ways to offer support as expressed by the participants'	'Offering support to lose weight is a sensitive area, even to those we know well' 'Some find it difficult to ask directly for fear of rejection or even embarrassing you. Instead, they may hint at wanting support. To pick this up, you would have to listen well and be alert to what people are saying. Once you get the impression that someone wants to change, this is the time you could make an offer of help.'

'The leaflet could list examples of ways their client can encourage their peers to make changes as expressed' by the participants	'**P**raise is something we like to receive and we find it rewarding when someone tells us how well we have done **I**ncluding someone in your new, healthy ways and demonstrating your changes can encourage them to make changes too **E**ncouraging others to keep going with their changes or to try new ones gives them support'

Known as 'PIE', an acronym for 'Praise, Inclusion & demonstration, and Encouragement' the leaflet was reviewed by members of the Steering Group (programme dietitian, external dietitian, and health psychologist). They were asked for their expert reviews on the clarity and suitability of the written word: the details of these reviews are outlined in table 7.3.

Table 7.3: A summary of comments from the Steering Group on the guidance leaflet (sweet PIE)

Steering Group Member	Comment
Programme dietitian	*"I would make the language plainer and less wordy"*
External dietitian	*"Not sure what the best image is for PIE but feel that as the only image it's a shame that it depicts a highish calorie pudding"*
Health psychologist	*"Overall I think it's got a lot of relevant and interesting and helpful content. I think I would focus on making the main messages of your sections clearer and reduce the word count a little – it's a lot to read for a leaflet … For a leaflet I find the language a little too tentative in places. I think it would be a fair assumption to make that they* (clients) *have made changes to their eating and Physical Activity. You could be a bit more direct. I like the strapline because:* - *It's easy to remember – who would forget a PIE?* - *It's playful, it's related to weight management* *But losing weight isn't easy, people won't remember what PIE stands for"*

To summarise, the external dietitian commented that the 'PIE' picture was perhaps not the best choice to illustrate the leaflet; all three group members gave advice on the language to make it: plainer, more direct, less tentative and less wordy. These comments were used to edit the leaflet and the picture was changed to a savoury pie; the content of the leaflet was not changed, as this reflected the views of the Participants. The literature (Willis and Artino 2013) has identified that clients and patients have different views to professionals on the information they find important and, as this leaflet is primarily for the clients, their views are the most important. The final draft of the leaflet was shown to a sample of six Participants at time-point 3 (Table 5.1 presents their characteristics). Their feedback, by means of cognitive interviewing using 'Think Aloud' and 'concurrent probing' (as opposed to retrospective) (see Section 4.7.5 for this method) is presented in Table 7.4 and Section 7.2.5.

Table 7.4: Cognitive interviewing of Participants around the PIE leaflet

	The six Participants' comments grouped by question
1. What are you thinking about when you see the format – the layout, the design of the leaflet?	The speech bubbles – they could be clearer colours. I can't make out the words too well. *I like the picture – it's eye-catching*. PIE! I don't like that – it's an unhealthy choice, I'm trying to avoid this. Why not use a PIE chart using the food groups or the three parts that make up PIE – praise, inclusion and encouragement? *I like the font, it's easy to read.* I like the mention of 'easy' at the beginning – it encourages reading. *Print size is fine – I can read it without my reading glasses.* It's eye catching with bright colours. *I like the PIE acronym and I would put it on the front.* I suggest that PIE should be added to the front rather than readers wait to see the back. *Looks fine; doesn't repeat itself; just takes up a couple of minutes to read.* It's bright – the right length.

2. What are you thinking about the wording?	I like the wording in the sections on 'how able are you to help?' and 'how can you offer help?' – It makes me see that I could apply it to my neighbour. *It's a bit wordy – you could use more text boxes and thought bubbles and fewer words. You need to get to the point. Make it snappy.* *Also, it is more layman's terms then and less health professional.* In the paragraph, 'How able are you to help?' – I prefer the word 'options' and not 'problems'. I prefer to see resolutions than the barriers. *It makes light reading.* It doesn't talk down to the reader. *It's factual, not condescending, fits in with my experiences of being in a place of learning and trying to do something but not able to make changes.* Never heard of the word 'cues', only in snooker – should it be 'clues', or change the word to signals?
3. How easy is this to follow?	It's quite clear. It's reassuring to know you haven't got to do anything difficult. *I would put better examples in some of the text boxes to make it sound more positive such as 'you're looking really well – how did you do it?'* The paragraphs are in a good order to follow. *Very easy.*

	It is easy to follow and read. *It's good, topics in the right order with the information of PIE at the end. Although maybe could put the 'effect of progress' at the end after 'how able are you to help?'* It's straightforward.
4. What, to you, are "lifestyle changes"?	It's about changing everything you do and try and do it differently like more exercise, healthy eating, walking more. *It's looking at what you are doing at the moment and doing anything you can to make it healthier such as stopping smoking, better sleep patterns, eating a healthier diet. Changing anything negative that affects your health and making it positive.* It's about looking at changing my routine and increasing my exercise. *Being more active, not sitting on their backside. Going out walking and using small steps to achieve and build on this.* It's about looking at their eating habits, the quantity and kinds, and the drinking – about alcohol, about moderation for health. About finding food you like that's not junk. It's about when you are eating out, to be aware, to be knowledgeable about what you are eating. *It's about changing things in your life so that you don't keep on doing the same thing otherwise you won't lose weight.*
5. What do you think you are being asked to think about?	It's about helping folk to lose weight and make changes *Recognising when other people are asking for help and you should try to identify that. We are a conduit for signposting people that want to change to something that helps them to change.*

	Asks you to be open with others and finding out if they are worried about their weight: asks us to share what we have done. *Asks you to be aware of people around you that you could or we could help.* How to approach other people who need to lose weight. We don't know how to go about helping people on their journey without saying 'you must'; it's about helping without being dictatorial; it's about being encouraging. *Asks you to help others.*
6. Overall, what do you like about this leaflet?	I like the way it's presented and how easy it is to follow; how it explains everything. *I like the message.* It's the right length, and includes all the information you need to help others. *It's clear what it is asking.* I like the mention of PIE; the yellow of the text boxes; it's the right length, I like the quotations, I like a bright picture on the front. *It's concise.*

7. And what are you not keen about?	Just the colours in the bubbles. *Too much negative text boxes – need more text boxes/bullet points, and make some positive. 'You're looking good, how did you do it?'* The first text box – maybe re-word it so that it is easier to understand i.e. – knowing not to say anything when you see your 'down' partner reaching for the cake, knowing not to say is that the best option? Or something. *Not sure about the yellow bits – the shape, not the content – maybe try round bubbles for these?* The PIE picture – I would like to have seen a desert pie as I am attracted more by a sweet pie such as apple pie with thin pastry. *The mention of PIE on the first page – either put the last page in first or put what PIE stands for first.*

7.2.5 Summary of the findings from time-point 3 (Table 7.4)

The main comments about the guidance leaflet are summarised detailing the changes made in line with suggestions from a range of study participants. The final three versions of the leaflet portraying a chart, savoury or sweet pie can be seen in Appendix 7.1a,b,c (participant codes are listed in Appendix 5.1).

The Participants reported positively on the format of the leaflet, apart from one comment around the inappropriateness of the 'PIE' picture: this Participant felt it was promoting something he was trying to avoid, and he suggested an innovative idea using a pie chart instead of the pie itself (3.21M). Another Participant had given preference for a sweet pie as she felt that this would attract her to the leaflet more than a savoury pie picture (3.13W). These comments are similar to the comments made by the Steering Group, who could not decide what type of PIE would be more appropriate to clients. A solution would be to have the resource made available electronically and the Leads could tailor the various versions to their clients. An attractive picture would potentially draw the clients to reading the leaflet. There was a consensus that the language was non-judgemental; however, comments from one Participant about the wordiness influenced me to reduce the words with more of an emphasis on plain English. Overall, Participants agreed that the leaflet was the right length.

The Participants felt that the leaflet message was clear enough to follow, and suggestions regarding a change of the text boxes to more positive examples were heeded and changed. For example, rather than reading a text that talks about what not to do, they preferred hearing about a good experience of what they could do.

The Participants had an astute perception on what a 'lifestyle change' is. They were able to explain it well in relation to what it meant to them. These Participants had just completed the 12-month weight management programme that included the term 'healthy lifestyle' and were more likely to understand the meaning. For the intervention, this leaflet may only be comprehensible if it is discussed with clients attending the programme. The Participants were able to tell me that the

leaflet was about being open with peers, recognising the cues they wanted help with and being able to offer help in a way that was acceptable to both of them.

Overall, the Participants liked the format of the leaflet, felt the message was clear, and having attended the weight management programme, they could understand the concept of how to maintain a healthy lifestyle. They preferred hearing about positive experiences and having a picture that encouraged them to eat well; the leaflet was changed accordingly.

7.3 The intervention manual

The first six stages of the intervention design (Table 7.1) have been built on the comments of the Participants, Leads and Steering Group and guided by behaviour change strategies. This has resulted in activities set in the context and culture of the environment in which they are introduced and delivered. Michie et al. (2014) suggest in stage 7 and 8 of an intervention design that there should be specific details to aid any future replication and evaluation purposes, regardless of who delivered it and when. This would include the content of the intervention and the mode of delivery. Fraser and Galinsky (2010) suggest that these details should be described in a manual or protocol. These details should give not only an overview of the intervention but should have clear explanations for the session goals. This written process would allow intervention fidelity, which is 'the degree to which the planned components of an intervention have been delivered as intended' (NICE PH49 2014, p. 49). For this intervention, a manual has been collated, lists the specifications of the activities involved, and the exchange required between the Leads and the programme clients. In addition, the manual includes the education and skills necessary to deliver the intervention (Hoddinott 2015). The manual content and flow can be used for future research, especially around feasibility testing, by using listed activities such as context and time for planning. In addition, the manual allows the tested intervention to be compared to the intended philosophy of the designed intervention (Fraser and Galinsky 2010).

Duncan et al. (2004), in their review of the literature for manuals guiding cognitive behavioural therapy interventions, concluded that examples of sessions with practical advice were very useful. Furthermore, a flexible approach was valued

rather than a regimented one. The session planners and teaching notes (Appendices 7.2 and 7.3) have included some detailed areas for group discussion on peer support, but these examples could include future stakeholders' experiences. This intervention manual is informed by stakeholders' perceptions and guided by theory and therefore it is more likely to progress with new theory and due to stakeholder involvement. NICE PH49 (2014) advise that the manual is reviewed with updates, especially if access can be made via the internet.

The template chosen for this study's manual is based on the TIDieR (Template for Intervention Description and Replication) checklist and guide. This template has been developed from existing checklists and reviewed by an expert panel (Hoffman et al. 2014). In addition, I have included the 'Form of delivery' (FoD) (Dombrowski et al. 2016) to add extra information to the way in which the intervention should be delivered. Dombrowski et al. (2016) advise describing not only the delivery format, such as real or virtual, group or one-to-one, but all possible variations used, such as tailoring, setting, and style, and these may vary according to the BCTs used. The TIDieR checklist, with the inclusion of the FoD, will be my guide of choice to safeguard the authenticity and philosophy of any future replication of the intervention. In brief, the manual is a checklist to guide the delivery of the intervention according to: its budget, its setting; its context; its effect – both for clients and by the cost of implementation; that it is judged to be acceptable by the people it will be aimed at and those who will deliver it; and that it is found to do no-one any harm.

7.4 Summary of Chapter 7

This chapter has outlined the final stages of the intervention design and development resulting in an intervention manual. The contents of the intervention are based on Participants' and Leads' views on the acceptability and feasibility of informal peer-led weight management support. Chapter 8 will discuss the development of this intervention within the context of the overall findings of this thesis, situating it within the literature and current evidence around peer support.

Table 7.5: Manual describing the details and the location of the information contained in the intervention

TIDieR Template for Intervention Description and Replication

The TIDieR (Template for Intervention Description and Replication) Checklist* plus FoD:

Item number	Item	Where located **	
		Primary paper (page or appendix number)	Other †
	BRIEF NAME		
1.	**PALS cascading weight management support to peers** (Peer Assisted Learning and Support - cascading weight management support to peers)		
	WHY?		
2.	**The theory:** The National Institute for Health and Care Excellence (NICE) recommend research into "additional support services, such as self-help groups and networks" to improve "adherence, effectiveness and cost" of Weight Management (WM) interventions (NICE 2014:31). Research has already identified successful interventions within networks and natural environments as opposed to the artificial environment of a Health Professional (HP) led programme (Verheijden et al. 2005). Aoun et al. (2012) suggest dietary behaviour change may be more achievable if support came from empathic peers within their existing networks; Wing et al. (1999) show peer support increasing adherence to both changed		

	dietary behaviour and attendance to a HP led, WM programme. However, in contradiction to this research, there are studies highlighting some peers, especially family members, as unhelpful support by study participants in their efforts to lose weight (Marcoux et al. 1990, Thomas et al. 2009). Understanding the features of successful peer support in WM could equip peers with the skills to lead effective interventions themselves: negating the need for as many HP-led programs, creating a cost saving, freeing specialist HP time to attend to other health related areas, adding to the option of WM interventions. This intervention is informed by the views of participants and Leads of a WM programme and is based on the valuable elements of peer-led support. The theory behind this intervention is that clients from a WM programme could cascade their new skills and experiences to their social network. This could result in a mutual beneficial effect of weight loss and weight maintenance to them and a reduction in the burden to the NHS and the economy. This intervention relies on clients changing their behaviours to offer support to others in their social network. To increase the probability of this occurring, the intervention production is guided by the Behaviour Change Wheel (Michie et al. (2014). This model is collated from 19 frameworks of behaviour as identified through a systematic literature review of frameworks of behaviour change interventions (Michie, Stralen and West 2011). In addition, there are several behavioural approaches that may explain the support action: Social Cognitive theory (Bandura 1986), Social Comparison theory (Festinger 1955), Reinvention and a shift in identity towards a new healthier individual' theory (Ogden et al. 2008) and Health Behaviour Internalisation Model (Bellg 2003). The intervention design is pragmatic so that it integrates into an existing NHS WM programme presently delivered by 6 sessions over 12 weeks. After the core programme, there are review sessions held monthly to allow further support to the client and this comes to an end at 12 months. The programme is taught through motivational interviewing, encouraging skills to change client's lifestyle behaviours to those conducive of weight loss.		

	This intervention comprises two parts: initially, to change Leads behaviour so that they introduce peer-led support to their clients in addition to delivering the WM programme. Secondly to prompt clients to support their peers in WM in addition to supporting clients to make WM changes.		
3.	**WHAT is the intervention?** **The first part of the intervention is composed of:** • Leads raising the topic of peer-led support to their clients • Leads raise this topic through group discussion • The topic is raised at the 1st WM session and maintained throughout the programme. Specific detail is given at the 1st review session. 'Raising the topic' is about the potential benefits of peer support to the client and their peers • Tailoring is used to raise the topic whenever the opportunity presents according to the Leads perceptions of the clients readiness to hear about it • Leads ask their clients about their experiences and preferences of WM support • Leads ask their clients their preferred methods of offering support and the types of support that others will accept and value. • Leads continue to suggest the potential benefits from offering support both to the clients themselves and to those they are supporting. Leads are supported to prompt the topic of peer support with these functions: • Training and Education • Enablement • Persuasion The Behaviour Change Techniques (BCTs) used to effect these intervention functions with the Leads are:		

	• *Graded tasks* • *Instruction on how to perform a behaviour* • *Demonstration of behaviour (role playing)* • *Information about health consequences* • *Information about social and environmental consequences* • *Problem solving* • *Action planning* • *Social support* • *Review behaviour goals* The resources to support the BCTs are: • Training and education sessions with teaching aids of notes and session planners • An intervention manual to guide the process • Guidance leaflet (PIE) directing the key components for support **Details of the intervention delivery: the Leads are supported to introduce peer support to their clients:** *Training and education sessions with teaching aids of notes and session planners* Programme Leads will receive training for the delivery of the intervention as an add-on to their present one day training for the WM programme. Leads will have already had training in Motivational interviewing as pre-training requirements and this will be explored further during the training session around clients 'readiness to change' Those that are already trained for the WM programme will receive the intervention training at training updates. They will receive written information from the WM trainer to support the verbal training and this will comprise of: 1. teaching notes	Teaching notes (appendix 7.2) Session planner (appendix 7.3) Guidance leaflet 'PIE' (appendix 7.1a,b,c)	

	2. session planner– this includes objectives of the intervention, outlines the plan for the session including specific content such as resources to be used , the discussion points, Lead tasks and the behavioural strategies used to promote peer support (client BCTs listed above) and the duration of each topic introduction and discussion. These notes and planner plus the training/update day will help the Lead learn information and skills around prompting peer support and to feel capable of carrying this out: • When to introduce the topic of peer support • How to work with group dynamics • How much information the Lead should give on peer support • Achieving a balance for useful discussions through the Lead and through the group interactions • How to demonstrate valuable support • How to check clients understanding • The benefits of peer support 3. Guidance leaflet (PIE) directing the key components for support This leaflet outlines the cues that others may give for requesting support and the indirect methods the clients could use for offering support. In addition it lists the types of support that others prefer and find valuable. 4. An intervention manual to guide the process A copy of this manual will be available to the Leads These materials can also be accessed online as a supplement to the primary paper and thesis **Methods of prompting peer support:**		

	The Leads would raise the topic of peer support at the beginning of the WM programme whilst introducing the value of social support with the clients. This will enable clients to reflect on the value of any social support they have received as they go through the programme and this would be monitored by Leads through observation and interactive discussions and comments. The topic would be continue to be discussed throughout the WM programme sessions. These discussions are used to generate the health consequences of weight loss and drive clients motivation to help those they know to benefit from similar changes too. The Lead would raise the topic of peer-led support by creating an interactive discussion around their thoughts on the topic. Depending on client dynamics, the Lead would act as facilitator and direct discussion, or lead the discussions. In addition, the topic of peer-led support could be raised at earlier sessions if the Lead felt the group were ready to hear about it. The Leads would have learned about the importance of peer support and the health and social consequences at their training and with their motivational interviewing abilities, they would be tasked with listening and raising interactive discussions to promote peer support at every opportunity.		
4.	**WHAT is the intervention?** **The second part of the intervention is composed of**: • clients indirectly raising the topic of support with their peers • clients raising this topic when they see or hear cues for support • clients having the opportunity to support when they perceive their peer is ready to make changes • clients listening to what their peers are saying • clients allowing their peers to explore their own options		

	• clients knowing that valued support is praise, inclusion, demonstration and encouragement • clients offering support when they feel able to do so • clients understanding the benefits of supporting others to both themselves and their peers • clients feeling confident with their support when they believe they can make changes themselves • clients remembering their own struggles to make changes Clients are supported to deliver the intervention with these functions: • Education • Modelling • Enablement • Persuasion • Incentivisation The Behaviour Change Techniques used to effect these intervention functions with clients are: • *Information about health consequences* • *Information about social and environmental consequences* • *Demonstration of the behaviour* • *Social comparison* • *Problem solving* • *Action planning* • *Social support* • *Focus on past success* • *Credible source* • *Feedback on outcome(s) of the behaviour*		

	• *Identification of self as role model* • *Social reward* • *Self-reward* The resources to support the BCTs are: • discussion sessions within the WM programme • Guidance leaflet (PIE) directing the key components for support **Details of the intervention: the clients are prompted to offer peer support:** Whilst attending the WM programme either in a group or by themselves, through interactive discussion, the clients will: • hear about the benefits to themselves and their peers through support • discuss through interaction, the preferred methods of offering peer support, and the types of support they could offer • learn that listening well to hear what their peers are saying about making changes can identify a request for support • learn that allowing their peers to talk through their options for WM can be valuable to their peer and can give the client an opportunity to tailor their support • learn from the WM programme philosophy the ways to support someone in an open and non- judgemental way • learn about making changes which will increase the belief in their abilities to help others • reflect on the difficulties they had in making changes around WM • reflect on what was helpful to them when making changes They will receive written information from the Lead to support the verbal discussions and this will comprise of: • Guidance leaflet (PIE) comprising the key components for support	Guidance leaflet 'PIE' (appendix 7.1a,b,c)	

	This leaflet will be available to the client as a reference after discussions at their WM programme and when they are away from the WM programme setting. This leaflet outlines the cues that others may give for requesting support and the indirect methods the clients could use for offering support. In addition it lists the types of support that others prefer and find valuable.		
	WHO PROVIDES the intervention?		
5.	The Leads come from a wide range of backgrounds, such as: NHS (health care assistants (HCA), dietitians, dietetic assistants, practice nurses), council staff based in leisure services and members of the third (volunteer) sector. In order to lead a WM programme they must have undertaken training in 'behaviour change' or motivational interviewing and trained to deliver the WM programme. This is followed by an annual proficiency check by the holder of the WM programme licence for the NHS to ensure competencies are maintained around delivering this specific lifestyle behaviour change programme. This check is carried out by direct observation of the WM programme manager. The client offering peer support would be anyone that felt able to do so.		
	HOW?		
6.	The Leads mode of delivery is normally face-to-face however there could be occasions when this isn't possible such as for those who live in remote and rural areas. In these instances, phone calls can be made or video-conferencing. The WM programmes are normally delivered within a group session and the intervention would follow suit. The Lead would raise the topic of peer-support and direct the discussions with some semi-structured questions. The intervention would continue with interactive discussion. The use of social media could be used in parallel to the structured intervention to reinforce the message. The guidance of the PIE leaflet would support the verbal discussions. The intervention itself,		

	known as 'PALS' would be marketed by a logo to promote the intervention itself to both clients and Leads, and other professionals who may refer to the programme. The clients mode of delivery is variable: it can be made face-to-face, by phone, by social media, by email.		
	WHERE		
7.	The Lead would deliver the intervention in any venue conducive to learning, reflection and meaningful discussion and will be held in the same places that the WM programmes are held. If this is different then consideration should be given to: • Minimising the cost of the venue and any refreshments if this intervention is a non-profit making venture • Ensuring the impact is minimal by the presence of the group • Ensuring ease of access to the venue such as disabled access, transport accessibility especially in remote and rural areas • Ensuring the venue is comfortable regarding temperature, sensory factors, appropriate seating, appropriate toilet facilities • Ensuring the setting is agreeable such as those related to places of worship, or hospital settings • Ensuring the setting does not place the client under any threat • Aiming for the venue to be set in familiar surroundings to those used by the client The client would deliver the intervention within their social environment		
	WHEN and HOW MUCH		
8.	The Lead would deliver the intervention whenever a WM programme is being delivered. Raising the topic briefly at the beginning of the WM programme would take 5 minutes There		

	are 6 sessions in this WM programme followed by 3 monthly reviews for 12 months and optional monthly appointments. The opportunity to discuss peer-led support would be offered throughout the WM programme. These detailed discussions would potentially take 10 minutes but may be longer if the group want to explore the topic further within the paramenters of the WM programme. The client would deliver the intervention whenever the opportunity arose; they would listen for cues that their peers would like the offer of support. They would offer support whenever they saw or heard signs that their peer was ready to make changes.		
	TAILORING		
9.	The Leads would deliver the intervention briefly at the first WM programme session, in more detail throughout the programme when the opportunity arose, and introduced in more detail at the first review session. However, the intervention could be personalised to the client or client group by raising the topic of peer-led support whenever the clients showed receptiveness to the concept. In addition, the mode of delivery could be tailored to the client or client group by the Lead altering their role to the client dynamics. For example, the Lead could be the prime instigator of the discussions of peer-led support, or the Lead could facilitate the discussions and allow the clients to be more inter-active. Depending on the ability and mobility of the group and the various contexts under which it is delivered, the examples discussed within the topic of peer-led support could be adapted to their capabilities and desires. The content of the intervention could be slightly different in each session due to the variation in participants discussions however they would always be focused by the fixed areas of discussion on the session plan as these areas have been determined by the study participants and identified as important when offering peer-led support. In addition, the Leads leadership styles may be different based on their qualifications, motivation, capabilities however they will have been directed in the most receptive approaches and they may tailor these as they become more experienced in delivering the intervention.		

	The guidance leaflet 'PIE' has been reviewed by WM participants for ease of understanding and content and visual attraction. To aid the appeal of using the leaflet, the client will be able to select the leaflet that is most attractive to them and these can vary with the type of PIE on the front cover. The leaflet will be handed out at the start of the programme and again at the review however, copies could be made available throughout the programme sessions. This would prompt clients on the intervention, to provide them with a new copy if they have mislaid the old one, and to allow them to choose a different front cover to keep in line with their thoughts on what is more attractive to them as they progress through their WM journey. The client would be encouraged to listen and reflect on what their peer has to say and tailor their response to each individual.		
	Delivery elements		
10.	The Leads would deliver the intervention in a client-centred way using the planner to focus the discussion topic. The discussions would be interactive and generated by the clients to enable the free flow of ideas and experiences. The clients would be encouraged to be receptive to cues that peers within their social network want support.		

Chapter 8: Discussion

8.1 Introduction to the chapter

In this chapter, the following areas will be addressed: to summarise and synthesise the research findings in relation to the research purpose, aims and questions; to discuss how these findings confirm, challenge or contribute to our understanding of peer support in weight management from the current literature; to consider the implications of these findings for policy and practice; to discuss the strengths and limitations of this thesis; and to recommend future areas for research.

The research purpose of this thesis was to explore "What interventions would be acceptable and feasible to support clients attending a structured weight management programme to help their peers achieve weight loss too?" Two research aims were constructed to answer this from the perspective of the study Participants, and of the study Leads. Over the following sections I will provide discussions to meet these aims through answering the research questions and explaining the meaning and importance of the study findings for practice and by relating them to behaviour change theories and similar literature.

8.2 Discussion on the key findings from the Participants' perspective on acceptable peer support

The first research aim was: *'to find out whether clients perceive they have the capabilities, opportunities and motivation to offer or accept informal peer-led weight management support'*, and this was explored by four associated research questions (RQ). These were:

RQ 1. What capabilities do clients have to offer an acceptable type of support?
RQ 2. What capabilities do clients have to offer this support in an acceptable way?
RQ 3. What opportunities are there for clients to effectively initiate or request support?
RQ 4. How motivated are clients to make an offer to or accept support as determined by the risks and benefits to them?

From the Participants' data four main themes were identified (Section 5.5). Under these themes, I will discuss the barriers and facilitators to Participants' acceptability of peer support and address the research questions.

8.2.1 The benefits and risks to offering peer support: addressing RQ 4

In Chapter 2, I explored the various contexts of peer support and described their source as 'Formal or Informal' (Section 2.3.4). The benefit of informal support is that anyone could potentially play a supporting role as opposed to formally tasking someone to be a peer and offering them extrinsic reimbursement; instead, existing community assets could be utilised. Finding out whether Participants attending a weight management programme could give support without payment or position is essential to the concept of informal peer-led support. Cascading knowledge and offering support to their peers depends on Participants' motivation to do so and the benefits and risks they perceived would affect this.

The major finding from this study is that Participants have the motivation for both offering and accepting weight management support without formal extrinsic encouragement or reimbursement to do so: they are driven by the incentive of their own values and beliefs. Tessaro et al. (2000) identified peers feeling rewarded by their specific role to give formal support because they perceived the extra training and information enhanced their skills and knowledge around learning to lose weight. The authors did not report any intrinsic motivation to offer support, nor did any other literature studying the effects of peer support in weight management. The existing research appears to focus on extrinsic rewards for driving peer support rather than the reasons that drive informal peers to support others.

Participants in this study reported several benefits to offering support that drive their motivation; of these, their strongest drivers were based on 'altruism and anticipation'. Participants especially wanted to share the health benefits they had received and looked forward to family becoming healthier; an automatic, innate desire to both continue generation of their family, and create family well-being (Kahneman 2012). Similarly, Participants' were affected by another automatic motivator, the emotional aspects of peer support. This was shown by the worry

they experienced that their family was not as healthy as it could be, or in being happy that their family were making healthy changes. Confirming these findings, Aschbrenner et al. (2017) reported on 15 participants who were invited to support their partner in exercise: participants took part due to concerns about their partner's health rather than to enhance their own health benefits.

These drivers of altruism and anticipation appear to go hand in hand with the Participants' sense of identity, not only as a member of their family, but also as a member of their social community. Offering support to peers outwith the family circle was driven by altruistic feelings such as loyalty to work colleagues or duty to support a friend struggling to make changes. Seeing a relief in their peer's distress or anticipating this relief decreased their worry about them and was considered to benefit both participant and peer. This in turn upheld or promoted the Participants' esteem by allowing them to feel valued for the support they were offering, especially when their peer was seen to be making progress with healthy changes. Although 'altruism' may not be the best definition here because the peer also benefits from the act of helping (Steinberg 2010), the Participants found that, for them, these benefits were a motivator to them to offer support. Furthermore, the effect of culture on Participants' altruism was mentioned: Participants were more motivated to accept support if they could return the favour. The effect of culture on peer support is discussed further in Section 8.2.3.

From the benefits of offering support through altruism, to a more personal benefit, Participants described peer support as being two-directional. Participants supporting others found there was a mutual relationship at times that helped Participants to maintain their own weight and to create their own new goals. This was despite descriptions of unhelpful support offered to them from their peers outside the weight management programme. These perceptions have not been found in peer weight management support literature and this study suggests that providing information to clients of the benefits of peer support could include the potential rewards to their own weight management.

Conversely, the risks to their health and well-being were also mentioned by Participants, and this reduced their motivation to offer support. These risks were

mainly centred around the time and effort required to give support, the distress of seeing peers unable to make changes, and the possible threat to relationships: these risks appeared to outweigh the prospect of any possible benefits to the peer of offering support. These findings on relationship risks are consistent with those of Demark-Wahnefried et al. (2014), who reported in their randomised controlled trial of 68 mother–daughter dyads that mothers were not keen to participate in a weight loss programme with their daughters. Due to the quantitative nature of the study, the authors could only surmise the reasons for this finding, such as a potential threat to the mother-daughter relationship. Similarly, Hammarström et al. (2014) reported in their randomised trial of 14 female participants at a weight loss intervention, that these mothers and spouses felt obliged to provide favourite family meals rather than their own preferred healthier options.

Informal support has no clear timings and boundaries, and future clients of weight management programmes may need reassurance that giving support should not be to their own detriment. The PIE leaflet (Appendix 7.1a,b,c), developed from Participants' views mention the benefits and risks of peer support to allow future users to be informed and reflective. This leaflet may help users to be proactive and plan their input as opposed to feeling worried about their capacity to offer peer support. These findings provide a contribution of new information around the intrinsic motivation to offer support based on altruism and anticipation and highlights the perceived risks to peer supporters' overall well-being; in addition, these findings are situated in the context of current literature.

8.2.2 The readiness of their peers to make lifestyle change: addressing RQs 3 & 4

A readiness to make lifestyle changes acted as both facilitator and barrier for opportunities to offer support and the motivation to do so. From the perspective of the Participant, there was great emphasis placed on seeing peers ready to make lifestyle changes before they offered support. They perceived that at this point of change, their support would be valued and welcomed, thus maintaining the peer relationship. Participants felt there was an opportunity to offer support when there were signs such as hearing change talk and seeing change actions. From the perspective of the Participant receiving support, they commented on an

unwillingness to discuss change if support was offered when they weren't ready to accept it; they felt it was a criticism of their actions. These findings are confirmed by Verheijden et al. (2005) who, in their systematic review of randomised controlled trials, suggested that offering a support that is needed at a particular time is more likely to have an impact on the recipient's behaviour. Aoun et al. (2013), in their descriptive quantitative study, recorded successful reductions in BMI when peers offered dietary knowledge at times when the recipient was ready to accept this. By understanding the peer's readiness to make changes, the support worker was able to progress their peer through the Stages of Change model (Prochaska et al. 1992). However, in a real-life setting of informal support, weight management clients can appear to be in more than one stage of change in one day, depending on daily events (Ahlgren et al. 2016), and may not move smoothly from one stage to the next (Sniehotta and Aunger 2010). Participants in this study were not trained on the topic of behaviour change, yet they appeared to gauge their peers' readiness to receive support and gave many details on how they assessed this. These findings contribute to the literature by suggesting that informal peers may naturally be aware of the best time to intervene with support without specific training to do so. In addition, these findings summarised in the PIE leaflet suggest specific methods peers could use to assess readiness to change before offering support. Participants' preferences for types of support offered and the methods of offering these are discussed in further detail in the next section.

8.2.3 The methods of offering, and the types of peer support: addressing RQs 1, 2

Transferring credible information through the process of cascading may not be enough support for behaviour change. The Participants in this study were quite clear on what knowledge they could cascade, and also how they would like to offer and receive that knowledge so that it was supportive to them. Participants' preferences were to receive support that was given in a way that allowed them to be autonomous in making changes. They wanted persuasive and prompting methods that enabled them to go ahead and make changes: methods such as encouragement to try new healthy changes or praise for what they had achieved. They also appreciated active listening that allowed reflection for them to be

autonomous in their change decisions. Methods of offering support that were not acceptable or useful were those made in a controlling or pressurising way, such as being told what to do, and undermining or doubting behaviours, such as querying whether the Participant should be attempting a goal or whether the goal was an improvement, such as questioning their desire for weight loss. These findings reflect many examples in the literature. Gorin et al. (2014) reported their participants feeling controlled when partners coerced them not to eat high-calorie foods when tempted; they felt they would rather make that decision themselves. Aschbrenner et al. (2017) discovered that persuading or prompting their partners to improve their health behaviours resulted in significant weight loss (≥5%) by 40% of participants who had lost any weight. In their qualitative work, Rydén et al. (2011) report a lack of support to dieting wives when spouses objected to new healthy family meal recipes. Sorkin et al. (2014) found that inviting a mother and daughter to a weight management programme together decreased reports of undermining behaviours and increased behaviours of persuasion for support. However, they reported that the use of numerical surveys in their randomised control trial did not allow them to discover any finer details on whether their programme effect was just peculiar to that specific relationship. On the other hand, the Participants of this study felt that techniques of encouragement and praise were a universal desire in all peer relationships, not just mother and daughter, thus adding new knowledge to the current body of literature.

Participants were confident of their physical skills to direct their support in a practical manner to their peers and their preferences, including demonstration and inclusion. Demonstration was based on role modelling of their own good behaviours, such as eating healthy lunches, in a cascade affect. Sometimes this was an unconscious demonstration, it was just the Participant living out their healthy behaviours; on other occasions, they consciously set out to pass these ‘good’ behaviours on. Either way, Participants reported that their peers were inspired by these changes. Inclusion was achieved by sharing with their peers their experiences and behaviours; sometimes openly, but sometimes covertly by vicarious means, such as providing their peers with healthy meals. Rossini et al. (2011) reported the benefits to family members from the ripple effect of good behaviours learned by the participant. Unfortunately, the authors could not explain

the mechanisms for these actions, nor could they differentiate between those behaviours that were conscious or unconscious. Similarly, Gorin et al. (2008) found that when individuals decreased their high fat meals to promote their weight loss, their spouse lost weight too, but there was no explanation about whether the individual made deliberate decisions to change their spouses' meals. Jackson (2015) described inclusion as being a passive support in that peers did not consciously make a change; their behaviours were changed for them. This is quite different to when peers reflect and make an autonomous decision on behaviour change. Using mixed methods of data collection in both studies, Bishop et al. (2013) and Sandon (2015) were able to identify that their participants perceived their modelling of new habits inspired their social circle to change their behaviour in the same manner that this study has. Bandura's 'Social Cognitive theory' (1986) confirms these views. He describes how people will observe and replicate those they feel connected to, such as those in their social environment. There are many examples in the literature comparable with the findings of this study and they describe participants' preferences, too, for demonstration and inclusion, and the effectiveness of these.

The Participants' capabilities for offering support were dependent on their own self-beliefs, prompting positive thoughts that they were credible sources of support. The visibility of their healthy changes to their social network also made them feel credible. This second factor was perceived as being especially important to enhance their role modelling skills and is confirmed in further detail in the Theory of Social Comparison by Festinger (1954) highlighted in Section 3.5. From the view point of the recipient, Participants felt they could only accept support from a peer if they had similar goals and experiences and were trying to make lifestyle changes too. These factors were more important for making the support credible than seeing weight loss or healthy changes in their peer. Credibility made peer support acceptable, not the fact that they were part of the same social network. However, there was a difference in perceptions of credibility: if a Participant was unable to make changes or could not keep to the changes they had made, they did not feel they were a credible source of support. These thoughts reiterate the theoretical beliefs of Bellg (2003) that offering peer support would happen when clients believe they are competent in making weight

management changes. Conversely, when accepting support, Participants only looked for someone trying to change and not someone who has been successful in change.

When mentioning a preference for supporting someone with similar goals and experiences, there was a mixed response for supporting different genders, however, there was agreement on the importance of tailoring support. Both men and women Participants talked about how incorporating fun and competition into conversations made it easier to offer and accept support. These thoughts of adding 'banter' to conversations are echoed by Witty and White (2010) and, more recently, in the ROMEO study (Robertson et al. 2017), although these studies only looked at the male preference for making support fun.

This section has outlined the Participants' preferred methods of support – autonomous and self-determined over controlled; inclusion and demonstration over directive, and these findings are comparable to those found in the current literature. Adding to our knowledge is the importance that Participants placed on being 'credible', and their detailed description on their perceived definition according to whether they are the supporter or the supported.

This study aimed to look at informal support whereby peer supporters would not receive training on giving support (Section 2.3.4). Although the Participants' perceptions were that they did not require anything extra to be capable of offering acceptable support, the literature review identified that recipients of support valued a peer trained or educated to offer an acceptable type of support. The study findings add to the literature that Participants perceptions captured in the PIE leaflet could suggest to clients at a weight management programme, the ways to offer acceptable peer support without formal training.

8.2.4 The effects of culture and environment on support: addressing RQs 2, 3, 4

The culture and setting of their social environment was perceived by Participants to affect many aspects of peer support. Acceptability of peer support in the context of their social environment depends on social approval by following set styles or 'norms' thus preventing the risk of social disapproval. Participants mentioned this in two ways: in the form of offering and requesting support in a

manner that their peers found culturally acceptable without risk of offence, and in the form of excessive hospitality.

First, the manner in which Participants offered and requested support minimised the risk of offence. They felt confident using the guidelines set down by their culture, and doing so increased their motivation for support. They talked about taking opportunities to initiate or request support in their preferred indirect manner by acting on cues. They used their cognitive skills and knowledge to create or gauge this opportunity. Participants found that the practical way to achieve this indirect method was by raising the topic of weight management by conversation or by demonstration and role modelling. Likewise, Faw (2014) talked about mutual engagement when a peer modelled new habits, and Bishop et al. (2013) found that participants with weight loss inspired their social circle to ask how they changed their behaviour. Both studies found that peer interaction relied on cues. However, neither study mentioned the possibility that cues could be missed, resulting in missed opportunities for support. In this study, the interviews allowed Participants to be reflective and to engage in active listening, and this allowed them to identify occasions of missed cues. The Participants surprised themselves when they were able to reflect on their missed opportunities for support. Demark-Wahnefried (2014) discovered her TEAM intervention to be less effective than she had expected when she recruited mothers and daughters to give each other peer weight management support. She found that they continued their traditional culture of sharing recipes and meal preparation but missed cues for support because they did not engage in new behaviours of reflective talk or active listening.

Secondly, as discussed in Section 8.2.1, Participants did not want to threaten their social relationships and, throughout the findings, they gave many examples of when they avoided this risk. Culture drives the extent of hospitality and generosity, and this may result in the offers of extra rich foods and large quantities. Participants had commented on accepting gifts and eating meals, especially outside the home, that were not conducive to weight loss. They reported ‘going along’ with their peers’ desires and the normal habits of their social group rather than upsetting them with new changes. These findings replicate the findings in the

literature review. Terranova (2017) reported the challenges that women especially found when trying to change and maintain new healthy changes. They continued to be supportive to their family members, especially those who did not welcome the new changes. Similarly, Ahlgren (2016) discovered the women in their study having to forsake their new weight management goals or risk social disapproval when making new lifestyle changes. Likewise, Rydén (2011) heard from her study participants about the problems caused by tradition when eating socially and the difficulties trying to isolate their healthy goals from the culture of their social environment. They found they lost control of their healthy option choices and felt obliged to fit in with their peers.

The Participants in this study felt helpless in going against the culture of their peers and this feeling contributed towards a loss of their motivation to continue with healthy changes. Similarly, Kahneman (2012:42) describes self-control as "depleting and unpleasant". However, Participants were able to give examples of successful change when their peers supported them on their changes to make new 'norms' and break away from the traditions of their social environment. Gorin et al. (2013) and Hammarström (2014) also highlighted times when peer support broke away from the social 'norms' and promoted weight management changes. Furthermore, in line with Gorin et al. (2014), the findings suggest that Participants felt empowered to help those within their social environment when attending the weight management programme; they perceived that their attendance gave them the capability to positively influence their peers' lifestyles by passing on health benefits. These findings conform to the work by Ogden and Hills (2008), who describe the possibility that individuals can reinvent themselves and become healthier if they have the knowledge of why they should do it and receive a demonstration on how to do it. Whereas these findings confirm with the literature on the problems of going against 'social norms' to achieve peer support, this study contributed additional information in that the Participants' preferred method of requesting support was to fit in with their social norms of an 'indirect approach'. Participants gave their detailed perceptions of the cues that signaled this request and, importantly, they identified that there were times that cues were missed.

These findings from the Participants' perspective address the first four research questions, and not only confirm some of the literature on peer support, but also add new knowledge that enhance and further develop what is already known. In the following section, I will discuss the findings from the Leads' perspective on promoting peer support and address the remaining three questions.

8.3 Discussion on the key findings from the Leads' perspective on prompting peer support

The second research aim: *'to find out whether Leads perceive that they have the capabilities, opportunities and motivation to prompt their clients in providing informal peer-led weight management support'* is explored by the final three research questions. These were:

RQ 5 What capabilities do Leads perceive they need to support the intervention?

RQ 6. When would Leads perceive there is a feasible opportunity to support the intervention?

RQ 7. What drives Leads' motivation to support the intervention?

There were three main themes identified in the findings from the Leads' perspective (Section 6.5). Under these headings, I will discuss those elements that facilitate or bar their introduction of peer support within the context of the weight management programme and address the research questions:

8.3.1 Leads as Gate Keepers to the intervention introduction
8.3.2 Training and planning required to promote the intervention
8.3.3 Skills and abilities required to promote the intervention

8.3.1 Leads as Gate Keepers to the intervention introduction: addresses RQ7

In Section 6.2.4, I presented the Leads' beliefs about authorising their clients' access to the introduction of the intervention and, in doing so, they indicated their role of gate keeper. A client would 'qualify for access' when they showed their ability to apply the weight management programme message and this was judged by Leads to show a readiness of the client to offer peer support. A lack of showing this ability would be a barrier to the intervention introduction. The Leads' decision

was based on their expectations of their clients' abilities, their perceptions of their clients' attitudes, and the Leads' own experiences of facilitating the weight management programme. The Leads wanted clients to talk about the same things in the same manner that they use when delivering the programme. This implies a right and a wrong way, which can be perceived as 'controlling', but is typical of professionals who are used to triaging clients or having gatekeeper roles (Greenfield et al. 2016). In keeping with these findings, Hoppe and Ogden (1997) identify a link between health professional beliefs and their subsequent behaviour on introducing an obesity intervention.

However, the Leads' subjective assumptions may not be valid and bias may operate' even though they could explain their actions, from their point of view, on how they determine a client's suitability. The beliefs of the Leads quite clearly drove the introduction of the intervention: they are one of the main factors that could create or remove an opportunity for clients to hear about it. These beliefs of the Leads are quite different to those of the Participants on their abilities to help their peers. Only one participant felt unable to help due to his lack of ability to make changes to his own weight. The consensus of the other Participants was that their abilities to help their peers was based on their knowledge and skills learned from the weight management programme and their demonstration of these. They may not necessarily have achieved weight loss but are being seen as trying to make changes.

This concept of 'gate keeping' is also discussed in the literature and was first identified by Lewin (1943) as a role that women played that controlled their family's access to different foods. Since then, clinical gatekeeping has been identified as a predominant concept in the NHS, whereby patients' access to research studies and the possible benefits has been prevented (Snowden and Young 2017). Likewise, primary care providers have prevented patients' referral to secondary care for specialist treatment (Greenfield et al. 2016). Recruitment to this study suffered similar gatekeeping by some Leads. Although there is considerable information on the altruistic benefits that participants receive from taking part in research (Newington and Metcalfe 2014), the Leads' lack of knowledge in this

area prevented their groups from having the opportunity to participate (Section 5.1).

The Leads talked about not wanting to burden their clients with the extra topic of peer support if they considered them to be struggling with their own weight management or just trying to follow the weight management programme itself. The Leads do sound supportive, but could be considered overprotective or even outcome-focused, thus reducing the opportunities to introduce peer support. The clients may have wanted to hear about the intervention but, without collaboration with them, the Leads were setting a threshold for its introduction. Similarly, as described in Section 5.2.1, a Participant had complained that her family had not offered her the choice of taking part in an activity because they assumed it was too much for her. Likewise, Snowden and Young (2017) reported that nurse researchers were the 'gates' to clinical trials when they assumed patients would be burdened by participation.

Ethically, it could be argued that clients have a fundamental right to be offered the choice rather than the decision being made for them based on their Leads' perceptions and judgements. Not raising the topic of peer support could potentially decrease the two-directional health benefits that may occur with peer support and reduce clients' satisfaction with the programme, their relationship with the Lead, and their own progress. Furthermore, by excluding clients, the Leads' gate-keeping role could narrow the reach of the intervention that seeks to reduce the risk of obesity.

The Leads' motivation to deliver the intervention introduction is determined based on their subjective judgement to its usefulness. They perceived no value unless the client was capable of providing support. Likewise, Greenfield et al. (2016) reported that, in primary care, gate-keeping was carried out as a consequence to ineffective clinical judgements and an economic need to save time and money, which subsequently led to ethical issues of patients receiving a reduction in specialist care. Briscoe and Berry (2009) discovered many barriers to their practitioners delivering weight loss interventions, and one of these was the same

as in the findings of this study – a lack of confidence in their clients' readiness to make changes.

The Leads in this study did not identify ways to overcome a client's inability or inappropriate attitude to supporting others. Their language was black and white on what clients should and should not do. However, the literature gives some examples of circumventing the Leads' gate-keeping role. One study suggested introducing the concept to the gate keepers before and during their study and reminding them of the possible consequences of exclusion from study access (Snowden and Young 2017). There was mention by the Leads of using social media to introduce the concept of peer support, and this would create an open access to those with the ability to access the internet: this was also suggested by others in the literature (Sorgente et al. 2017; Kozak et al. 2017; Dombrowski et al. 2014). Finally, the ability for clients to self-refer to the intervention introduction was suggested by the Leads in this study through social media, and by some studies reviewed in the literature (Greenfield et al. 2016). Self-referral could allow those clients who are motivated to hear more about peer support to enquire and sign up for further information (Middleton 2016), but, on the other hand, an uninformed client may not appreciate the benefits that peer support could bring and thus not self-refer.

Allowing clients to make an informed decision on whether they want to hear about the topic of peer support would give them access to the possibility of participating in an intervention: "Widening access to information previously dependent on professional gatekeepers has enabled individuals and groups to pose questions to health professionals, rather than always being supplicants for information" (Barnes 1999, p. 2). A minority of Leads suggested raising the topic of peer support and allowing the clients to be their own gate keepers on whether they wanted to hear more detail about the intervention.

Gate-keeping roles are a barrier to the Leads' motivation to support the intervention. The literature confirms these findings and points to the use of social media and self-referral to overcome this barrier in addition to providing information on the importance of the topic. Section 8.3.2 looks at the Leads' views on the

training and planning they perceive they would need, and the structure that could create an opportunity, for the topic of peer support.

8.3.2 Training and planning required to promote the intervention: addresses RQ 6

The Leads were unanimous in perceiving that training and session planning would guide them in introducing the intervention in a scheduled manner. They felt that they would need face-to-face training plus written information as a reference in the form of training notes and the PIE client/Lead information leaflet which would be part of the manual (Chapter 7). As well as being informative, an important aspect of training and planning would be to minimise the occurrence of 'gate-keeping', as discussed in the previous section. The session planner would be an objective guide on the opportunities to raise the topic of peer support rather than leave it to the Leads' subjective decision: it would act as a prompt to remind them. The benefit of ensuring that all Participants hear about peer support could be tipped against the risks of a client giving their own opinion on a specific fad 'diet' as opposed to cascading knowledge and offering their skills learned from the weight management programme. However, the Participants (Section 5.3.3) had appeared to only offer support based on the programme content which they deemed credible.

Jessiman et al. (2013) discovered that health professionals forgot about or did not understand the importance of an intervention, and these barriers were seen as an unintentional form of gate-keeping. In addition to the current weight management programme training for Leads around the benefits of lifestyle interventions, the trainer could also outline the importance of peer support and its mutual benefits to weight management.

The Leads had indicated a requirement for training and updates on the intervention at their yearly competence check. This would support a certain level of knowledge and skills on peer support to be able to impart this information to their clients. The importance of training was echoed by Melin et al. (2005), who found that the more health professionals were experienced and educated around obesity; the better their management and colleague support; the more time they had to plan their input and the higher the incidence of supervision – the more likely

they were to deliver an intervention. The Kings Fund, in their report on 'People in control of their own health and care' (Foot et al. 2014), give recommendations for the training of health professionals. They advise that:

> professional education should enable health professionals to develop a model of professionalism based on working with users and citizens, rather than on an assumption of the superiority of expert knowledge. Large cohorts of clinicians need access to training in areas such as health coaching, motivational interviewing, risk communication and eliciting people's values and preferences. (Foot et al. 2014, p. 55)

This was not an area of training perceived by the Leads as a requirement, even though they echoed some aspects of Briscoe and Berry (2009) that the main barriers to delivering obesity interventions are the readiness of clients to make changes.

This section has added to the findings in Section 8.3.1 to mitigate gatekeeping through emphasising the importance of a peer support intervention at training opportunities. The following section looks at ways to enable Leads to elicit change talk that would both support their motivation and their opportunity to introduce the intervention of peer support.

8.3.3 Skills and abilities required to promote the intervention: addresses RQ 1

The Leads were enthusiastic about the concept of peer support because they believed it echoed the beliefs of the Participants and the weight management programme philosophy. Moreover, these perceptions are consistent with the literature that successful interventions happen when the clients and the Leads have a shared understanding (Kennedy et al. 2017).

The Leads' enthusiasm to introduce the intervention by way of promotion or persuasion could in turn make a difference to the client's motivation to offer peer support. Blane et al. (2017) discusses how patients are more likely to take up an intervention if their health professional is sufficiently knowledgeable and skilled to convey the programme's objectives, thus enabling clients to see a positive outcome.

Inspiration is affected by experiences – both negative and positive. The Leads did not mention the impact of their personal weight on their motivation to introduce the intervention. They did, however, mention other people's weight loss experiences and emphasised the importance of these contributing to clients' skills and abilities to impart a positive and inspirational attitude towards peer support. Commercial slimming clubs deliberately recruit facilitators who are successful weight loss experts and aim to inspire others to do the same (Allan et al. 2011). Briscoe and Berry (2016) reported that health professionals with their own personal weight loss experience were far more likely to deliver a weight management intervention than those who had not. On the other hand, 'normal' weight health professionals were concerned about their lack of authenticity to introduce a weight management intervention, even if they had experience and training (Brown et al. 2007). Although they may have a good knowledge base, they may not have had the personal experience of a weight loss journey.

In the previous section (8.3.2) the Leads identified that they needed training in the form of session planners and reference guides, but they did not talk about trying to move clients forward in their motivation to make changes either to their own lifestyle or to support others. These Leads had already received at least some basic motivational interviewing training, but they did not discuss using this skill. Listening skills are part of motivational interviewing, and, although these were mentioned by the Participants, the Leads did not talk about these behavioural change techniques, although they did talk about using informal communication. Motivational interviewing techniques involve searching for hints to elicit behaviour change rather than accept their clients' ambivalence (Rollnick and Miller 1995; Rollnick et al. 2008). Briscoe and Berry (2009) reported on the consequences of a lack of communication skills for their obesity prevention programme. Wadden and Didie (2003) reported on the favourable outcomes of motivational interviewing rather than using confrontational talk. Echoing this, Lindhardt et al. (2015) talked about the efficient use of midwives' time arising from motivational interviewing. It allowed their clients to focus on the changes they could make and reduced unproductive discussion. Furthermore, the authors talked about the different levels of proficiency of the health professionals and the impact these levels had on their client interventions; the more often the health professionals used motivational

interviewing, the more likely the intervention was perceived successful. In the same way, Jolly et al. (2011) found that, although health professional practitioners had received similar motivational interviewing training to counsellors and full-time practitioners, due to their multiple roles, their experience and thus their confidence in their abilities were lower. NICE (PH49 2014, p. 19) advise that Leads of lifestyle interventions should have skills to communicate effectively, listen reflectively, and show empathy, so that they can "develop a person's motivation to change through encouraging and enabling them to manage their own behaviour".

Leads have many capabilities to introduce the intervention; however, acquiring an increase in the proficiency of their motivational interviewing skills through refreshers or extra training in this area may improve the prospect that the topic of peer support is raised with their clients.

The Leads' findings have resonated with the literature on introducing interventions, especially around access and barriers to hearing about a peer support intervention. The existing literature provides information on training and education to increase Leads' abilities and knowledge. Together, the findings of this study and the literature confirm that a more formal process for introducing peer support to their clients is required, such as the intervention manual to specify the timing of activities and exchanges between Leads and their clients.

8.4 Summary of study findings

The literature review highlighted that peer support for weight management can be acceptable and effective; however, the reasons for the success of some interventions (as measured by weight loss and weight maintenance) have not been clearly identified. This study has added to the existing body of knowledge by Participants' reports of what support is acceptable to them as opposed to measuring outcomes of weight loss alone. Furthermore, the literature examines a formal type of support, whereby the peers have been trained for a specific support role. Outside influences and extra training for such roles come with a cost to resources and are restrictive by their specificity. In this thesis, I have suggested that there is an alternative concept of support that is given informally by clients to their peers whilst attending a weight management programme. The literature has

little to say on what would motivate peers to informally offer support without any extrinsic influence. This study adds to that knowledge by identifying the key factors that motivate Participants to informally offer or accept peer support.

The first key factor is based on the perceived benefits and risks to their well-being by offering support. The benefits drive an intrinsic motivation to offer support based on altruism and anticipation and the barriers to acceptable support are the perceived risks to the peer supporter's health and to the peer-recipient relationship. Prompting reflection on the benefits of peer support within their weight management programme may encourage the concept.

Secondly, from the literature, we understand that people have to be ready to make behaviour changes such as deciding to help others to lose weight. However, there were gaps in the literature review around the best time to intervene with support. From the study findings, the Participants have suggested an informed description of the best methods peers could use to assess readiness to change before offering support.

Thirdly, this study has confirmed with the literature the Participants' preferred methods of support: autonomous and self-determined over controlled, inclusion and demonstration over directive. Importantly, the Participants felt they had the capability to offer an acceptable support in an acceptable manner, which fits with the research proposal for informal support from an untrained peer. The literature review had identified that recipients of support valued a peer trained to offer an acceptable type of support. The findings from this study challenge the current literature because Participants were able to define acceptable support and these components would be passed on to clients at a weight management programme by way of an information leaflet, to enable acceptable peer support without training.

A final key factor from the Participants' perspective, is that they conform to the cultures of their social network, which sometimes went against their healthy changes. They reported a loss of motivation from the helplessness they felt from trying to go against the culture of their peers. The impact of their social environment and their social network also affected the ways in which support

could be acceptable by the manner in which it is offered, and this indirect approach could lead to missed request for support. Ending on a positive note, the Participants felt empowered to help those within their social environment by attending the weight management programme and they believed they could positively influence their peers' lifestyles by passing on health benefits.

From a Lead perspective, a key finding is the reservation to introduce the intervention based on clients not showing a readiness to change. Suggestions to mitigate the barrier of their gatekeeping role include encouraging Leads to use motivational interviewing skills such as active listening and change talk learned through their training. In addition, an information leaflet (such as PIE) could prompt motivational interviewing techniques to both Leads and clients.

8.5 Critical reflection on the quality of the research process: strengths and weaknesses

The literature is varied in its discussions on how quality and accuracy should be achieved and monitored in a qualitative research process, and I have reflected on this to discuss the quality and credibility for this study (Creswell 2013; Robson 2011; Lincoln and Guba 1985). Seeking stakeholders' perceptions is a highly reflexive, subjective process and researchers should not only have the skills to interpret their data, they should also have the knowledge and skills to evaluate it (Sanjari et al. 2014): the following sections discuss the critical reflection I employed to achieve quality in the research process within available resources.

8.5.1 Reflexivity and the Researcher

A strength of this research is that it is based on Participants' and Leads' perceptions and I used my interpretation of these to answer the research questions. However, it is a subjective method and "in reality all researchers are inherently implicated in the object of their research" and cannot take a "value-neutral stance" (Orlikowski and Baroudi 1991, p. 11). I had placed myself within the research and brought with me experiences from my education, my training, my clinical role and my social surroundings. But being aware of my experiences, and the effect they may have had on my interpretations of the research, helped me to counter this bias of subjectivity (Day 2012). This staged approach guided the

process of reflexivity throughout this research (Creswell 2013): in this section I explore this concept further.

Beginning with the research questions; Gill (2011, p. 309) feels that these "do not arise out of thin air. Rather our questions come from us (the researchers) and are influenced by a host of factors". To reduce the risk of bias from my own presumptions, preconceptions and preferences, when writing the research purpose and questions I applied reflective practice. This enabled me to recognise and question my thinking patterns whilst still using my clinical experiences throughout the thesis. For example, when interviewing the Participants and Leads, I realised I was not prepared for their views: most Participants were not looking for the type of support I thought they would want such as formal goal setting, instead they preferred someone listening to them and allowing them space to reflect on their thoughts. Furthermore, many Leads talked about delivering the intervention to their clients in a manner that I thought quite acceptable, but discussions with others allowed me to reflect that the Leads' opinions were at times 'controlling'. This not only reinforces the importance of reflective practice improving research quality but also the importance of seeking participant perspectives for intervention development as opposed to solely professional perspectives.

A further strength of this study is that in addition to my reflective thoughts and discussions with my supervisors, I invited a variety of researchers to give their perspectives in the form of an independent Steering Group (Section 4.5.1). Their various skills and experiences enabled a full exploration of the complexity and richness of the data and their monitoring gave the intervention a realistic quality with their provision of experiential advice. With the support of my supervisors and the Steering Group, I felt comfortable in proceeding with a qualitative, interpretivist approach. The next section describes the steps taken to present an accurate interpretation of the findings.

8.5.2 Validity

A piece of qualitative work cannot necessarily be judged on its soundness by assessing whether the data has been analysed correctly as in quantitative

research. Instead it is about asking whether the qualitative methods used created a valid interpretation of Participants' data and meanings: did the findings reflect the perceptions of the Participants in a believable way (Ritchie et al. 2014)? Seale (2012) perceives that an accurate interpretation of meanings is dependent upon the methods in which data are captured. Creswell (2013) suggests this can be achieved if the researcher becomes familiar with the research context by learning about the participant's culture and knowledge. During data collection, I checked the interactive exchange of information, especially my verbal clarity and the terminology used and applying learning from motivational interviewing techniques of paraphrasing and summarising during interviewing helped to highlight any misinterpretations.

Creswell (2013) advises checking for "misinformation that stems from distortions introduced by the researcher or informants amongst the Participants" (2013, p. 251). The use of field notes and memos allowed me to make a note of the times I felt unsure of the meaning of Participant's comments. The iterative questioning technique and longitudinal research approach helped me to check these memos for clarity or misinformation as well as developing new topics or points of interest. It is well documented that Participants could tell the researcher what they think they want to hear, which could bias their answers (Nichols and Maner 2008; Van de Mortel 2008). To reduce this risk, sometimes referred to as 'social desirability bias', I reiterated at the beginning of each interview that their answers were valuable and would remain anonymous. During the interviews, I ensured that I remained non-judgmental by adjusting my body language and comments so that Participants would not be able to gauge the 'correct' answer and allowed them to voice their own perceptions. Furthermore, the use of vignettes gave the Participant the opportunity to give their perspective on a situation that was concrete and less personal than commenting on their own actions.

Ritchie et al. (2014) suggest that Participants, when giving their own descriptions, in their own particular context, can themselves be considered a means to support the validity of the data, and this method was the keystone of this research approach. Three transcripts were agreed by my supervisors to ensure a degree of consistency around coding data. This corroborating of views from different

perspectives and sources, or ‘triangulation’, helped to avoid linking phenomena or identifying their meaning incorrectly and contributed to internal validity (Creswell 2013). Further corroborating views were given by the Steering Group members. Pawson and Tilley (2010, p. 217) advise testing the interpretations of the data collected by the “Teacher-Learner process”: this method is based on the stakeholders being experts of their social network and “constitute key informants in the research process” (Pawson and Tilley 2010, p. 218). Pawson and Tilley (2010) describe how the researcher interprets stakeholder information, forming an interpretation to deliver back to the stakeholder, who in turn refines the interpretation further: in this research, this was carried out with the Participants using iterative and cognitive interviewing techniques (Sections 4.7.4 and 4.7.5).

8.5.3 Reliability and replication

The transparent reporting of the methods of data analysis in this study aimed to allow reliable, trustworthy and credible findings which could be replicated in future. Robson (2011) encourages the use of frameworks to organise the gathered information into some order and suggests that the transparency of the process can be illustrated by listing the components of the framework in appendices for ease of replication and audit. The information gathered from this study is listed in appendix 4.8. Figure 4.3 is an example of a model illustrating the transparent linkage of themes and sub themes of one of the frameworks that supported my reflections. A further strength of this study is the use of the TIDieR template to report the proposed intervention, a summation of the primary and secondary research work, and this is presented in Chapter 7 (Table 7.5). This template outlines the intervention components, delivery processes and procedures established by this study to compile an intervention manual for future replication and evaluation. There are views that a measure of authenticity is whether the findings have had a positive impact (Lincoln and Guba 1985). Unfortunately, the problem of obesity is difficult to solve and is dependent on many factors as well as each individual’s behaviour. In addition, the qualitative nature of this study did not extend to gathering quantitative data on weight loss.

8.5.4 Use of theoretical frameworks

A significant strength of this study is that it has followed the MRC's recommendations on developing complex interventions (Craig et al. 2008) by examining the evidence base for peer support theory and supplementing the gaps with new evidence from the Participants' and Leads' perspectives. Based on the steps of COM-B and the BCW theory (Michie et al. 2014), this research has findings about the facilitators and barriers to informal peer-led support within the context of social networks that may not be considered by intervention designers views alone. The theory-based BCW links to the Behaviour Change Technique Taxonomy (BCTT) and this provides a realistic description in clear terms of the intervention elements (Table 7.1). Furthermore, the BCW process is systematic and can support transparency in future evaluation of the intervention efficacy or effectiveness in any post doctorate work. The use of the BCW allowed a 'bottom-up approach' by including stake-holders perspectives in the design and development of the intervention. The intervention design is compatible with my ontological belief that it is the Participants who have provided the most valuable contributions to this study and they were able to express their views on support through their weight management journey. On the other hand, the COM-B (Michie et al. 2014) could be also perceived as a weakness due to being a theoretical and linear model and devoid of the complexities of the social context in which this study is set. It was a resource-intense model and only allowed a certain slow progression with the intervention design and development. Although Participants identified acceptable components and elements for giving support, there would often be a caveat that easily inhibited support and upset the flat line of progress and process. For example, Participants felt that, in a real-life situation, their offer of support may be going well until their relationship with their peer is threatened. Unlike a set environment, such as in a laboratory setting, an intervention within a social network with uncontrolled conditions is ever-changing (Pawson and Tilley 2010).

The reviewed quantitative studies report varied outcomes on peer support and its effect on weight loss and most papers provided speculative comments on the reasons for these. However, the studies were not able or did not report the

features of a successful peer relationship, the preferred support and the manner in which it is offered, or the important drivers of support that have been explored in this qualitative study. The rich contextual findings are a strength of this study and contribute new knowledge to the literature.

8.6 Limitations of the study and Generalisability of the findings

One limitation of the thesis is the systematic review. Although the cascading of knowledge can be considered part of peer support, the review identified only three papers discussing the peer support that took place via a cascade effect from clients attending a weight management programme (Scherr et al. 2013; Rossini et al. 2011; Gorin et al. 2008). The limitations of the search strategy meant that all peer support intervention may not have been identified. A wider search strategy was beyond the resources available for conducting the review for this thesis.

A further limitation of this study is both the client sample and the Lead sample. Although there was a typical representation to the weight management programme clients with a maximum diversity of characteristics, there was low representation from the younger age group (30-39) and older age group (70+). Regarding the Lead sample, there were no perspectives from male Leads. It is likely that increased representation from these groups may have highlighted differences in perspectives and generated extra themes or depth of text. Like many studies, there is always the potential to sample more participants and more sites and in an ideal world, I would have liked to interview clients and leads from other programmes and in different parts of the UK to increase sample diversity. However this requires money and time, so compromises were required within this Clinical Doctorate. On the other hand, the client sample would have been likely to resonate the same views as others on the programme.

It is not known whether the preferences for acceptable peer support in this study can be transferable to other knowledge and skills-based programmes such as cardiac rehabilitation (CR) or type 2 diabetes (T2DM) prevention and education, other weight management programmes or other geographic areas, and this is a limitation. However, the preferences identified by the Participants and the suggestions made by the Leads were general and not specific to weight

management but to sensitive areas where behaviour change would be beneficial. The PIE leaflet gave some suggestions on what support to offer their peers on lifestyle changes and this could be applied to Cardiac Rehabilitation or Type 2 Diabetes. In addition, the suggestions gave examples of the way in which support could be offered. Having practical yet sensitive peer support could be conducive to making lifestyle changes for many.

Feasibility testing is the next stage for this research. In a future study it would be important to explore whether the intervention works better in some places than others and any reasons for this. Different social contexts affect the mechanisms and components of behaviour change, and even though the intervention might be delivered according to the intervention manual (Section 8.5.3), it may need to be tailored to individuals to be effective. In addition, if the timing of introducing the intervention is left to the Leads perceptions of the group's readiness to receive it, this could lead to variations in the programme delivery or whether it is delivered at all. These factors could limit the generalisability of findings.

In this thesis I have designed and part developed an acceptable peer support weight management intervention: the next step is future research to test the intervention by means of feasibility and pilot studies. The important foundations from this study can be used as a base to build further developments according to policy and practice context.

8.7 Implications for practice and policy

Cornelius et al. (2016) suggest that consideration of the social context should be made when supporting clients to improve their weight management outcomes. From this study, the Participants' views also suggest that weight management intervention programmes should be cognisant of the impact that the social environment may have on the programme outcomes, and give some direction on the areas that service developers and policy makers could target to increase their efficacy.

Perceiving a threat to their social relationships is greater than Participants' desire to make healthy changes. Goals and suggestions made within a weight management programme are affected by the 'norms' of their social environment

and these norms can set the scene of whether support or the offer of it is acceptable or not. As well as affecting the outcomes of weight management programmes, these findings indicate strongly that the context of the social environment should be considered when introducing the topic of peer support.

Feelings of credibility and self-belief could be emphasised during weight management programmes and especially when introducing the concept of peer support. This could help clients foster the identity of an advocate for healthy lifestyle. Feeling competent in making positive behaviour changes in their weight management could help to convince them of the possibility of creating new 'norms' in their social environment. Participants and the literature have highlighted some examples of these changes such as developing communication techniques that both generate peer support and identify with the culture of the peers social context. Listening to participants may be deemed a supportive therapy itself and allowed Participants to express their feelings, reflect on their progress and consider how they could cascade this to peers. Although they were able to share what they have done or would do, they may benefit from learning to be reflective in order to help themselves and others. Reflection has not specifically been written into the intervention, although it is encouraged in the weight management programme and the PIE leaflet (Appendix 7a,b,c), encourages clients to reflect on a few areas in theory before putting peer support into practice.

8.8 Conclusion and recommendations for potential research

This study has explored the concept of informal peer-led support as an option for weight management. Increasing the range of weight management interventions by targeting those people who have not engaged with formal weight management programmes would create an equity of access for weight management support. In addition, the introduction of peer support under the umbrella of the weight management programme would negate the need for extra training resources. The learnings and skills acquired from the programme, plus their life experiences, have helped the majority of the Participants to feel credible about cascading their knowledge and using their new skills to offer support to their peers. The Leads could feasibly manage the intervention introduction using the PIE leaflet for reference and using skills from their training updates. However, knowledge on the

importance of peer support and increasing their motivational skills could help them manage clients' progression in achieving change.

The Participants have given their perceptions on what support would be acceptable within the context of their social environment and identified that their environment could pose a threat to healthy changes or be supportive of them depending on their 'norms'. A peer relationship is highly valued and trumps healthy changes. However, this thesis has identified that peer support can be acceptable, thus presenting opportunities for peers to receive support for weight management including weight loss and weight maintenance.

The next stage from this study will be further research to explore the effectiveness of the intervention so that peer support can be developed in practice. My recommendations for potential research are:

1) Conducting quantitative studies on the cascade effect on weight management changes based on this study's findings using the intervention manual. This will include weight loss and weight maintenance.
2) Tailoring the introduction of peer support so that it is based on gender preferences and social situations.
3) Exploring the characteristics of behaviour change training that influence the effectiveness of programme Leads to introduce and support the intervention.

Finally, the driver for this thesis was a desire to involve existing community assets, such as peers, in providing weight management support. By tapping into the strengths possessed by a weight management client, there could potentially be an impact on weight management within their social network. It is evident from the rich data obtained in this study that peer support is a complex situation, but the exploration of stakeholders' perspectives has shown that there is potential for future clients of a weight management programme to support their peers. Using this concept as an addition to weight management interventions, peer-led support could positively influence the burden of obesity at ground level within the community.

References

Adab, P., Pallan, M. and Whincup, P.H. (2018) Is BMI the best measure of obesity? *BMJ, 360,* k1274.

Ahlgren, C., Hammarström, A., Sandberg, S., Lindahl, B., Olsson, T., Larsson, C. and Fjellman-Wiklund, A. (2016) Engagement in new dietary habits—obese women's experiences from participating in a 2-year diet intervention. *International Journal of Behavioral Medicine,* 23 (1), pp. 84–93.

Albarran, C., R., Heilemann, M., V. and Koniak-Griffin, D. (2014) Promotoras as facilitators of change: Latinas' perspectives after participating in a lifestyle behaviour intervention program. *Journal of Advanced Nursing,* 70 (10), pp. 2303–2313.

Alberti, K.G.M.M., Zimmet, P. and Shaw, J. (2007) International Diabetes Federation: a consensus on Type 2 diabetes prevention. *Diabetic Medicine*, 24 (5), pp. 451–463.

Allan, K., Hoddinott, P. and Avenell, A. (2011) A qualitative study comparing commercial and health service weight loss groups, classes and clubs. *Journal of Human Nutrition and Dietetics,* 24 (1), pp. 23–31.

Angrosino, M. (2007) *Doing ethnographic and observational research.* London: Sage.

Aoun, S.M., Shahid, S., Le, L. and Packer, T.L. (2013) The role and influence of 'champions' in a community-based lifestyle risk modification programme. *Journal of Health Psychology.* 18 (4), pp. 528–541.

Argyris, C. and Schön, D.A. (1989) Participatory action research and action science compared: A commentary. *American Behavioral Scientist,* 32 (5), pp. 612–623.

Artinian, N.T., Fletcher, G.F., Mozaffarian, D., Kris-Etherton, P., Van Horn, L., Lichtenstein, A.H., Kumanyika, S., Kraus, W.E., Fleg, J.L., Redeker, N.S., Meininger, J.C., Banks, J., Stuart-Shor, E.M., Fletcher, B.J., Miller, T.D., Hughes, S., Braun, L.T., Kopin, L.A., Berra, K., Hayman, L.L., Ewing, L.J., Ades, P.A., Durstine, J.L., Houston-Miller, N., and Burke, L.E. on behalf of the American Heart Association Prevention Committee of the Council on Cardiovascular Nursing (2010) Interventions to promote physical activity and dietary lifestyle changes for cardiovascular risk factor reduction in adults: a scientific statement from the American Heart Association. *Circulation,* 122 (4), pp. 406–441.

Aschbrenner, K.A., Mueser, K.T., Naslund, J.A., Gorin, A.A., Zawacki, S.A., Pratt, S.I., Kinney, A. and Bartels, S. (2017) Facilitating partner support for lifestyle change among adults with serious mental illness: a feasibility pilot study. *Community Mental Health Journal,* 53 (4), pp. 394–404.

Atkins, L. and Michie, S. (2015). Designing interventions to change eating behaviours. *Proceedings of the Nutrition Society,* 74 (2) pp. 164–170.

Avenell, A., Robertson, C., Skea, Z., Jacobsen, E., Boyers, D., Cooper, D., Aceves-Martins, M., Retat, L., Fraser, C. and Aveyard, P. (2018) Bariatric surgery, lifestyle interventions and orlistat for severe obesity: the REBALANCE mixed-methods systematic review and economic evaluation. *Health Technology Assessment,* 22 (68).

Avis, M. (2005). Is there an epistemology for qualitative research? In: I. Holloway, ed. *Qualitative Research in Health Care*. Maidenhead: Open University Press, pp. 3–16.

Bandura, A. (1986) *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice-Hall.

Barnes, M. (1999) *Public expectations. From paternalism to partnership: changing relationships in health and health services.* London: Nuffield Trust.

Beatty, P.C. and Willis, G.B. (2007) Research synthesis: The practice of cognitive interviewing. *Public Opinion Quarterly,* 71 (2), pp. 287–311.

Beck, A.T., Wright, F.W., Newman, C.F., and Liese, B. (1993) *Cognitive Therapy of Substance Abuse*. New York, NY: Guilford.

Bellg, A.J. (2003) Maintenance of health behavior change in preventive cardiology: internalization and self-regulation of new behaviors. *Behavior Modification,* 27 (1), pp. 103–131.

Berg, B.L. and Lune, H. (2012) *Qualitative research methods for the social sciences*, 8th ed*.* Harlow: Pearson Higher Education.

Bishop, J., Irby, M.B., Isom, S., Blackwell, C.S., Vitolins, M.Z. and Skelton, J.A. (2013) Diabetes prevention, weight loss, and social support: program participants' perceived influence on the health behaviors of their social support system. *Family and Community Health: The Journal of Health Promotion and Maintenance,* 36 (2), pp. 158–171.

Blackshaw, J., Montel, S., King, S., Jarvis, A., Valabhji, J. (2014) *Joined up Clinical Pathways for Obesity: Report of the Working Group.* London: NHS England Publications Gateway, Reference 01004.

Blane, D.N., McLoone, P., Morrison, D., Macdonald, S. and O'Donnell, C.A. (2017) Patient and practice characteristics predicting attendance and completion at a specialist weight management service in the UK: a cross-sectional study. *BMJ Open,* 7 (11), pp. e018286-2017.

Blodgett, A.T., Schinke, R.J., Smith, B., Peltier, D. and Pheasant, C. (2011) In indigenous words: exploring vignettes as a narrative strategy for presenting the research voices of Aboriginal community members. *Qualitative Inquiry,* 17 (6), pp. 522–533.

Boynton, P.M. (2005) *The research companion: a practical guide for the social and health sciences*. Hove: Psychology Press.

Briscoe, J.S. and Berry, J.A. (2009). Barriers to weight loss counselling. *The Journal for Nurse Practitioners,* 5 (3), pp. 161–167.

The British Obesity and Metabolic Surgery Society (BOMSS) (2017) *A commissioning guide for weight assessment and management clinics*. London: BOMSS.

Brown, I., Stride, C., Psarou, A., Brewins, L. and Thompson, J. (2007) Management of obesity in primary care: nurses' practices, beliefs and attitudes. *Journal of Advanced Nursing,* 59 (4), pp. 329–341.

Brown, K.F., Rumgay, H., Dunlop, C., Ryan, M., Quartly, F., Cox, A., Deas, A., Elliss-Brookes, L., Gavin, A. and Hounsome, L. (2018) The fraction of cancer attributable to modifiable risk factors in England, Wales, Scotland, Northern Ireland, and the United Kingdom in 2015. *British Journal of Cancer,* 118 (8), pp. 1130.

Bruce, C.S. (1994) Research students' early experiences of the dissertation literature review. *Studies in Higher Education,* 19 (2), pp. 217–229.

Bryman, A. (2012) *Social Research Methods* Oxford: Oxford University Press.

Buck, D. and Frosini, F. (2012) *Clustering of unhealthy behaviours over time*. London: The Kings Fund.

Burke, V., Mori, T.A., Giangiulio, N., Gillam, H.F., Beilin, L.J., Houghton, S., Cutt, H.E., Mansour, J. and Wilson, A. (2002) An innovative program for changing health behaviours. *Asia Pacific Journal of Clinical Nutrition,* 11 (Suppl. 3), pp. S586–S597.

Bush, H., Williams, R., Bradby, H., Anderson, A. and Lean, M. (1998) Family hospitality and ethnic tradition among South Asian, Italian and general population women in the West of Scotland. *Sociology of Health and Illness,* 20 (3), pp. 351–380.

Caldicott, F. (2013). *Information: To share or not to share. The information governance review*. London: Department of Health.

Carduff, E., Murray, S.A. and Kendall, M. (2015) Methodological developments in qualitative longitudinal research: the advantages and challenges of regular telephone contact with participants in a qualitative longitudinal interview study. *BMC Research Notes,* 8 (1), pp. 142.

Carson, D., Gilmore, A., Perry, C. and Gronhaug, K. (2001) *Qualitative Marketing Research*. London: Sage.

CASP Advisory Group (2012) *Critical Appraisal Checklists*. Available: http://www.casp-uk.net/critical [accessed 28 March 2019].

Castle, A. (2015) *Obesity in Scotland*. SPICe Briefing 15/01. 7 January 2015. Edinburgh: The Scottish Parliament.

Christakis, N.A. and Fowler, J.H. (2007) The spread of obesity in a large social network over 32 years. *New England Journal of Medicine*, 357 (4), pp. 370–379.

Cleary, M., Horsfall, J. and Hayter, M. (2014) Data collection and sampling in qualitative research: does size matter? *Journal of Advanced Nursing,* 70 (3), pp. 473–475.

Cooke, A., Smith, D. and Booth, A. (2012) Beyond PICO: the SPIDER tool for qualitative evidence synthesis. *Qualitative Health Research,* 22 (10), pp. 1435–1443.

Coombs, M.A., Parker, R. and de Vries, K. (2016) Can qualitative interviews have benefits for participants in end-of-life care research? *European Journal of Palliative Care*, 23 (5), pp. 227-231.

Corbin, J. and Strauss, A. (2008) *Basics of qualitative research: techniques and procedures for developing grounded theory*. London: Sage.

Cornelius, T., Gettens, K. and Gorin, A.A. (2016) Dyadic dynamics in a randomized weight loss intervention. *Annals of Behavioral Medicine,* 50 (4), pp. 506–515.

The Counterweight Project Team (2004) A new evidence-based model for weight management in primary care: the Counterweight Programme. *Journal of Human Nutrition and Dietetics,* 17, pp. 191–208.

The Counterweight Project Team (2012) The implementation of the Counterweight Programme in Scotland, UK. *Family Practice,* 29 (Suppl. 1), pp. i139-i144.

The Counterweight Project Team, Trueman, P., Haynes, S., Felicity Lyons, G., Louise McCombie, E., McQuigg, M., Mongia, S., Noble, P., Quinn, M. and Ross, H. (2010) Long-term cost-effectiveness of weight management in primary care. *International Journal of Clinical Practice,* 64 (6), pp. 775–783.

Craig, P., Dieppe, P., Macintyre, S., Michie, S., Nazareth, I., Petticrew, M. and the Medical Research Council (2008) Developing and evaluating complex interventions: the new Medical Research Council guidance. *BMJ (Clinical Research Ed.),* 337, pp. a1655.

Creswell, J.W. (2013) *Qualitative inquiry and research design: choosing among five approaches*, 3rd ed. Thousand Oaks, CA: Sage.

Damianakis, T. and Woodford, M.R. (2012) Qualitative research with small connected communities: Generating new knowledge while upholding research ethics. *Qualitative Health Research,* 22 (5), pp. 708–718.

Davidoff, F., Dixon-Woods, M., Leviton, L. and Michie, S. (2015) Demystifying theory and its use in improvement. *BMJ Quality and Safety,* 24 (3), pp. 228–238.

Davis, N.W. and Meyer, B.B. (2009) Qualitative data analysis: a procedural comparison. *Journal of Applied Sport Psychology,* 21 (1), pp. 116–124.

Day, S. (2012) A reflexive lens: exploring dilemmas of qualitative methodology through the concept of reflexivity. *Qualitative Sociology Review,* 8 (1), pp. 61–85.

DeMaio, T.J. and Landreth, A. (2004) Do different cognitive interview techniques produce different results? In: S. Presser, J. M. Rothgeb, M.P. Couper, J.T.

Lessler, E. Martin, J. Martin, and E. Singer, eds. *Methods for testing and evaluating survey questionnaires.* Hoboken, NJ: Wiley-Interscience, pp. 89–108.

Demark-Wahnefried, W., Jones, L.W., Snyder, D.C., Sloane, R.J., Kimmick, G.G., Hughes, D.C., Badr, H.J., Miller, P.E., Burke, L.E. and Lipkus, I.M. (2014) Daughters and Mothers Against Breast Cancer (DAMES): main outcomes of a randomized controlled trial of weight loss in overweight mothers with breast cancer and their overweight daughters. *Cancer,* 120 (16), pp. 2522–2534.

Denzin, N.K. and Lincoln, Y.S. (2011). *The SAGE handbook of qualitative research*, 4th ed. London: Sage.

Denzin, N.K. and Lincoln, Y.S. (2011a). Introduction: The discipline and practice of qualitative research. In: N.K. Denzin and Y.S. Lincoln, *The SAGE handbook of qualitative research*, 4th ed. London: Sage, pp. 1–20.

Denzin, N.K. and Lincoln, Y.S. eds. (2000) *Handbook of qualitative research*, 2nd ed. Thousand Oaks, CA: Sage.

Department of Health. (2013) *Developing a specification for lifestyle weight management services: Best practice guidance for tier 2 services*. London: Department of Health, Obesity and Food Policy Branch.

Dietz, W.H., Baur, L.A., Hall, K., Puhl, R.M., Taveras, E.M., Uauy, R. and Kopelman, P. (2015) Management of obesity: improvement of health-care training and systems for prevention and care. *The Lancet,* 385 (9986), pp. 2521–2533.

Dobbs, R., Sawers, C., Thompson, F., Manyika, J., Woetzel, J., Child, P., McKenna, S., and Spatharou, A. (2014) *Overcoming obesity: An initial economic analysis.* McKinsey Global Institute, UK.

Dombrowski, S.U., Knittle, K., Avenell, A., Araújo-Soares, V. and Sniehotta, F.F. (2014) Long term maintenance of weight loss with non-surgical interventions in obese adults: systematic review and meta-analyses of randomised controlled trials. *BMJ (Clinical Research Ed.),* 348, pp. g2646.

Dombrowski, S.U., O' Carroll, R.E. and Williams, B. (2016) Form of delivery as a key ‘active ingredient’ in behaviour change interventions. *British Journal of Health Psychology,* 21 (4), pp. 733–740.

Duncan, E.A., Nicol, M.M. and Ager, A. (2004) Factors that constitute a good cognitive behavioural treatment manual: a Delphi study. *Behavioural and Cognitive Psychotherapy,* 32 (2), pp. 199–213.

Eby, M. (2000) The challenge of values and ethics in practice. In: S. Brechin, H. Brown and M. A. Eby, eds. *Critical Practice in Health and Social Care*. London: Sage/Open University, pp. 117–140.

Ells, L.J., Demaio, A. and Farpour-Lambert, N. (2018) Diet, genes, and obesity. *BMJ,* 360, p. k7.

Faw, M.H. (2014) Young adults’ strategies for managing social support during weight-loss attempts. *Qualitative Health Research,* 24 (2), pp. 267–278.

Festinger, L. (1954) A Theory of Social Comparison Processes. *Journal of Human Relations,* 7, pp. 117–140.

Flick, U. (2006) *An Introduction to Qualitative Research*, 3rd ed. London: Sage Publications Ltd, London.

Foot, C., Gilburt, H., Dunn, P., Jabbal, J., Seale, B., Goodrich, J., Buck, D. and Taylor, J. (2014) *People in control of their own health and care.* London: King’s Fund.

Fraser, M.W. and Galinsky, M.J. (2010) Steps in intervention research: designing and developing social programs. *Research on Social Work Practice,* 20 (5), pp. 459–466.

Gale, N.K., Heath, G., Cameron, E., Rashid, S. and Redwood, S. (2013) Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology,* 13 (1), pp. 117.

Galletta, A. (2013) *Mastering the semi-structured interview and beyond: From research design to analysis and publication.* New York, NY: NYU Press.

Gibbs, G.R. (2007) Thematic coding and categorizing. In: U. Flick, ed. *Analyzing Qualitative Data.* London: Sage, pp. 38–56.

Gill, D.L. (2011) Beyond the qualitative–quantitative dichotomy: notes from a non-qualitative researcher. *Qualitative Research in Sport, Exercise and Health,* 3 (3), pp. 305–312.

Glaser, B.G. (1978) *Theoretical sensitivity: Advances in the methodology of grounded theory*. San Francisco: University of California.

Glaser, B.G. and Strauss, A.L. (1967) *The discovery of grounded theory: strategies for qualitative research.* New York, NY: Aldine Publishing.

Glaser, B.G. and Strauss, A.L. (1999) *The discovery of grounded theory: strategies for qualitative research.* New York, NY: Transaction Publishers.

Glasgow, R.E., Vogt, T.M. and Boles, S.M. (1999) Evaluating the public health impact of health promotion interventions: the RE-AIM framework. *American Journal of Public Health,* 89 (9), pp. 1322–1327.

Glesne, C. and Peshkin, A. (1992) *Becoming qualitative researchers: An introduction.* White Plains, NY: Longman.

Goeschel, C.A., Weiss, W.M. and Pronovost, P.J. (2012) Using a logic model to design and evaluate quality and patient safety improvement programs. *International Journal for Quality in Health Care,* 24 (4), pp. 330–337.

Goldacre, B. (2009) *Bad Science,* 2nd ed. London: Fourth Estate.

Goodarzi, M.O. (2018) Genetics of obesity: what genetic association studies have taught us about the biology of obesity and its complications. *The Lancet Diabetes and Endocrinology,* 6 (3), pp. 223–236.

Gorin, A., Phelan, S., Tate, D., Sherwood, N., Jeffery, R. and Wing, R. (2005) Involving support partners in obesity treatment. *Journal of Consulting and Clinical Psychology,* 73 (2), pp. 341–343.

Gorin, A.A., Powers, T.A., Koestner, R., Wing, R.R. and Raynor, H.A. (2014) Autonomy support, self-regulation, and weight loss. *Health Psychology,* 33 (4), p. 332.

Gorin, A.A., Raynor, H.A., Fava, J., Maguire, K., Robichaud, E., Trautvetter, J., Crane, M. and Wing, R.R. (2013) Randomized controlled trial of a comprehensive home environment-focused weight-loss program for adults. *Health Psychology,* 32 (2), pp. 128.

Gorin, A.A., Wing, R.R., Fava, J.L., Jakicic, J.M., Jeffery, R., West, D.S., Brelje, K. and DiLillo, V.G. (2008) Weight loss treatment influences untreated spouses and the home environment: evidence of a ripple effect. *International Journal of Obesity*, 11, pp. 1678.

Government Office for Science (2007) Foresight. *Tackling Obesities: Future Choices–Project Report*. London: Department of Innovation Universities and Skills.

Green, M., Strong, M., Razak, F., Subramanian, S., Relton, C. and Bissell, P. (2015) Who are the obese? A cluster analysis exploring subgroups of the obese. *Journal of Public Health,* 38 (2), pp. 258–264.

Greene, G.W., Rossi, S.R., Rossi, J.S., Velicer, W.F., Fava, J.L., and Prochaska, J.O. (1999) Dietary applications of the Stages of Change Model. *Journal of the American Dietetic Association,* 99 (6), pp. 673–678.

Greenfield, G., Foley, K. and Majeed, A. (2016) Rethinking primary care's gatekeeper role. *BMJ*, 354, p. i4803.

Hales, C.M., Fryar, C.D., Carroll, M.D., Freedman, D.S. and Ogden, C.L. (2018) Trends in obesity and severe obesity prevalence in US youth and adults by sex and age, 2007–2008 to 2015–2016. *JAMA*, 319 (16), pp. 1723-1725.

Hammarström, A., Wiklund, A.F., Lindahl, B., Larsson, C. and Ahlgren, C. (2014) Experiences of barriers and facilitators to weight-loss in a diet intervention-a qualitative study of women in Northern Sweden. *BMC Women's Health,* 4 (1), p. 59.

Han, T.S., van Leer. E.M., Seidell, J.C., and Lean, M.E. (1996) Waist circumference as a screening tool for cardiovascular risk factors: evaluation of receiver operating characteristics (ROC). *Obesity Research*, 4 (6), pp. 533–547.

Hewitt, J. (2007) Ethical components of researcher—researched relationships in qualitative interviewing. *Qualitative Health Research,* 17 (8), pp. 1149–1159.

Hoddinott, P. (2015) A new era for intervention development studies. *Pilot and Feasibility Studies*, 1. p. 36.

Hoddinott, P., Allan, K., Avenell, A. and Britten, J. (2010) Group interventions to improve health outcomes: a framework for their design and delivery. *BMC Public Health,* 10 (1), p. 800.

Hoddinott, P., Chalmers, M. and Pill, R. (2006) One-to-one or group-based peer support for breastfeeding? Women's perceptions of a breastfeeding peer coaching intervention. *Birth,* 33 (2), pp. 139–146.

Hoddinott, P., Morgan, H., Thomson, G., Crossland, N., Craig, L., Britten, J., Farrar, S., Newlands, R., Kiezebrink, K. and Coyle, J. (2013) Intervention vignettes as a qualitative tool to refine complex intervention design. *Trials,* 14 (S1) p. O55.

Hoffmann, T.C., Glasziou, P.P., Boutron, I., Milne, R., Perera, R., Moher, D., Altman, D.G., Barbour, V., Macdonald, H., Johnston, M., Lamb, S.E., Dixon-Woods, M., McCulloch, P., Wyatt, J.C., Chan, A.W. and Michie, S. (2014) Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. *BMJ (Clinical Research Ed.),* 348, p. g1687.

Holloway, I. (1997) *Basic concepts for qualitative research.* Oxford: Blackwell Science.

Holloway, I. and Wheeler, S. (2010) *Qualitative research in nursing and healthcare*, 3rd ed. Chichester: Wiley-Blackwell.

Hoppe, R. and Ogden, J. (1997) Practice nurses' beliefs about obesity and weight related interventions in primary care. *International Journal of Obesity,* 21 (2), p. 141.

Hunt, K., Wyke, S., Gray, C.M., Anderson, A.S., Brady, A., Bunn, C., Donnan, P.T., Fenwick, E., Grieve, E. and Leishman, J. (2014) A gender-sensitised weight loss and healthy living programme for overweight and obese men delivered by Scottish Premier League football clubs (FFIT): a pragmatic randomised controlled trial. *The Lancet,* 383 (9924), pp. 1211–1221.

Hunter, R.F., de la Haye, K., Badham, J., Valente, T., Clarke, M. and Kee, F. (2017) Social network interventions for health behaviour change: a systematic review. *The Lancet,* 390 (S47).

Hutchinson, S.A., Wilson, M.E. and Wilson, H.S. (1994) Benefits of participating in research interviews. *Image: The Journal of Nursing Scholarship,* 26 (2), pp. 161–166.

Israel, A.C. and Saccone, A.J. (1979) Follow-up of effects of choice of mediator and target of reinforcement on weight loss. *Behavior Therapy,* 10 (2), pp. 260–265.

Jackson, S.E., Steptoe, A. and Wardle, J. (2015) The influence of partner's behavior on health behavior change: the English Longitudinal Study of Ageing. *JAMA Internal Medicine,* 175 (3), pp. 385–392.

Jansen, H. (2010) The logic of qualitative survey research and its position in the field of social research methods. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, 11 (2).

Jebb, S. (2017) Dusting off Foresight's obesity report. *Foresight: Tackling Obesities*. London: Government Office for Science. Available: https://foresightprojects.blog.gov.uk/2017/ [accessed 28 March 2019].

Jessiman, T., Cameron, A., Wiggins, M. and Lucas, P.J. (2013) A qualitative study of uptake of free vitamins in England. *Archives of Disease in Childhood,* 98 (8), pp. 587–591.

Jolly, K., Lewis, A., Beach, J., Denley, J., Adab, P., Deeks, J.J., Daley, A. and Aveyard, P. (2011) Comparison of range of commercial or primary care led weight reduction programmes with minimal intervention control for weight loss in obesity: Lighten Up randomised controlled trial. *BMJ (Clinical research ed.),* 343, p. d6500.

Kahneman, D. (2012) Thinking, fast and slow. London: Penguin.

Kaiser, K. (2009) Protecting respondent confidentiality in qualitative research *Qualitative Health Research,* 19 (11), pp. 1632–1641.

Kennedy, B.M., Rehman, M., Johnson, W.D., Magee, M.B., Leonard, R. and Katzmarzyk, P.T. (2017) Healthcare providers versus patients' understanding of health beliefs and values. *Patient Experience Journal,* 4 (3), pp. 29.

Kozak, A.T., Buscemi, J., Hawkins, M.A., Wang, M.L., Breland, J.Y., Ross, K.M. and Kommu, A. (2017) Technology-based interventions for weight management: current randomized controlled trial evidence and future directions. *Journal of Behavioral Medicine,* 40 (1), pp. 99–111.

Kvale, S. and Brinkman, S. (2009) Interviews: learning the craft of research interviewing. London: Sage.

Kwasnicka, D., Dombrowski, S.U., White, M. and Sniehotta, F. (2016) Theoretical explanations for maintenance of behaviour change: a systematic review of behaviour theories. *Health Psychology Review,* 10 (3), pp. 277–296.

Lang, A. and Froelicher, E.S. (2006) Management of overweight and obesity in adults: behavioral intervention for long-term weight loss and maintenance. *European Journal of Cardiovascular Nursing,* 5 (2), pp. 102–114.

Larkey, L.K., Alatorre, C., Buller, D.B., Morrill, C., Buller, M.K., Taren, D. and Sennott-Miller, L. (1999) Communication strategies for dietary change in a worksite peer educator intervention. *Health Education Research,* 14 (6) pp. 777–790.

Lean, M.E.J., Astrup, A. and Roberts, S.B. (2018) Making progress on the global crisis of obesity and weight management. *BMJ (Clinical Research Ed.),* 361, p. k2538.

Lewin, K. (1943) Psychological ecology. In J.J. Gieseking and W. Mangold (2014), eds. *The People, Place, and Space Reader.* London: Routledge, pp. 51–55.

Lincoln, Y.S. and Guba, E.G. (1985) *Naturalistic inquiry.* London: Sage.

Lindhardt, C.L., Rubak, S., Mogensen, O., Hansen, H.P., Goldstein, H., Lamont, R.F. and Joergensen, J.S. (2015) Healthcare professionals experience with motivational interviewing in their encounter with obese pregnant women. *Midwifery,* 31 (7), pp. 678–684.

Loef, M. and Walach, H. (2013) Midlife obesity and dementia: meta-analysis and adjusted forecast of dementia prevalence in the United States and China. *Obesity,* 21 (1), pp. E51–E55.

Loring, B. and Robertson, A. (2014) *Obesity and inequities. Guidance for addressing inequities in overweight and obesity*. Copenhagen: WHO Regional Office for Europe.

MacLean, A., Hunt, K., Gray, C., Smillie, S. and Wyke, S. (2014) How do men's female relatives feature in their accounts of changing eating practices during a weight-management programme delivered through professional football clubs?" *International Journal of Men's Health,* 13 (2), pp. 121–138.

Maitland, J. and Chalmers, M. (2011) Designing for peer involvement in weight management. In: *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems.* Vancouver, BC, May 07–12. New York, NY: ACM, pp. 315–324.

Malterud, K., Siersma, V.D. and Guassora, A.D. (2016) Sample size in qualitative interview studies: guided by information power. *Qualitative Health Research,* 26 (13), pp. 1753–1760.

Marcoux, B.C., Trenkner, L.L. and Rosenstock, I.M. (1990) Social networks and social support in weight loss. *Patient Education and Counseling,* 15 (3), pp. 229–238.

McEvoy, C.T., Moore, S.E., Appleton, K.M., Cupples, M.E., Erwin, C., Kee, F., Prior, L., Young, I.S., McKinley, M.C. and Woodside, J.V. (2018) Development of a peer support intervention to encourage dietary behaviour change towards a Mediterranean diet in adults at high cardiovascular risk. *BMC Public Health,* 18 (1), p. 1194.

McLean, N., Griffin, S., Toney, K. and Hardeman, W. (2003) Family involvement in weight control, weight maintenance and weight-loss interventions: a systematic review of randomised trials. *International Journal of Obesity,* 27 (9), p. 987.

Melin, I., Karlström, B., Berglund, L., Zamfir, M. and Rössner, S. (2005) Education and supervision of health care professionals to initiate, implement and improve management of obesity. *Patient Education and Counseling,* 58 (2), pp. 127–136.

Michie, S., Atkins, L. and West, R. (2014) *The Behaviour Change Wheel: a guide to designing interventions*. Sutton, Surrey: Silverback Publishing.

Michie, S., Richardson, M., Johnston, M., Abraham, C., Francis, J., Hardeman, W., Eccles, M.P., Cane, J. and Wood, C.E. (2013) The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: building

an international consensus for the reporting of behavior change interventions. *Annals of Behavioral Medicine,* 46 (1), pp. 81–95.

Middleton, K. (2016) Give patients direct access to physiotherapy. *BMJ (Clinical Research Ed.),* 352, p. h6844.

Miles, M.B., and Huberman, A.M. (1994) *Qualitative data analysis: an expanded sourcebook*, 2nd ed*.* London: Sage.

Moher, D., Liberati, A., Tetzlaff, J. and Altman, D.G. (2009) Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Annals of Internal Medicine,* 151 (4), pp. 264–269.

Moore, G.F., Audrey, S., Barker, M., Bond, L., Bonell, C., Hardeman, W., Moore, L., O'Cathain, A., Tinati, T., Wight, D. and Baird, J. (2015) Process evaluation of complex interventions: Medical Research Council guidance. *BMJ (Clinical Research Ed.),* 350, p. h1258.

Mosack, K.E., Patterson, L., Brouwer, A.M., Wendorf, A.R., Ertl, K., Eastwood, D., Morzinski, J., Fletcher, K. and Whittle, J. (2013) Evaluation of a peer-led hypertension intervention for veterans: impact on peer leaders. *Health Education Research,* 28 (3), pp. 426–436.

Murphy, M.E., Byrne, M., Zarabzadeh, A., Corrigan, D., Fahey, T. and Smith, S.M. (2017) Development of a complex intervention to promote appropriate prescribing and medication intensification in poorly controlled type 2 diabetes mellitus in Irish general practice. *Implementation Science,* 12 (1), p. 115.

Murray, S.A., Kendall, M., Carduff, E., Worth, A., Harris, F.M., Lloyd, A., Cavers, D., Grant, L. and Sheikh, A. (2009) Use of serial qualitative interviews to understand patients' evolving experiences and needs. *BMJ (Clinical Research Ed.),* 339, p. b3702.

National Institute for Health and Care Excellence (2006) CG43 Obesity: identification, assessment and management of overweight and obesity in children, young people and adults. London: NICE.

National Institute for Health and Care Excellence (2007) PH6 Behaviour change: general approaches. London: NICE.

National Institute for Health and Care Excellence (2013) PH46 BMI: preventing ill health and premature death in black, Asian and other minority ethnic groups. London: NICE.

National Institute for Health and Care Excellence (2014) *PH49 Behaviour change: individual approaches*. London: NICE.

National Institute for Health and Care Excellence (2014) *PH53 Managing overweight and obesity in adults – lifestyle weight management services*. London: NICE.

National Institute for Health and Care Excellence (2014, updated May 2018) CG189 Obesity: identification, assessment and management, Clinical guideline [CG189] update of CG43 2014. London: NICE.

National Institute for Health and Care Excellence (2017) Update PH42 Obesity: working with local communities. London: NICE.

National Institute for Health Research (2018) INVOLVE: Guidance on co-producing a research project. Eastleigh: NIHR. Available: invo.org.uk [accessed 28 March 2019].

The National Planning Forum (2012) *Obesity treatment: Best Practice Guidelines*, Edinburgh: Scottish Government.

Newington, L. and Metcalfe, A. (2014) Factors influencing recruitment to research: qualitative study of the experiences and perceptions of research teams. *BMC Medical Research Methodology,* 14 (1), p. 10.

NHS Greater Glasgow and Clyde 2019. *Glasgow and Clyde Weight Management Service*. Available: https://www.nhsggc.org.uk/your-health/health-services/glasgow-and-clyde-weight-management-service [accessed 28 March 2019].

Nichols, A.L. and Maner, J.K. (2008) The good-subject effect: investigating participant demand characteristics. *The Journal of General Psychology,* 135 (2), pp. 151–166.

O'Dowd, A. (2012) Fight to tackle unhealthy lifestyles has widened gap in health inequalities. *BMJ Online,* 345, p. e5707.

Ogden, J. and Hills, L. (2008) Understanding sustained behavior change: the role of life crises and the process of reinvention. *Health,* 12 (4), pp. 419–437.

Organisation for Economic Co-operation and Development (OECD) (2017) Obesity update. Paris: OECD. Available: http://www.oecd.org/health/obesity-update.htm [accessed 28 March 2018].

Orlikowski, W.J. and Baroudi, J.J. (1991) Studying information technology in organizations: Research approaches and assumptions. *Information Systems Research,* 2 (1), pp. 1–28.

Patil, S.J., Ruppar, T., Koopman, R.J., Lindbloom, E.J., Elliott, S.G., Mehr, D.R. and Conn, V.S. (2018) Effect of peer support interventions on cardiovascular disease risk factors in adults with diabetes: a systematic review and meta-analysis. *BMC Public Health,* 18 (1), p. 398.

Patton, M.Q. (2015) *Qualitative research and evaluation methods*, 4th ed. London: Sage.

Pawson, R. and Tilley, N. (2010) *Realistic evaluation.* London: Sage.

Penn, L., Dombrowski, S.U., Sniehotta, F.F. and White, M. (2013) Participants' perspectives on making and maintaining behavioural changes in a lifestyle intervention for type 2 diabetes prevention: a qualitative study using the theory domain framework. *BMJ Open,* 3 (6), p. e002949.

Polit, D.F. and Beck, C.T. (2017) *Nursing research: generating and assessing evidence for nursing practice,* 10th ed. Philadelphia: Lippincott Williams and Wilkins.

Popay, J. and Williams, G. (1998) Qualitative research and evidence-based healthcare. *Journal of the Royal Society of Medicine,* 91 (Suppl. 35), 32–37.

Pope, C., Ziebland, S. and Mays, N. (2006) Analysing qualitative data. In: C. Pope and N. Mays, eds. *Qualitative Research in Health Care*. Oxford: Blackwell Publishing, pp. 121.

Powell, K., Wilcox, J., Clonan, A., Bissell, P., Preston, L., Peacock, M. and Holdsworth, M. (2015) The role of social networks in the development of overweight and obesity among adults: a scoping review. *BMC Public Health,* 15 (1), p. 996.

Prochaska, J.O., DiClemente, C.C. and Norcross, J.C. (1992) In search of how people change: applications to addictive behaviors. *American Psychologist,* 47 (9), p. 1102.

Prochaska, J.O., Norcross, J.C., and Diclemente, C.C. (2013) Applying the stages of change. *Psychotherapy in Australia,* 19 (2), pp. 10–15.

Public Health England (PHE) (2017) *Adult weight management: commission and provide services: evidence-based guidance to support practitioners, commissioners and providers of tier 2 weight management services*. London: PHE.

Ritchie, J., Lewis, J., Nicholls, C.M. and Ormston, R. (2014) *Qualitative research practice: a guide for social science students and researchers,* 2nd ed. London: Sage.

Robertson, A., Lobstein, T. and Knai, C. (2007) *Obesity and socio-economic groups in Europe: evidence review and implications for action*. Brussels: European Commission.

Robertson, C., Archibald, D., Avenel, A., Douglas, F., Hoddinott, P., van Teijlingen, E. and et al. (2014) Systematic reviews of and integrated report on the quantitative, qualitative and economic evidence base for the management of obesity in men. *Health Technology Assessment,* 18 (35).

Robertson, C., Avenell, A., Stewart, F., Archibald, D., Douglas, F., Hoddinott, P., Van Teijlingen, E. and Boyers, D. (2017) Clinical effectiveness of weight loss and weight maintenance interventions for men: a systematic review of men-only randomized controlled trials (The ROMEO Project). *American Journal of Men's Health,* 11 (4), pp. 1096–1123.

Robson, C. 2011, *Real world research: a resource for users of social research methods in applied settings,* 3rd ed. Hoboken, NJ: Wiley.

Rollnick, S. and Miller, W.R. (1995) What is motivational interviewing? *Behavioural and Cognitive Psychotherapy,* 23 4, pp. 325–334.

Rollnick, S., Miller, W.R., Butler, C.C. and Aloia, M.S. (2008) Motivational interviewing in health care: helping patients change behavior. COPD: Journal of Chronic Obstructive Pulmonary Disease, 5 (3): p. 203.

Rossini, R., Moscatiello, S., Tarrini, G., Di Domizio, S., Soverini, V., Romano, A., Mazzotti, A., Dalle Grave, R. and Marchesini, G. (2011) Effects of cognitive-behavioral treatment for weight loss in family members. *Journal of the American Dietetic Association,* 111 (11), pp. 1712–1719.

Russell, H.A., Rufus, C., Fogarty, C.T., Fiscella, K. and Carroll, J. (2013) 'You need a support. When you don't have that . . . chocolate looks real good'. Barriers to and facilitators of behavioural changes among participants of a Healthy Living Program. *Family Practice,* 30 (4), pp. 452–458.

Ryan, G.W. and Bernard, H.R. (2003) Techniques to identify themes. *Field Methods,* 15 (1), pp. 85–109.

Ryan, M., Yi, D., Avenell, A., Douglas, F., Aucott, L., van Teijlingen, E. and Vale, L. (2015) Gaining pounds by losing pounds: preferences for lifestyle interventions to reduce obesity. *Health Economics, Policy and Law,* 10 (2), pp. 161–182.

Rydén, P.J. and Sydner, Y.M. (2011) Implementing and sustaining dietary change in the context of social relationships. *Scandinavian Journal of Caring Sciences,* 25 (3), pp. 583–590.

Sandon, L. (2016) *Pilot study: effect of a worksite weight-loss intervention and social influence on self-efficacy and self-regulation for eating and exercise*. Doctoral Thesis, Denton, TX: Texas Woman's University.

Sanjari, M., Bahramnezhad, F., Fomani, F.K., Shoghi, M. and Cheraghi, M.A. (2014) Ethical challenges of researchers in qualitative studies: the necessity to develop a specific guideline. *Journal of Medical Ethics and History of Medicine,* 7, p. 14.

Scherr, A.E.S., Brenchley, K.J.M. and Gorin, A.A. (2013) Examining a ripple effect: do spouses' behavior changes predict each other's weight loss? *Journal of Obesity,* Article ID 297268.

Scottish Government (2014) *Scottish Government Urban Rural Classification 2013–2014*. Available: https://www2.gov.scot/Topics/Statistics/About/Methodology/UrbanRuralClassification [accessed 28 March 2019].

Scottish Government (2017) *Public attitudes to reducing obesity*. Edinburgh: NHS Health Scotland. Available: http://www.healthscotland.scot/media/1705/public-attitudes-to-reducing-obesity-in-scotland.pdf [accessed 28 March 2019].

Scottish Government (2017) *The Scottish Health Survey 2016*. Edinburgh: Scottish Government.

Scottish Government (2018a) *The Scottish Health Survey 2017*. Edinburgh: Scottish Government.

Scottish Government (2018b) *Scotland's public health priorities*. Edinburgh: Scottish Government

Scottish Government (2018c) *A healthier future: Scotland's diet and healthy weight delivery plan*. Edinburgh: Scottish Government, Health and Social Care Integration Directorate. Available: https://www.gov.scot/publications/healthier-future-scotlands-diet-healthy-weight-delivery-plan/ [accessed 28 March 2019].

Scottish Government (2018d) *A more active Scotland: Scotland's physical activity delivery plan*. Edinburgh: Scottish Government, Health and Social Care Directorate. Available: https://www.gov.scot/publications/active-scotland-delivery-plan/ [accessed 28 March 2019].

Scottish Government (2018e) *A healthier future: type 2 diabetes prevention, early detection and intervention framework*. Edinburgh: Scottish Government, Health and Social Care Integration Directorate. Available: https://www.gov.scot/publications/healthier-future-framework-prevention-early-detection-early-intervention-type-2/ [accessed 28 March 2019].

Scottish Intercollegiate Guidelines Network (SIGN) (2010) *Management of Obesity; a national clinical guideline 115*. Edinburgh: SIGN. Available: https://www.sign.ac.uk/assets/sign115.pdf [accessed 28 March 2019].

Seale, C. (2012) Validity, reliability and the quality of research. In: C. Seale, ed. *Researching Society and Culture,* 3rd ed. London: Sage, pp. 528–543.

Silverman, D. (2000) *Doing qualitative research*. London: Sage Publications Limited.

Silverman, D. (2005) *Doing qualitative research*, 2nd ed. London: Sage Publications Limited.

Silverman, D. (2010) *Doing qualitative research: a practical handbook,* 3rd ed. London: Sage Publications Limited.

Sinnott, C., Mercer, S.W., Payne, R.A., Duerden, M., Bradley, C.P. and Byrne, M. (2015) Improving medication management in multimorbidity: development of the MultimorbiditY COllaborative Medication Review And DEcision making (MY COMRADE) intervention using the Behaviour Change Wheel. *Implementation Science,* 10 (1), p. 132.

Sniehotta, F.F. and Aunger, R. (2010) Stage models of behaviour change. In: D. French, K. Vedhara, A.A. Kaptein and J. Weinman, eds. *Health Psychology,* 2nd ed. Hoboken, NJ: Blackwell, pp. 135–148.

Snowden, A. and Young, J. (2017) A screening tool for predicting gatekeeping behaviour. *Nursing Open,* 4 (4), pp. 187–199.

Sorgente, A., Pietrabissa, G., Manzoni, G.M., Re, F., Simpson, S., Perona, S., Rossi, A., Cattivelli, R., Innamorati, M., Jackson, J.B. and Castelnuovo, G. (2017) Web-based interventions for weight loss or weight loss maintenance in overweight and obese people: a systematic review of systematic reviews. *Journal of Medical Internet Research,* 19 (6), p. e229.

Sorkin, D.H., Mavandadi, S., Rook, K.S., Biegler, K.A., Kilgore, D., Dow, E. and Ngo-Metzger, Q. (2014) Dyadic collaboration in shared health behavior change: the effects of a randomized trial to test a lifestyle intervention for high-risk Latinas. *Health Psychology,* 33 (6), p. 566.

South, J. (2014) Health promotion by communities and in communities: current issues for research and practice. *Scandinavian Journal of Public Health,* 42 (15 Suppl.), pp. 82–87.

Sparkes, A.C. and Smith, B. (2014) *Qualitative research methods in sport, exercise and health: from process to product*. London: Routledge.

Sprumont, D. (1999) Legal protection of human research subjects in Europe. *European Journal of Health Law,* 6 (1), pp. 25–43.

Steinberg, D. (2010) Altruism in medicine: its definition, nature, and dilemmas. *Cambridge Quarterly of Healthcare Ethics,* 19 (2), pp. 249–257.

Terranova, C.O., Lawler, S.P., Spathonis, K., Eakin, E.G. and Reeves, M.M. (2017) Breast cancer survivors' experience of making weight, dietary and physical activity changes during participation in a weight loss intervention. *Supportive Care in Cancer,* 25 (5), pp. 1455–1463.

Tessaro, I., Campbell, M., Benedict, S., Kelsey, K., Heisler-MacKinnon, J., Belton, L. and DeVellis, B. (1998) Developing a worksite health promotion intervention: health works for women. *American Journal of Health Behavior,* 22 (6), pp. 434–442.

Tessaro, I.A., Taylor, S., Belton, L., Campbell, M.K., Benedict, S., Kelsey, K. and DeVellis, B. (2000) Adapting a natural (lay) helpers model of change for worksite health promotion for women. *Health Education Research,* 15 (5), pp. 603–614.

Thomas, J.L., Stewart, D.W., Lynam, I.M., Daley, C.M., Befort, C., Scherber, R.M., Mercurio, A.E., Okuyemi, K.S. and Ahluwalia, J.S. (2009) Support needs of overweight African American women for weight loss. *American Journal of Health Behavior*, 33 (4), pp. 339–352.

Trotter II, R.T. (2012) Qualitative research sample design and sample size: resolving and unresolved issues and inferential imperatives. *Preventive Medicine,* 55 (5), pp. 398–400.

Van de Mortel, T.F. (2008) Faking it: social desirability response bias in self-report research. *Australian Journal of Advanced Nursing,* 25 (4), p. 40.

Verheijden, M.W., Bakx, J.C., van Weel, C., Koelen, M.A. and van Staveren, W.A. (2005) Role of social support in lifestyle-focused weight management interventions. *European Journal of Clinical Nutrition,* 59 (Suppl. 1), pp. S179–S186.

Wadden, T.A. and Didie, E. (2003) What's in a name? Patients' preferred terms for describing obesity. *Obesity Research,* 11 (9), pp. 1140–1146.

Wang, T., Heianza, Y., Sun, D., Huang, T., Ma, W., Rimm, E.B., Manson, J.E., Hu, F.B., Willett, W.C. and Qi, L. (2018) Improving adherence to healthy dietary patterns, genetic risk, and long term weight gain: gene-diet interaction analysis in two prospective cohort studies. *BMJ (Clinical Research Ed.),* 360, p. j5644.

Webb, J., Foster, J. and Poulter, E. (2016) Increasing the frequency of physical activity very brief advice for cancer patients. Development of an intervention using the behaviour change wheel. *Public Health,* 133, pp. 45–56.

Welbourn, R., Dixon, J., Barth, J.H., Finer, N., Hughes, C.A., Le Roux, C.W. and Wass, J. (2016) NICE-accredited commissioning guidance for weight

assessment and management clinics: a model for a specialist multidisciplinary team approach for people with severe obesity. *Obesity Surgery,* 26, 3, pp. 649–659.

West, R. and Brown, J. (2013) A synthetic theory of motivation. In: R. West and J. Brown, eds. *Theory of addiction,* 2nd ed. Hoboken, NJ: John Wiley and Sons, pp. 192–228.

Willis, G.B. (1999) *Cognitive interviewing: a "how-to" guide.* Research Triangle Institute. http://appliedresearch.cancer.gov/areas/cognitive/interview.pdf

Willis, G.B. and Artino Jr, A.R. (2013) What do our respondents think we're asking? Using cognitive interviewing to improve medical education surveys. *Journal of Graduate Medical Education,* 5 (3), pp. 353–356.

Wing, R.R. and Jeffery, R.W. (1999) Benefits of recruiting participants with friends and increasing social support for weight loss and maintenance. *Journal of Consulting and Clinical Psychology,* 67 (1), pp. 132–138.

Wing, R.R. and Phelan, S. (2005) Long-term weight loss maintenance. *The American Journal of Clinical Nutrition*, 82 (1), pp. 222S–225S.

Witty, K. and White, A. (2010) *The Tackling Men's Health Evaluation Study: final report*. Leeds: Leeds Metropolitan University.

World Health Organization (2000) Body mass index – BMI. Geneva: WHO. Available: http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi [accessed 28 March 2019].

World Health Organization (2008) Peer support programmes in diabetes: report of a WHO consultation, 5–7 November 2007. Geneva: WHO.

World Health Organization (2013) *Global action plan for the prevention and control of NCDs 2013–2020*. Geneva: WHO.

World Health Organization (2015) *Obesity and overweight.* Geneva: WHO.

World Health Organization (2018) Obesity and overweight factsheet. Geneva: World Health Organization. Available at: https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight [accessed 28 March 2019].

Xu, W.L., Atti, A.R., Gatz, M., Pedersen, N.L., Johansson, B. and Fratiglioni, L. (2011) Midlife overweight and obesity increase late-life dementia risk: a population-based twin study. *Neurology,* 76 (18), pp. 1568–1574.

Appendices

Appendix 1.1: Criteria for clients' entry into the weight management programme

Inclusion criteria	1. They are adults (18 years or more)
	2. They are defined as overweight/obese (BMI ≥25kg/m^2)
	3. They have a history of dieting
	4. They are motivated to make behaviour changes
	5. They need personal directed support
	6. They are without complex needs
	7. They are able to understand English (due to the Counterweight material printed in English alone)
Exclusion criteria	8. Those that are not accepted by triage into tier 2 weight management

Appendix 2.1: The search question and its three parts including the key words for searches in CINAHL full text, MEDLINE AND PsychINFO

Proximity Operator 1 (W1)
Behaviour change or
Lifestyle change or
Dietary change

AND

Proximity Operator 1 (W1)
Weight management

AND

Proximity Operator 1 (W1)
Social support or
Social network or
Family support or
Family network
Peer support or
Peer involvement or
Support partners or
Spouse support
Social intervention
Significant other

These individual terms were linked by 'Proximity Operators' so that each term was adjacent to the other.

Appendix 2.2: Summary of the studies from the literature review

Study Number	First Author and year of publication	Country of study	Study population	Methodology	Study Aim	Outcomes/ findings	Explanatory theories and models
1.	Verheijden et al (2005)	Various high income countries	10 studies of 1008 participants – an overview of the population. Baseline characteristics of participants varied but all meeting review inclusion criteria. Recruited mainly from newspaper advertisements and existing research studies, suggesting motivated participants	Systematic review of randomized controlled trials	To address the effectiveness of spousal support components in lifestyle focused interventions for weight management	Most studies reported positive health outcomes as measured by weight loss (measures variable between studies: BMI, weight loss in kg, weight loss by percentage and some by well being)	Transtheoretical Model (Prochaska et al 1992)
2.	Thomas et al (2009)	USA	66 overweight and obese African American females	Mixed methods – qualitative section based on grounded theory	To further understanding of the knowledge, attitudes, and beliefs of the participants regarding support needed during a weight loss effort. Specifically, their preferences for supportive behaviours for weight loss and physical activity and the potential role of a "supportive other" to assist in achieving these	Participants were interested in social support for weight loss attempts; thought it crucial for weight loss maintenance and attributes of sympathy, commitment and prior weight-loss success were highly desirable	Not mentioned

Study Number	First Author and year of publication	Country of study	Study population	Methodology	Study Aim	Outcomes/ findings	Intervention theory
3.	Albarran et al (2014)	USA	18 immigrant Latinas	Qualitative – based on grounded theory: four focus groups and seven one-on-one interviews	To explore the relationship between the Latinas and the community peers and whether this facilitated an environment for positive behaviour change	Peers helped Latinas change by motivating them through three elements with: tools, support, knowledge. Latinas ability to make lifestyle changes was connected with their psychological and emotional health when seeing peers as providers of emotional and social support.	Not mentioned
4.	Maitland et al (2011)	UK	19 overweight community respondents (8 male, 11 female)	Qualitative – semi structured interviews	To investigate the sociality of weight management as experienced by a broad demographic of individuals	There is a broad scope of peer involvement and provides insight into the context and mechanics of related interaction of peer based weight management interventions	Social comparison theory (Festinger 1954) Normative influence (Guo and Turner 2006) Social learning theory (Bandura 1977)
5.	Tessaro et al (1998)	USA	121 'blue-collar' female workers	Qualitative – focus groups	To understand health concerns, barriers and facilitators for change in women in blue-collar worksites.	Concerns centred on wellness. Major barriers were no time and no will power. Social support in the work was considered a potential facilitator to change were place.	Symbolic Interactionism (Blumer 1969) Social Learning theory (Bandura 1977) Role of social relations In health promotion (Berkman 1995)

Study Number	First Author and year of publication	Country of study	Study population	Methodology	Study Aim	Outcomes/ findings	Intervention theory
6.	Gorin et al (2008)	USA	357 Type 2 diabetes patients recruited with their partners	Quantitative ancillary study from RCT	To examine whether a weight loss programme delivered to one spouse has beneficial effects on the untreated spouse	Spouse weight loss was associated with participant weight loss (P<0.001) and decreases in high-fat foods in the home	Not mentioned
7.	Wing et al (1998)	USA	166 overweight community respondents (50% male) recruited alone or with 3 friends or family members	Quantitative – RCT	To determine the benefits of social support in weight management	Recruited participants with social support strategies and 3 friends, 95% completed treatment and 66% maintained their weight loss. Recruited participants alone, 76% completed treatment and 24% maintained their weight loss until end of 10 month programme.	Not mentioned
8.	Schierberl Scherr et al (2013)	USA	132 overweight community respondents recruited with their partners	Quantitative ancillary study from RCT	To determine whether spouses' lifestyle behaviour changes impacted on each other's weight loss	Partners attending weight management interventions were the best predictor of weight loss; weight loss was also achieved by an untreated partner by ripple effect	Not mentioned
9.	Rossini et al (2006)	Italy	149 overweight participants of a weight management programme and 230 family members	Quantitative longitudinal study	To determine whether the beneficial effects of CBT extend to family members lifestyle habits, weight loss and stages of change to physical activity	CBT for weight loss results in healthier food choices, and motivation to physical activity also in adult family members of participants	Transtheoretical Model (Prochaska et al 1992)

Study Number	First Author and year of publication	Country of study	Study population	Methodology	Study Aim	Outcomes/ findings	Intervention theory
10.	McLean et al (2003)	14 USA 1 Sweden 1 Canada	763 participants of weight management programmes with a family component	Descriptive systematic review of randomised studies	To describe the nature and effectiveness of family involvement in weight: control; maintenance and loss	Effectiveness was suggested with spouse involvement; adolescents seen alone, and with behaviour change techniques taught to parents and children	Not mentioned
11.	Zimmerman et al (1989)	USA	116 employees in a health promotion programme	Descriptive quantitative study	To explore the ways in which social support may promote participants to make positive behaviour changes	Positive changes in one individual's health behaviours may be positively influenced by others in decreasing order of influence: family, friends and co-workers	Social Learning theory /Self-efficacy theory (Bandura 1977), Social exchange theory (Gergen and Willis 1980), Theory of Social Integration (House and Umberson1988)
12.	Larkey et al (1999)	USA	43 meetings with various numbers of workers and Peer educators of a nutrition education programme in public work sites.	Qualitative ancillary study of group interviews from RCT	To examine communication strategies used by peer health educators to promote healthy eating	A wide variety of strategies were used by peers: some used with groups and others with individuals; some aspects of communication were different by gender and ethnicity	Diffusion of Innovations theory (Rogers 2002) Social Comparison theory (Festinger 1954)
13.	Russell et al (2013)	USA	23 participants from a highly deprived area taking part in a health promotion programme	Qualitative – phenomenological approach using focus groups	To identify the factors that influence or hinder behavioural lifestyle change	Social support and relationships were the key facilitators of healthy lifestyle changes and influenced individual motivation	Self-determination theory (Ryan et al 2000)

Study Number	First Author and year of publication	Country of study	Study population	Methodology	Study Aim	Outcomes/ findings	Intervention theory
14.	Faw (2014)	USA	25 overweight university under graduates attempting weight loss	Qualitative – based on grounded theory	To identify the strategies for support, and limiting non-support during weight loss attempts	A typology of support-seeking strategies that promoted successful weight loss	Politeness theory (Brown et al 1989)
15.	Gorin et al (2005)	USA	109 overweight community respondents.	Quantitative ancillary study from RCT	To investigate whether the number or success of support partners at a weight management programme influences weight loss	Participants with at least 1 successful weight loss partner (≥10% at 6 months) lost significantly (p=.004) more weight at 6,12 and 18 months than those with no successful partners and those without partners	Not mentioned
16.	Christakis et al (2007)	USA	5,124 participants in an offspring cohort of the Framingham Heart study	Quantitative ancillary study from RCT	To investigate the nature and extent of the person-person spread of obesity	BMI correlates within social networks but not among neighbours. Chances of becoming obese increased (in this order) by having: an obese friend, sibling or spouse	Not mentioned
17.	Artinian et al (2010)	USA	Nearly 47,000 participants from 74 studies	Systematic review	To provide evidence-based guidelines for lifestyle interventions among adult individuals	Weight loss was attributed to dietary, physical activity and behaviour changes. Exposure to models that are credible to participants can be an effective strategy to enhance skills for changing behaviour and enhancing self-efficacy	Social Learning theory /Self-efficacy theory (Bandura 1977), Social Cognitive Theory (Bandura 1986) Prochaska's Transtheoretical Model (Prochaska et al 1992)

Study Number	First Author and year of publication	Country of study	Study population	Methodology	Study Aim	Outcomes/ findings	Intervention theory
18.	Burke et al (2002)	Australia	Two studies: the first short-term study included 39 couples, the second included 137 couples. These participants were overweight, hypertensive from the community recruited with their partners	Quantitative RCT	To formulate a programme to improve hypertension through weight loss, dietary intake, reduction in alcohol intake, and increased exercise	Social support provided by partners reinforced positive changes in behaviours and discouraged negative ones by both active involvement in the programme plus within the home environment.	Social Cognitive Theory (Bandura 1986) The theory of Reasoned Action (Fishbein & Ajzen 2004) Health belief Model (Glanz et al 1990) Transtheoretical Model (Prochaska et al 1992)
19.	Bishop et al (2013)	USA	71 participants from a representative community sample of the population at risk of diabetes	Mixed methods (RCT plus Grounded theory guided analysis)	To investigate whether participants would report positive changes in the weight-related habits of their support partners and if any, whether participants perceived this to be related to their own attendance at the lifestyle programme	Targeting participants eating and exercise habits may indirectly result in positive changes in their support partner.	Not mentioned
20.	Tessaro et al (2000)	USA	104 'blue-collar' female workers recruited as peer supporters in 10 study work sites	Mixed methods	To describe the development, implementation and evaluation of a lifestyle behavioural change programme using peer support to promote changes	Women can be recruited and educated to successfully diffuse health promotion information to co-workers and support co-workers for behaviour change	Social Cognitive Theory (Bandura 1986) Health Belief Model (Glanz et al 1990) Transtheoretical Model (Prochaska et al 1992)

Study Number	First Author and year of publication	Country of study	Study population	Methodology	Study Aim	Outcomes/ findings	Intervention theory
21.	Aoun et al., 2012	USA	1100 overweight Rotary club members supported by 93 champions from 52 clubs	Descriptive quantitative study	To evaluate the effectiveness of a weight management programme and describe the experiences of champions delivering the programme	Champions had influenced the uptake and success of the intervention.	Transtheoretical Model (Prochaska et al 1992)
22.	Marcoux et al (1990)	USA	26 participants who had attended a weight management programme	Quantitative ancillary study	To examine the relationship between social support and weight loss	Social support is suggested as important in weight control and of these, appraisal support was most strongly correlated with weight loss and reached significance at *P=0.05*	Not mentioned
23.	Israel et al (1979)	USA	38 participants of a weight management programme attending end of treatment	Follow up study from quantitative RCT	To investigate whether changes in eating behaviours could be supported and maintained by social support in the long term	Reinforcement from social support produced the most persistent loss of weight	Not mentioned
24.	Ahlgren et al., 2016	Sweden	12 overweight or obese post-menopausal women	Qualitative - semi structured interviews	To explore participants experiences of the dietary change processes when participating in a 2-year intervention.	Social relationships influenced the process of the dietary change among the participants and were experienced either as beneficial or as a barrier	Social Cognitive Theory (Bandura 1986) Self-regulation theory (Ryan et al 2006)

Study Number	First Author and year of publication	Country of study	Study population	Methodology	Study Aim	Outcomes/ findings	Explanatory theories and models
25.	Aschbrenner et al., 2017	U.S.A.	15 Overweight and obese adults with mental health illness and their support partner	Quantitative	To investigate a novel partner support intervention designed to augment a healthy lifestyle intervention	Participants reported that the program was useful, convenient, helped them reach their goals and reported significant increases in partner support for exercise and use of persuasive social support strategies	Transtheoretical Model (Prochaska et al 1992)
26.	Cornelius et al (2015)	U.S.A.	201 overweight or obese pairs enrolled at a behavioural weight loss programme	Quantitative	To compare dyadic dynamics in intervention participants and partners at home	Findings highlighted the influence of social and larger environmental contexts on weight management	Social Comparison theory (Festinger 1954)
27.	Demark-Wahnefried et al (2014)	U.S.A.	68 Mothers and biological daughters pairs with BMI 25 or greater and mother who has had a diagnosis of breast cancer	Quantitative	To explore the feasibility of a mother-daughter weight loss intervention and evaluate whether an individual approach in which mothers and daughters work in parallel to achieve lifestyle goals or a team-based approach yielded greater reductions in BMI	There were difficulties in recruiting dyads with barriers, especially with daughters, to working with their mothers at weight loss. Preferences were for the dyad to work in parallel	Social Cognitive Theory (Bandura 1986) Interdependence theory (Kelley et al 2003) Theory of communal coping (Lyons et al 1998)

Study Number	First Author and year of publication	Country of study	Study population	Methodology	Study Aim	Outcomes/ findings	Explanatory theories and models
28.	Gorin et al (2013)	U.S.A.	201 overweight or obese participants with a household member willing to participate in the study as a support partner	Quantitative	To evaluate a comprehensive weight loss program that targeted both an individual's behaviour and their physical and social home environment.	Targeting the social home environment appears to improve initial weight loss, and in women, 18 month outcomes	None mentioned
29.	Gorin et al (2014)	U.S.A.	201 overweight or obese participants with a household member willing to participate in the study as a support partner	Quantitative	To examine whether autonomy support and directive forms of support were associated with weight loss outcomes.	Autonomy support predicted better weight loss outcomes while some forms of directive support hindered progress	Self-determination theory (Ryan et al 2000)
30.	Hammarström et al (2014)	Sweden	12 women attending a weight loss programme	Qualitative	To explore barriers and facilitators to weight-loss experienced by participants in a diet intervention	Results showed two main barriers, struggling with self and implementing the diet; and two main facilitators, striving for self-determination and receiving social support	Social Cognitive Theory (Bandura 1986) Health Belief Model (Glanz et al 1990)
31.	Jackson et al (2015)	UK	3722 Middle aged to older population from Health survey for England	Quantitative	To examine the influence of partner's behaviour on making positive health behaviour changes	When one partner changed to a healthier behaviour (newly healthy), the other partner was more likely to make a positive health behaviour change than if their partner remained unhealthy	Not mentioned

Study Number	First Author and year of publication	Country of study	Study population	Methodology	Study Aim	Outcomes/ findings	Explanatory theories and models
32.	MacLean et al (2014)	UK	1053 overweight or obese men	Qualitative	To find out how female relatives feature in their accounts of changing eating practices during a weight-management programme	Women are facilitative or detached allies, undermining change, or resistant to or threatened by change	None mentioned
33.	Ryden et al (2011)	Sweden	14 middle aged to older participants with rheumatoid arthritis	Qualitative	To explore and describe experiences of dietary change and its sustainability in the context of social relationships.	Social relationships within and outside the household acted as barriers and complicated the accomplishment of healthy dietary changes	None mentioned
34.	Sandon (2016)	U.S.A.	96 females from a worksite weight loss program	Mixed methods	To assess the influence of an intervention on self-regulation and self-efficacy and investigate the effect of social influence on these variables	A perceived low level of social influence from co-workers however, themes suggested social influence did occur between co-workers including support and role modelling	Social Cognitive Theory (Bandura 1986) Self-regulation theory (Ryan et al 2006) Social Learning theory /Self-efficacy theory (Bandura 1977)
35.	Sorkin et al (2014)	U.S.A.	89 Mothers and daughter dyads from a diabetes prevention/weight loss programme	Quantitative	To evaluate the feasibility of a pilot, dyad-based lifestyle intervention for improving weight loss and dietary intake	Participants lost significantly more weight by the end of the intervention(p <.003) compared with control participants, reported an increase in health-related social support	None mentioned
36.	Terranova et al (2016)	U.S.A.	14 overweight or obese breast cancer survivors'	Qualitative	To identify the facilitators and barriers of weight loss at a weight management intervention	Inadequate social support was reported as a challenge for behaviour change for weight loss	None mentioned

Appendix 2.3: Summary of the studies from the literature review

Study number	Source of peer support:			Description of the support relationship and peer role:			Outcomes (Value of support):
	Informal peer offering opportunistic support in their social environment such as home, church	**Formal peer** offering support through a formal, structured programme (outwith their work place)	**Formal peer** offering support through a formal, structured programme (within their work place	**Joint weight management intervention, no peer support training:** The targeted individual and their peer supporter both receive a professional weight management intervention but no specific training on how to offer peer support	**Single weight management intervention with peer trained to support:** The targeted individual receives a professional weight management intervention and their peer supporter receives professional education/ training on how to offer support	**Single weight management intervention and peer is not trained to support:** The targeted individual receives a professional weight management intervention and their peer supporter gives support without education or training on how to do so	**Positive:** targeted individuals perceive the support as having value **Variable:** some targeted individuals perceive the support as having value, some targets perceive the support as having no value **Negative:** targeted individuals perceive the support as having no value
1. Verheijden et al 2005	x					x	variable
2. Thomas et al 2009	x					x	variable
3. Albarran et al 2014		x			x		positive
4. Maitland et al 2011	x					x	variable
5. Tessaro et al 1998	x					x	positive
6. Gorin et al 2008	x					x	positive

7. Wing et al 1998		x		x			positive
8. Schierberl Scherr 2013	x			x			positive
9. Rossini et al 2006	x					x	positive
10. McLean et al 2003		x			x		positive
11. Zimmerman et al 1989		x				x	positive
12. Larkey et al 1999			x		x		positive
13. Russell et al 2013	x					x	variable
14. Faw 2014	x					x	variable
15. Gorin et al 2005	x			x			variable
16. Christakis et al 2007	x					x	variable
17. Artinian et al 2010	x					x	variable
18. Burke et al 2002	x			x			positive
19. Bishop et al 2013	x					x	positive
20. Tessaro et al 2000			x		x		positive
21. Aoun et al 2012		x			x		positive
22. Marcoux et al 1990	x					x	variable
23. Israel et al 1979		x			x		positive
24. Ahlgren et al 2016	x					x	variable

25. Aschbrenner et al 2017		x		x			positive
26. Cornelius et al 2015		x		x			variable
27. Demark-Wahnefried et al 2014		x		x			positive
28. Gorin et al 2013		x		x			variable
29. Gorin et al 2014		x		x			variable
30. Hammarström et al 2014	x					x	variable
31. Jackson et al 2015	x					x	variable
32. MacLean et al 2014	x					x	variable
33. Ryden et al 2011	x					x	variable
34. Sandon 2016			x			x	variable
35. Sorkin et al 2014		x		x			positive
36. Terranova et al 2016	x					x	variable
Total	**21**	**12**	**3**	**10**	**6**	**20**	**17 positive** **19 variable**

Appendix 4.1: Research Protocol

UNIVERSITY OF STIRLING

NHS Highland

School of Health Sciences
University of Stirling
Stirling FK9 4LA Scotland
Telephone: +44 (0)1786 849260
Facsimile: +44 (0)1786 460060

Department of Nutrition and Dietetics
Cowal Community Hospital
Dunoon PA23 7RL
Telephone: 01369780344

Full title: "*What interventions would be acceptable and feasible to support clients attending a structured weight management programme to help their peers achieve weight loss too?"*

Short title: Peer Assisted Learning and Support in weight management (PALS in weight management)

Background: The health consequences from obesity are listed as increasing the probability of non-communicable diseases such as diabetes, Coronary Heart Disease (CHD), musculo-skeletal disorders and some cancers (WHO 2015): furthermore, there may be detriment to the mental well-being of the individual (WHO 2015). Weight loss can reduce these health risks and the literature demonstrates effective results when programmes based on diet, physical activity and behavioural change are undertaken by obese and overweight individuals (SIGN 2010; NICE PH53 2014). However, these Weight Management (WM) programmes imply a cost when led by health professionals and for some; a health professional led programme may not be the preferred choice of support for WM. In addition, weight loss achievers rarely maintain their behaviour changes, and to date, there is no conclusive evidence on the best methods to support weight maintenance (Dombrowski et al.2014).

A review of the literature highlights some evidence of the efficacy of peer support in WM interventions; however, there is a gap around the possibility of an informal, two directional benefit in this dyadic relationship. The proposed study, therefore, aims to investigate:

- the possibility of peers informally cascading their WM skills to friends, family or colleagues to help them lose weight and,

- whether this support has a mutual beneficial effect by helping the programme participant to maintain their weight loss

Methods: This is an exploratory study using a mix of serial, longitudinal qualitative interviews and focus groups. The perceptions of individuals, drawn from a purposeful and diverse sample of WM programme participants and staff will be explored to develop and test the feasibility of a WM intervention manual.

Rationale – the research problem

Recommended methods of treatment

Maintaining an energy balance to prevent obesity or maintain weight loss is a life-long commitment and is affected by multi-factorial barriers and facilitators. These include: an individual's knowledge and skills enabling them competence to make changes; their attitude and understanding that drives their motivation to change; and the physical and social opportunities supporting them in making lifestyle changes (Michie et al. 2014; NICE PH49 2014). Research into solving obesity concludes that interventions designed to tackle the problem should contain a "sustained portfolio of initiatives" targeting all areas of an individual's life to support their behaviour change to a less obesogenic lifestyle (Dobbs et al. 2014, p.3). The NHS contributes to this 'portfolio' by providing WM pathways that direct individuals to the treatment appropriate to their needs; the literature highlights that by tailoring interventions to individual needs, outcomes will be more effective (NICE CG43 2006). The national evidence- based guidelines recommend that interventions to treat obesity are based on a combination of diet, physical activity and behavioural changes (NICE CG43 update 2014; SIGN 2010)

WM programmes can create satisfactory weight loss but are only effective in addressing the obesity problem if individual weight loss can be sustained: clinical and economic benefit of weight loss is dependent on weight loss maintenance (Sniehotta et al. 2014; McCombie et al. 2012). Weight loss generally ceases after 6 – 9 months; and thereafter, the aim is to sustain that weight loss (NICE NG7 2015;

NICE PH53 2014; Counterweight Project Team 2004). Yet weight loss achievers rarely maintain their behaviour changes, and to date, the only conclusions on the best methods to support weight maintenance are by using behavioural interventions aimed at both dietary and physical activities as in recommendations for weight loss (Dombrowski et al. 2014).

Current WM Pathways

The National Planning Forum (2012) suggests that Health Boards should base their clinical WM pathways on four tiers, with interventions aimed to support individuals with multifaceted obesity problems at tier 3 & 4, and those with less complex needs, at tier 1 & 2. A dietitian will triage the individual into the tier appropriate to their characteristics (appendix 1), and their preferences, for example, group or one to one support (Blackshaw et al. 2014).

If peer-led WM were feasible, the behaviour change techniques learned from an accredited WM programme could be cascaded by peers with many benefits: an overweight/obese individual could gain effective WM support from a wider range of sources to suit their preferences, and there would be cost savings to the NHS by sparing HP, medical, pharmaceutical and material resources. In addition, the findings from this proposed research could provide information for behaviour change in other settings such as cardiac rehabilitation or diabetes education (Scobbie et al. 2011). Dobbs et al. (2014, p.7) remark that, whilst research continues into solutions for obesity, "society should also be prepared to experiment with possible interventions". Although the literature can identify why peer support may have a positive effect on weight loss and weight maintenance, with whom and where, there is no available evidence around the efficacy of an informal peer-led WM intervention.

Gaps in the evidence

Little is known about the opportunity for this type of WM intervention and the informal cues that create a chance to share knowledge and skills for lifestyle behaviour change. Away from a formal programme with set times and place, there is a paucity of research around the methods peers would use to offer support, or request support (Faw 2014, Bishop et al., 2013).

In addition, there is a gap in the literature describing any motivation or inclination for peers to cascade their own WM skills and whether doing so, would maintain their own positive changes. There is evidence that identifies a peer feeling rewarded by the information they received as trainers for giving WM support (Tessaro et al. 2000); however, if a peer has already been given knowledge and skills from a WM programme to promote their own weight loss, is there any motivation to share this with others?

Furthermore, would there be an acceptance from the individual wishing to lose weight to receive this support from an untrained peer? Although this peer has learned and demonstrated skills to make behaviour changes, will they be perceived as having the competencies of a HP?

Capturing peers perceptions of the elements that would make a peer -led intervention effective, would give insight to the feasibility of developing an innovative WM intervention. Research into peer support could give a greater understanding of WM behaviours. Smith and Christakis (2008, p. 405) conclude from their research that "the existence of social networks means that people's health is interdependent and that health and health care can transcend the individual in ways that patients, doctors, policy makers and researchers should care about". In summary, by exploring the acceptability and feasibility of an innovative intervention, the influence of social connections could be harnessed to support both the efficacy and the cost effectiveness of WM: the obesity burden could be lessened on both the individual and society.

Aims of the research proposal

Through qualitative research, this study aims to explore the perceptions of individuals, drawn from a purposeful and diverse sample of WM programme participants and staff, and use their views for development and feasibility testing of an intervention manual supporting peer-led WM support. The intervention will be guided by behaviour and social change theory and evidence based

recommendations (NICE PH53 2014; SIGN 2010; Bandura 1986; Festinger 1954) and includes two phases:

- Phase 1:Intervention design and development based on Participants perceptions
- Phase 2: Intervention design and development based on Leads perceptions

Information from phase 1 will build the intervention, iteratively; using data from longitudinal qualitative interviews, and phase 2 will involve further development based on focus group discussions of WM programme leads.

This research aims to:

Phase 1

1. Explore the perceptions of participants in a WM programme in three key areas (motivation, capability and opportunity to cascade skills), at time point 1 and 2 during their WM journey (enrolment, and 3 months)
2. Develop an intervention co-designed by programme participants based on their perceptions and explore with a sample of participants (12 months, time point 3) their perceptions on any resources suggested by the participants at time point 2

Phase 2

3. Explore the perceptions of WM programme leads (12 months plus, time point 4) towards a peer support intervention that is based on participants views
4. Develop the intervention further with programme leads based on their perceptions and suggestions

Study Design

The design of this study will use a mix of serial, longitudinal qualitative interviews and focus groups. Evidence shows that gaining individuals views ensures a 'social significance': only they know what is relevant to them in their social network (Bowling 2014, p.436). Therefore, designing an effective intervention for WM should include working with the WM programme participants and leads to establish a team of co-

designers. The use of both qualitative, semi-structured interviews with the programme participants, and focus groups with the programme leads should promote an exchange of communication to generate depth and description around the development of this intervention.

Individual's experiences and perceptions will change throughout their WM journey and so will their requirements for support: this supports the choice of longitudinal design.

Inclusion and exclusion criteria

Participants

Individuals referred for weight loss support in NHS Highland are triaged into a WM tier appropriate for their requirements; if they meet the criteria for a level of intervention at tier 2 (Blackshaw et al. 2014, p.15) they also meet the criteria for inclusion to this research (appendix 1).

Those that do not meet these criteria will be triaged into other tiers of the weight management pathway and will be excluded from the sample population for participation in this proposed study.

HP tier 2 programme leads

Included Leads will have undertaken a one day training to enable them to deliver the WM programme followed by an annual check to ensure competencies are maintained. Without this training, they will not be able to deliver the programme and will be excluded from the research. In addition they will have received training in 'behaviour change' as described and recommended in the NICE CG43 update and NICE PH49 (NICE CG43 2014; NICE PH49 2014).

Population sample, recruitment and consent

Sample

The author will use 'purposive' sampling in this research as it is only a specific group of people attending or leading a specific type of WM programme that can give us the information we need for this research proposal (Cresswell 2013; Popay and Williams1998). To ensure the sampling technique is valid and rational, individuals will only be eligible to participate if they have been referred for or lead a tier 2 WM programme. Maximum variation of the consenting participants will be sought to represent the diversity of the programme attenders and leads.

Recruitment and Consent

The study aims to recruit participants across Scotland from WM programmes based on changing behaviours.

Participant Identification: Potential participants will be identified when they are triaged by Health and Social Care Health professionals to a tier 2 WM programme. Programme Leads, employed by Health and Social Care will invite the potential participant to the WM programme and identify them as potential participants to the study by logging their details in the WM programme audit data sheet that is kept by them (appendix 6). It is hoped that the Leads will identify and approach the potential participants on behalf of the Chief Investigator (CI) for this research study. Local figures show a trend for less male participants in the WM programmes (27%), and the CI will aim to recruit an equal balance of genders as this may give important information especially the different genders' perceptions of peer support. When recruiting, she will be mindful of men only WM programmes and other WM programmes with great diversity of participants.

Approach: A Participant Information Sheet will be sent to the potential participants, sometimes, together with the invite to the WM programme (Appendix 2). This will happen between 1 -4 weeks of the WM programme start. At the WM programme enrolment, if the potential participant is interested in taking part in the study, the Lead will ask written consent to share minimal contact details with the CI (Appendix 7)

Recruitment: the CI will contact the potential participant by telephone and discuss the study in more detail from 48-72 hours after they have consented to share their contact details. If the individual considers participating in the study, the CI will

organise a face to face meeting (a minimum of 7 days later) to discuss the study once more before written consent is obtained (Appendix 8). This will take place at a time and place convenient to the individual. At this meeting the CI will discuss the study in detail and answer any queries that they may have regarding the study. The CI will ensure that the individual understands what taking part in the study will mean to them and emphasis that the individual can withdraw from the study at any time and it will not affect their care. Prior to each interview, the CI will obtain verbal consent that the individual is willing to continue participating in the study and will ensure there is opportunity for them to voice any concerns or queries around the research.

Local figures show a trend for less male participants in the WM programmes (27%), and the CI will aim to recruit an equal balance of genders as this may give important information especially around the different genders' perceptions of peer support. When recruiting, she will be mindful of men only WM programmes and other WM programmes with great diversity of participants. Programme leads are predominantly women with few males delivering programmes and gender imbalance is quite likely to occur. These Leads come from a wide range of Health and Social Care backgrounds, such as; NHS health care assistants (HCA), dietetic assistants, practice nurses, and council staff based in leisure services and the researcher will aim to achieve an equal balance of genders and a variety of diverse backgrounds

Consent to participate in the study will be obtained from the adult participants on a voluntary basis and those who are fully informed. They will be given sufficient time (as detailed above) to allow them reflection over their participation in the research.

Lead Identification: Programme Leads are employed by Health and Social Care to run tier 2 WM programmes, the schedules known to Health and Social Care sectors across Scotland. Programme leads are predominantly women with few males delivering programmes and gender imbalance is quite likely to occur. These Leads come from a wide range of backgrounds, such as; NHS health care assistants (HCA), dietetic assistants, practice nurses, council staff based in leisure services and the researcher will aim to achieve an equal balance of genders and a variety of diverse backgrounds

Approach: the Programme Leads will be approached by the CI by phone call, letter or email, informing them of the study and asking them to participate in a focus group discussion. They will be sent a Lead Information Sheet (appendix 3).

Recruitment: After a minimum period of 1 week, the CI will contact the Leads and discuss the study and the purpose of the focus group in more detail. If the Lead agrees to participate in the study, written consent will be obtained prior to the focus group (this consent form will be sent as amendment for Ethic approval at the end of Phase 1).

Data Collection and Analysis

Data will be collected by qualitative interviewing and through focus groups. Data will be analysed using a technique of content and thematic analysis with the aid of computer software. This method of analysing themes will fit well with this research as a topic guide will be used to help control the focus of discussion to specific topics and limit the number of themes (Appendices 4, 5). Participant's and programme lead's views and experiences can then be categorised and compared. In addition, it will allow a transparent audit trail that can demonstrate the credibility of the data analysis process.

Confidentiality

During data collection, each participant would have a code so that their personal details would not be shared and any findings or quotes from them would be anonymised by removing any identifiable information. The codes and participants details would be stored separately and all data kept securely and confidentially on password protected NHS and University of Stirling computers. The CI is an NHS employee, working in a NHS domain and follows the NHS policies on confidentiality, patient information security and other good practice guides. As a student of the University of Stirling, she will comply with their data storage policies.

Ethical issues

This is low risk research and does not propose to with-hold any treatment or to put individuals through any programme with safety issues. Approval has been given by

the School of Health Sciences Research Ethics Committee (SREC) and sought from NHS Research Ethics Committee by submission of proportionate review. Approval will also be obtained from relevant health boards R & D department prior to initiation of the study. The CI will follow the Ethics committees and R & D department's guidelines to safeguard those researched and those researching.

Anticipated research outcomes and implementation plan

The intended outcome of this research will be a manualised WM intervention. However, this proposal can only provide an "imaginative rehearsal" of what the manual will contain or how it could be used (Gale et al. 2013, p.3): it is not known at this point what participants or leads perceptions are. If there is indeed opportunity and motivation for peers to give each other WM support, and if they feel confident to do so, in the future, this intervention could be developed further by full pilot testing and potentially a full trial to demonstrate effectiveness. Integration of this intervention to the present WM services offered to overweight and obese individuals could be an additional method for weight loss and weight maintenance, and create savings on NHS resources.

Proposed publication plan

The proposed research will depend on the support of the NHS Highland Board, University of Stirling, programme leads and, especially, WM programme participants. Each will be notified of the study end and given a report of the findings: some may require this for personal interest which may promote their further support in research projects, some need to be informed, and others may be able to use the information for the benefit of others. Reports to different groups will be written in a form to suit each interested party. The researcher aims to inform health professionals of the intervention concept and update them on the findings throughout. This will be done through NHS media and research groups, conference and seminar presentations and through the researcher's professional body. The final thesis will be summarised and submitted for publication to the British Dietetic Association's peer reviewed journal (Journal of Human Nutrition and Dietetics).

Appendix 4.2: Participant Information Sheet

UNIVERSITY OF STIRLING

NHS Highland

School of Health Sciences
University of Stirling
Stirling FK9 4LA Scotland
Telephone: +44 (0)1786 849260
Facsimile: +44 (0)1786 460060

Department of Nutrition and Dietetics
Cowal Community Hospital
Dunoon PA23 7RL
Telephone: 01369780344

Study Title: Peer Assisted Learning and Support in Weight Management (PALS in weight management)

Could you help someone you know to lose weight?
What help will you need to keep your weight stable?

You have taken the first step to making changes to your lifestyle by choosing to join our weight management programme. We hope that, soon, you will learn new ways of doing things that could help you lose weight. You may be able to use these new skills to help others you know, make changes too. Working together could make weight loss more successful; however, we don't know much about this. I would like to find out more about this idea, and invite you to take part in a research study. The research is being done as part of an educational Clinical Doctorate, supported by the University of Stirling and the NHS Highland. This leaflet will give information on the study to help you decide whether to take part.

Why is this research being done?

Being overweight can increase your health risks and we are looking for ways that can help individuals to be as healthy as possible. The research aims to find out whether individuals think they could help others to lose weight or keep off any weight they have lost. The skills you learn at the weight management programme might help others you know. This may be someone in your workplace, your family or social group. If this is possible, it means that more people can get help to lose weight - friends who know how to make changes can help others to do so too. And in return, it may help to stop you gaining weight.

What's involved?

Participants who agree to take part in the study will be '**asked their views'** around helping others to lose weight and how they plan to keep off any weight they have lost. This would take place at a time and place that is suitable and convenient to you. The researcher will tell you about the study and ask you to sign a consent form to allow her to use the information you give. You will have a copy of the form for your reference. The researcher would record your views and this would take around an hour, depending on how much you have to say. There may be around 16 - 20 other people asked to participate in the study too. The researcher would like to keep in touch with you and talk to you on a maximum of 4 occasions over the year to see if you had any more views or changes in previous thoughts. This would happen around the time you have your weight management reviews.

Do I have to take part in the study?

You do not have to take part in the study. The leader of your weight management programme will ask you to let them know if you want to take part. If you do, they will ask your permission to share your contact details with the researcher. They will also find out a suitable method for you to be contacted. The researcher will be in touch with you a few days later. If you decide you don't want to take part in the research study at any point, please don't hesitate to let the researcher or the leader know. If you would like to talk to anyone about this research, please phone or email the number or address below.

Will others know what I have said to the researcher?

No; your name and details will be kept separately from the recordings and from any notes that the researcher makes, by giving you a confidential code number. This information will be stored safely on a password protected computer for 10 years according to strict rules. Only the researcher will see your individual comments; the taped recordings will be destroyed at the end of the research.

Are there any risks or benefits to me from taking part?

There are unlikely to be any risks to you from taking part although questions about losing weight and helping others in your social network may provoke memories of past events which sometimes can be upsetting in an interview study; however, you will have the opportunity to stop the interview at any stage if this should occur. You can tell your GP about the study and ask them for support if you need too. On the other hand, you may benefit by sharing your views about your family and friends and the ways they help you or you help them. The results from the study will give us information on whether it is possible for people to be supported by someone they know when trying to manage their

weight. This may give health benefits to those with weight problems in the future.

What will happen to the findings of the research?

The researcher will hope to have some results from the study next year. If you would like to see these, she will write to you and let you know what they are. These results will help us to plan weight management services for the future. You may want to tell others about this research and the results; this is fine for you to do so. The NHS already knows about the research and have authorised its suitability and safety. The final report will be published and presented at meetings and conferences to inform others of the findings.

Thank you for reading this; if you have any queries, please contact:
Deborah Kirby, Lead Dietitian Argyll & Bute, NHS Highland
Telephone number: 01369708344, 07824402645 or by email on deborah.kirby@nhs.net

If you would like advice on whether to take part in the research, or if you are unhappy with the study at any time, please contact: Professor Jayne Donaldson, Independent contact, Head of the School of Health Sciences, University of Stirling, Stirling, FK9 4LA: telephone number 01786 466340. If you would like to give feedback or comments, or raise concerns or complaints about this study, the Patient Advice and Support Service (PASS) can help you do that. The Service can be contacted through your local Citizens Advice Bureau.

Appendix 4.3: Participants – Consent to Contact form

UNIVERSITY OF STIRLING

School of Health Sciences
University of Stirling
Stirling FK9 4LA Scotland
Telephone: +44 (0)1786 849260
Facsimile: +44 (0)1786 460060

Department of Nutrition and Dietetics
Cowal Community Hospital
Dunoon PA23 7RL
Telephone: 01369780344

Consent form to allow potential project participants to share contact details

Title of Project: **Peer Assisted Learning and Support in Weight Management (PALS in weight management)**

The Programme Lead has discussed with you today the possibility of you taking part in the PALS project. You will have already received a written information sheet outlining the project's aims and how you could be involved. If you are happy for the Programme Lead to pass your contact details to me, I will call you over the next few days and chat some more about the project. The programme lead will give me only your name and telephone number, but I need you to sign this form to say that you agree to them sharing your details with me.

Signing this form does not mean that you have agreed to participate in the research; it means you have only agreed to let the programme lead share you contact details with me.

I agree for the programme lead to share my contact details with Deborah Kirby ☐
(Please initial box if you agree)

Please sign

……

and print your name

……

Thank you, Deborah Kirby, (Research Lead)

Appendix 4.4: Participants or Leads Consent Form

UNIVERSITY OF STIRLING

School of Health Sciences
University of Stirling
Stirling FK9 4LA Scotland
Telephone: +44 (0)1786 849260
Facsimile: +44 (0)1786 460060

NHS Highland

Department of Nutrition and Dietetics
Cowal Community Hospital
Dunoon PA23 7RL
Telephone: 01369780344

CONSENT FORM

Title of Project: **Peer Assisted Learning and Support in Weight Management (PALS in weight management)**

Name of Researcher: **Deborah Kirby**

Please initial box

1. I confirm that I have read the information sheet dated..... (version.....) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my health care or legal rights being affected. ☐

1 copy for participant; 1 copy for researchers file PALS

3. I understand that the information collected about me will be used to support other research in the future, and may be shared anonymously with other researchers. ☐

4. I agree to the use of audio-recorders to record the information I share with the researcher ☐

I agree to take part in the above study. ☐

Name of Participant	Date	Signature
……	……	……

Name of Person taking consent	Date	Signature
……	……	……

1 copy for participant; 1 copy for researchers file PALS

Appendix 4.5: Programme Lead Information Sheet, Invitation to participate

UNIVERSITY OF STIRLING

School of Health Sciences
University of Stirling
Stirling FK9 4LA Scotland
Telephone: +44 (0)1786 849260
Facsimile: +44 (0)1786 460060

NHS Highland

Department of N
Cowal Community Hospital
Dunoon PA23 7RL
Telephone: 01369780344

Study Title: Peer Assisted Learning and Support in Weight Management (PALS in weight management)

How can we support a participant of the weight management programme to help someone they know lose weight?

Participants have chosen to join our weight management programme to learn new skills for weight loss. They may be able to use these new skills to help others they know, make changes too. Working together could make their weight loss more successful; however, we don't know much about this. I would like to find out more about this idea, and invite you to take part in this research study. The research is being done as part of an educational Clinical Doctorate, supported by the University of Stirling and the NHS Highland. This leaflet will give information on the study to help you decide whether to take part.

Why is this research being done?

Being overweight can increase health risks and we are looking for ways that can help individuals to be as healthy as possible. The research aims to find out whether individuals think they could help others to lose weight or maintain any weight they have lost. The skills and

experience that you have learned from delivering a weight management programme may help us develop a way to support programme participants to help others to lose weight. This may be someone in their workplace, their family or social group. If this is possible, it means that more people can get help to lose weight - friends who know how to make changes can help others to do so too.

What's involved?

You will be '**asked your views'** about the use of an intervention manual which could guide participants in helping others to make changes. The researcher will tell you about the study and ask you to sign a consent form to allow her to use the information you give for research purposes only. You would also keep a copy of the form for your reference. The researcher would record your views together with other programme leads: this is called a focus group. This would take around an hour, depending on how much you have to say, and would take place at a time and place suitable for you.

Do I have to take part in the study?

You do not have to take part in the study. The researcher will contact you by telephone to ask you if you are interested in taking part. If you decide you don't want to take part in the research study at any point, please don't hesitate to let the researcher know. If you would like to talk to anyone about this research, please phone or email a number or address below.

Will others know what I have said to the researcher?

No; your name and details will be kept separately from the recordings and from any notes that the researcher makes, by giving you a confidential code number. This information will be stored safely on a NHS password protected computer for 10 years according to strict NHS rules. Only the researcher will see your individual comments; the taped recordings will be destroyed at the end of the research.

Are there any risks or benefits to me from taking part?

There are unlikely to be any risks or benefits to you for taking part; however, the research may give health benefits to those with weight problems in future. The results from the study will give us information on whether it is possible for people to be supported by someone they know when trying to maintain their weight.

What will happen to the findings of the research?

The researcher will hope to have some results from the study next year. If you would like to see these, the researcher will write to you and let you know what they are. These results will help us to plan weight management services for the future. You may want to tell others about this research and the results; this is fine for you to do so. The NHS already knows about the research and have authorised its suitability and safety. The final report will be published and presented at meetings and conferences to inform others of the findings.

Will others know what I have said to the researcher?

No; your name and details will be kept separately from the recordings and from any notes that the researcher makes, by giving you a confidential code number. This information will be stored safely on a NHS password protected computer for 10 years according to strict NHS rules. Only the researcher will see your individual comments; the taped recordings will be destroyed at the end of the research.

Are there any risks or benefits to me from taking part?

There are unlikely to be any risks or benefits to you for taking part; however, the research may give health benefits to those with weight problems in future. The results from the study will give us information on whether it is possible for people to be supported by someone they know when trying to maintain their weight.

What will happen to the findings of the research?

The researcher will hope to have some results from the study next year. If you would like to see these, the researcher will write to you and let you know what they are. These results will help us to plan weight management services for the future. You may want to tell others about this research and the results; this is fine for you to do so. The NHS already knows about the research and have authorised its suitability and safety. The final report will be published and presented at meetings and conferences to inform others of the findings.

Thank you for reading this; if you have any queries, please contact:
Deborah Kirby, Lead Dietitian Argyll & Bute,NHS Highland
Telephone number: 01369708344, 07824402645 or by email on
deborah.kirby@nhs.net

If you would like advice on whether to take part in the research, or if you are unhappy with the study, please contact:
Professor Jayne Donaldson, Independent contact, Head of the School of Health Sciences, University of Stirling, Stirling, FK9 4LA: telephone number 01786 466340

Appendix 4.6: Topic guide for questions and vignettes at participant interview

UNIVERSITY OF STIRLING

University of Stirling
Stirling FK9 4LA Scotland
Telephone: +44 (0)1786 849260
Facsimile: +44 (0)1786 460060

NHS Highland

Department of Nutrition and Dietetics
Cowal Community Hospital
Dunoon PA23 7RL
Telephone: 01369780344

PALS in weight management Study

These questions and scenarios will be adapted as interviews progress to follow previous lines of discussion.

The questions will be based on these key areas of behaviour change: the motivation to help friends/family/colleagues (question 1,2,5), the capability of the peer to give the help that is needed (questions 4,6) and the opportunity to help friends/family/colleagues (questions 3,7,8).

The first part of the interview (time point 1) will seek to investigate participants' views on help they perceive to be useful to them to support their own changes around weight management; the second part of the interview (time point 2) will seek to investigate participants views on the help they could give to support others weight management.

1. Tell me about your experiences of losing weight: what worked for you and what didn't

2. Tell me about your network of friends/family/colleagues and whether any of them are overweight: what have been their experiences of losing weight?

3. How would you let your friends/ family/colleagues know you would value some help in making changes? How would you approach them?

4. When do you think you would most value some help from friends/ family/colleagues in making changes? Tell me about a time that you were helped or hindered by friends/ family/colleagues when you were trying to keep to the new changes you had made to help with your weight loss.

5. What are your views on helping your friends/ family/colleagues to make changes in their lifestyle? How would offering/giving them help make you feel? How would it affect you?

6. What input from you might work well for your family/ friends/colleagues and what input from you might hinder them in making lifestyle changes?

7. How would you find out whether your family/ friends/colleagues need help? How might they approach you? Tell me about a time that this may have happened.

8. When do you think your family/ friends/colleagues might value your help? How would you offer your help and how often? Tell me about a time this has happened or might happen? What was the outcome? Tell me about those that you would not approach with an offer of help.

Here is an example of a situation that I would like you to imagine happens:

Vignette 1: You are meeting your grand-child, Molly, from school; it's Tuesday, and you have arranged with Molly's parents to collect her on this day each week, and walk with her back to your house. Whilst you are waiting near the school gates a neighbour of yours, who you know as Janet, is also waiting for her grand-child; she starts to chat to you. Janet, who is overweight, comments on how good you look.

How would you respond to Janet?

Probes:

1. What would you say if Janet asks what your 'secret' is for looking so good?
2. What help/tips/support might you offer Janet?
3. What might the difficulties supporting Janet be?
4. How would it affect you and your lifestyle if you offered Janet support?
5. How would your response change if the neighbour was male?
6. (For men only) As a male participant, what scenario would you think is more likely to result in a helpful discussion/action?

Vignette 2: It is your last session at the weight management programme. Over the series of programme sessions, you have learned how to make some changes in your everyday life. This has resulted in you losing some weight and becoming more active. The Lead asks if you could share the information and experiences from the programme with family, friends or colleagues. What are your thoughts around this?

Appendix 4.7: Topic guide for Focus group with Weight Management Programme Leads

UNIVERSITY OF STIRLING

University of Stirling
Stirling FK9 4LA Scotland
Telephone: +44 (0)1786 849260
Facsimile: +44 (0)1786 460060

NHS Highland

Department of Nutrition and Dietetics
Cowal Community Hospital
Dunoon PA23 7RL
Telephone: 01369780344

PALS in weight management Study

This Topic Guide will be adapted according to findings, of participants' perceptions for an informal weight management peer intervention

Introduction and background:

This research explored the views of individuals around them offering and accepting help with friends/family/colleagues for weight management support. The research looked at individuals' motivation to help others, their ability to give help that encourages weight management, and the opportunity to do so. I would like to ask you, in this session, to discuss the practicalities of using this intervention.

This is a discussion; there are no right and wrong comments. The session will be recorded, and kept safely and confidentially, according to the statements in your information sheet.

Leads' experiences:

Tell me about the success stories you have heard from participants at the weight management programme when someone has helped or been helped by a friend/family or colleague

What were the key factors that seemed to give the greatest help?

Leads' perceptions around the practicalities of prompting the intervention during the weight management programme (Motivation) : What are your views around delivering the intervention as well as the weight management programme?

Probes:

- facilitators to using it
- barriers to using it

Leads' perceptions around the best time to use the intervention manual (Opportunity):

When should the topic of peer support be mentioned?

When should the intervention start?

What session of the programme would be the best time to introduce the intervention?

Probes:

- When are participants more likely to be able to consider the contents of the intervention?
- When wouldn't the participants be able to consider the contents of the intervention?
- What signs would you look for that would indicate that participants were ready to accept the intervention?
- What signs would you look for that would indicate that participants were not ready to accept the intervention?
- How would the timing differ from group to group?

Leads' perceptions around the best method of implementing the intervention (Capability).

How do you foresee using the intervention during the weight management programme? How would you introduce the intervention?

Probes:

- What would be the best method of introducing the intervention during the programme?
- How much of the intervention would you give at one time?
- How would you space the intervention out?
- How would you use the intervention during review sessions

Appendix 4.8: Themes and sub-themes by time point

Time point 1 Participants 0 months (pre-programme)
Time point 2 Participants 3 months (post core programme)
Time point 3 Participants 12 months (end of programme)
Time point 4 Leads 12 months

Time	Themes	Sub-themes	
Time point 1	Timing of support	Pre-contemplative	
		Contemplative	
		Action	
		Maintenence	
		Relapse	
		Preparation	
	Opportunity	Environment	
		Availability of those needing support within social circle	
		The way support is given and received	
	Motivation	Altruism	
		Importance of behaviour change	
		Own experiences	
		Others experiences	
		Conditions for accepting support	
		Habit forming	
	Source of support	Colleagues	
		Family	
		Friends	
		Acquaintances	
		Characteristics of support	
	Cues	Asking for support	
		Offering support	
		Raising the subject	
	Capability	Empathy or similar experience	
		Relationship knowledge	
		Topic knowledge	
		Achieving lifestyle changes	
	Barriers	Unhelpful comments	
		Ability to accept support	
		Worry from others on their healthy changes	
		Others providing food	
		Lack of support	
		Not credible or believable	
	Facilitators	Encouragement	
		Praise	
		Inclusion or working together	
		Role model	
Time point 2	Motivation to offer support	I would help if asked to help by those needing it	
		I would help even if they were difficult	

		I would be happy for someone if I were able to help them	
		Helping others hinder my progress	
		I would be motivated to offer peer support, if it is useful	
		I would offer or give support if receiver ready to change or engage	
		I would offer or give support but receiver not ready to change	
		The effect of the support on the participant or recipient	
	The help I am able to give	The skills I have learned around knowledge	
		The skills I have learned around behaviour change	
		Giving an overview of what I have learned - lifestyle change	
		The value of my support to others	
		Familiarity - knowing someone's situation makes it easier to support them	
		The skills I have learned to take forward	
		Skills I have learned around problem solving	
		Not sure if I can help someone that knows what to do	
		The types of help I can give	
		Helping those within my capabilities	
	Opportunities to offer my support	People would ask for support by phone, or other social media	
		How much help, how often	
		Listening to those who need help	
		Observing those that need help	
		Peer would raise the subject	
		Participant would raise the subject	
Time point 3	What are you thinking about when you see the format – the layout, the design of the leaflet?		
	What are you thinking about the		

	wording?		
	How easy is this to follow?		
	What, to you, are "lifestyle changes"?		
	What do you think you are being asked to think about?		
	Overall, what do you like about this leaflet?		
	What are you not keen about?		
Time point 4	What would the intervention look like	Discussions within the group prompted by Lead	
		Find out from the group as a whole what they need at that point for future support	
		Encouraging reflection and sharing their journey with others	
		Guidelines for clients based on participants preferences for acceptable support	
		Guidelines for Leads based on Lead focus groups perceptions for feasible support	
	When would the intervention be delivered	When the individual is ready to receive intervention and this is perceived by Leads as when their clients show signs of readiness to support their peers	Clients achieving and seeing their own changes motivation
			Clients confident they can make changes
			Clients hearing from others that they can see clients changes and benefits
			Clients are confident with the things they have learnt from the programme
			Clients valuing the programme and it's philosophy
		Clients giving a general indication of when they are ready for the intervention	
		Lead's decision on when they feel the client is ready	
	How would the intervention be delivered	Face to face in the group together	
		Face to face in a group with a buddy	
		Face to face in a group with the group as support	
		At public forums	
		On social media	

Appendix 5.1: Explanation of Participant codes and time points of interviews

Time points of interviews	Participant number and sex	Participant code
1,3	11 woman	11W
1,2	12 woman	12W
1,3	13 woman	13W
1,2	14 woman	14W
1	15 woman	15W
1,2,3	16 man	16M
1	17 woman	17W
1	18 woman	18W
1,2	19 woman	19W
1	20 man	20M
1,2,3	21 man	21M
1	22 man	22M
2	23 woman	23W
2	24 woman	24W
2	25 woman	25W
2	26 woman	26W
2	27 woman	27W
2	28 man	28M
2	29 man	29M
3	30 woman	30W
3	31 woman	31W

Appendix 7.1 a: PIE Chart

"As easy as PIE"

Praising, Including & demonstrating, Encouraging

Praise is something we like to receive and we find it rewarding when someone tells us how well we have done. You may see or hear others making healthier choices and praising their achievements will help them continue with these changes and even try new ones. Noticing someone choose to take the stairs instead of the lift is an example.

Including someone in your new, healthy ways and demonstrating your changes can encourage them to make changes too. It can help you maintain your goals or even make new ones. Inviting a friend to walk with you is an example.

Sharing the walk from changing room to pool gave me the courage to go swimming with my neighbour *Ebony*

Encouraging others to keep going with their changes or to try new ones gives them support. They may not always be ready to try a new change, and we should respect their decision. However, we can gently encourage them without being critical or judgemental on the chance that one day they may want our support.

Helping others to make lifestyle changes:

It can be "As easy as PIE!"

Praising, Including & demonstrating, Encouraging

Congratulations for completing your weight management programme. You have made changes such as being more active or eating in a healthier way. Making this progress will give you confidence and self-belief to make further changes.

How can you influence those around you?

People you know, inspired by your changes, will see you as a role model. This shows them what has worked for you and can give them the confidence to achieve changes too.

How able are you to help?

Listening to others and sharing their problem gives them space for achieving their goals
Fraser

At a time we feel ready to help those we know, we could listen and allow them to talk and explore their options around making changes

How can you tell if others want help?

The requests for help may range from direct appeals to subtle signs. Some find it difficult to ask directly for fear of rejection or even embarrassing you. Instead, they may hint at wanting support. To pick this up, you would have to listen well and be alert to what people are saying. Some may ask us what changes we have made; some may tell us how their present weight and health is bothering them. Once you get the impression that someone wants to change, this is the time you could make an offer of help.

I knew my pal wanted some help when he said to me: 'You're looking well – how did you do it?'
Euan

How can you offer help?

Offering support to lose weight is a sensitive area, even to those we know well. We know that people don't like to be told what to do.

My skinny son was no help at all. He would be too direct about my efforts to lose weight and say: 'It's simple mother; just eat less and move more'.... It made me do the opposite!
Grace

People have told us that if they knew someone was ready to make changes, they would offer help in a 'roundabout way' such as mentioning the subject in conversation rather than directly offering help.

My neighbour was moaning to me about her weight and I told her the problems I had too and what I was doing about it
Molly

How can it benefit you to help others?

Helping others to lose weight and become more active could give them the same health benefits as you. Seeing your family and friends improve their health can be a great reward. It also gives you an opportunity to spend more time with them.

Appendix 7.1 b: Savoury PIE

"As easy as PIE"

Praising, Including & demonstrating, Encouraging

Praise is something we like to receive and we find it rewarding when someone tells us how well we have done. You may see or hear others making healthier choices and praising their achievements will help them continue with these changes and even try new ones. Noticing someone choose to take the stairs instead of the lift is an example.

Including someone in your new, healthy ways and demonstrating your changes can encourage them to make changes too. It can help you maintain your goals or even make new ones. Inviting a friend to walk with you is an example.

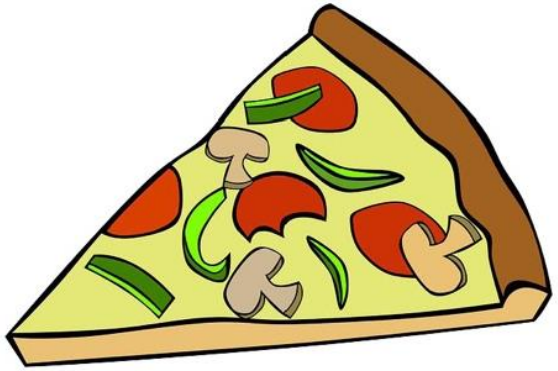
Sharing the walk from changing room to pool gave me the courage to go swimming with my neighbour *Ebony*

Encouraging others to keep going with their changes or to try new ones gives them support. They may not always be ready to try a new change, and we should respect their decision. However, we can gently encourage them without being critical or judgemental on the chance that one day they may want our support.

Helping others to make lifestyle changes:

It can be "As easy as PIE!"

Praising, Including & demonstrating, Encouraging



Congratulations for completing your weight management programme. You have made changes such as being more active or eating in a healthier way. Making this progress will give you confidence and self-belief to make further changes.

How can you influence those around you?

People you know, inspired by your changes, will see you as a role model. This shows them what has worked for you and can give them the confidence to achieve changes too.

How able are you to help?

Listening to others and sharing their problem gives them space for achieving their goals
Fraser

At a time we feel ready to help those we know, we could listen and allow them to talk and explore their options around making changes

How can you tell if others want help?

The requests for help may range from direct appeals to subtle signs. Some find it difficult to ask directly for fear of rejection or even embarrassing you. Instead, they may hint at wanting support. To pick this up, you would have to listen well and be alert to what people are saying. Some may ask us what changes we have made; some may tell us how their present weight and health is bothering them. Once you get the impression that someone wants to change, this is the time you could make an offer of help.

I knew my pal wanted some help when he said to me: 'You're looking well – how did you do it?'
Euan

How can you offer help?

Offering support to lose weight is a sensitive area, even to those we know well. We know that people don't like to be told what to do.

My skinny son was no help at all. He would be too direct about my efforts to lose weight and say: 'It's simple mother; just eat less and move more'…. It made me do the opposite!
Grace

People have told us that if they knew someone was ready to make changes, they would offer help in a 'roundabout way' such as mentioning the subject in conversation rather than directly offering help.

My neighbour was moaning to me about her weight and I told her the problems I had too and what I was doing about it
Molly

How can it benefit you to help others?

Helping others to lose weight and become more active could give them the same health benefits as you. Seeing your family and friends improve their health can be a great reward. It also gives you an opportunity to spend more time with them.

Appendix 7.1 c: Sweet PIE

"As easy as PIE"

Praising, Including & demonstrating, Encouraging

Praise is something we like to receive and we find it rewarding when someone tells us how well we have done. You may see or hear others making healthier choices and praising their achievements will help them continue with these changes and even try new ones. Noticing someone choose to take the stairs instead of the lift is an example.

Including someone in your new, healthy ways and demonstrating your changes can encourage them to make changes too. It can help you maintain your goals or even make new ones. Inviting a friend to walk with you is an example.

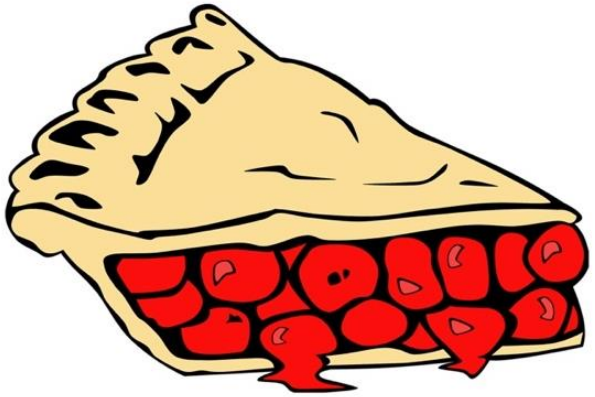
Sharing the walk from changing room to pool gave me the courage to go swimming with my neighbour *Ebony*

Encouraging others to keep going with their changes or to try new ones gives them support. They may not always be ready to try a new change, and we should respect their decision. However, we can gently encourage them without being critical or judgemental on the chance that one day they may want our support.

Helping others to make lifestyle changes:

It can be "As easy as PIE!"

Praising, Including & demonstrating, Encouraging



Congratulations for completing your weight management programme. You have made changes such as being more active or eating in a healthier way. Making this progress will give you confidence and self-belief to make further changes.

How can you influence those around you?

People you know, inspired by your changes, will see you as a role model. This shows them what has worked for you and can give them the confidence to achieve changes too.

How able are you to help?

Listening to others and sharing their problem gives them space for achieving their goals
Fraser

At a time we feel ready to help those we know, we could listen and allow them to talk and explore their options around making changes

How can you tell if others want help?

The requests for help may range from direct appeals to subtle signs. Some find it difficult to ask directly for fear of rejection or even embarrassing you. Instead, they may hint at wanting support. To pick this up, you would have to listen well and be alert to what people are saying. Some may ask us what changes we have made; some may tell us how their present weight and health is bothering them. Once you get the impression that someone wants to change, this is the time you could make an offer of help.

I knew my pal wanted some help when he said to me: 'You're looking well – how did you do it?'
Evan

How can you offer help?

Offering support to lose weight is a sensitive area, even to those we know well. We know that people don't like to be told what to do.

My skinny son was no help at all. He would be too direct about my efforts to lose weight and say: 'It's simple mother; just eat less and move more'…. It made me do the opposite!
Grace

People have told us that if they knew someone was ready to make changes, they would offer help in a 'roundabout way' such as mentioning the subject in conversation rather than directly offering help.

My neighbour was moaning to me about her weight and I told her the problems I had too and what I was doing about it
Molly

How can it benefit you to help others?

Helping others to lose weight and become more active could give them the same health benefits as you. Seeing your family and friends improve their health can be a great reward. It also gives you an opportunity to spend more time with them.

Appendix 7.2: Teaching notes for Programme Leads (Weight management programme)

Discussion on the following areas will persuade the Leads of the importance of peer support:
Information about health consequences
Information about social and environmental consequences
Training by the following methods will enable competence to raise the topic of peer support:
Graded tasks
Instruction on how to perform a behaviour
Demonstration of behaviour (role playing)
Enabling the Leads by:
Problem solving
Action planning
Social support
Review behaviour goals

Appointment 1: *Raising the topic of peer-led support*
Discuss: *Gaining support from family and friends will help to sustain clients behaviour changes. In addition, mention that as they attend the programme, people they know may notice their changes and might ask about them. When this happens, suggest they think about someone they know who they consider to be a good listener with a helpful approach. This could be their programme lead or their family's and friends, who have listened to their problems and progress and who have praised and encouraged them: using a similar approach, could they think of how they could do the same?*

Appointment topics during core programme/review sessions: peer-led support (supported with guidance leaflet 'PIE')

- Clients of the programme will have learnt new ways of doing things that could help them lose weight. They may be able to cascade these new skills to help people they know, make changes too.
- Supporting someone else could remind the client of the strategies they used to lose weight thus maintaining the changes they have already made. In addition, including others in their healthy changes could encourage them to continue with their own changes and even support them to make new ones. In this way, working together could make weight management more successful for both the participant and those they are supporting.

"What do those around them think when they see their progress?"
Discuss: *Are others inspired by their progress? Do others see them as a role model?*

"How did they feel when they were trying to make changes?"
Discuss: *what difficulties did they experience?*

"What are the benefits of support from their friends and family's?
Discuss: *what could friends and family's do to help them make new lifestyle changes?*

"What are the problems with receiving support from their friends and family's?

Discuss: *the influences on lifestyle both supportive and not supportive: what is useful and what is not.*

"How can they tell if others are ready to make changes too?"
Discuss: *Others are talking about making changes and doing things differently; they are talking about the advantages or challenges of losing weight.*

"How can they tell if someone they know wants their help?"
Discuss: *People may find a direct approach difficult so they may give cues that they want help. What might these be?*
Examples - Others ask them:

- *How have they have lost weight?*
- *What changes have they made?*
- *How difficult is it for them to make changes?*

Discuss: *It can be difficult to notice a cue so it's important to use their listening and observational skills.*
Examples:

- *Hearing what people are saying and listening for what they are really meaning – they may say something indirectly without actually saying what they mean or want*
- *Noticing how others copy their changes or adapt them in a way that they can use*

"How can they offer to help?"
Discuss: *Offering to help someone make changes around weight loss can be a sensitive area so help should be offered in a roundabout way. Examples:*

- *Raising the topic in conversation*
- *Mentioning the goals they are working on*
- *Acknowledging that it's not easy but worth persevering*

"How can it benefit them to help others?"
Discuss: *Giving help to others can help to achieve and maintain behaviour changes for both.*
Examples:

- *Finding motivation to maintain a walking goal can be made easier and encouraging when someone shares their walk*
- *Finding it difficult to try a new goal by themselves may be made easier when someone tried it with them*
- *Helping those they are close to can give these others the same health benefits that the clients have achieved*
- *Helping those they are close to gives them an opportunity to spend some time with them*
- *Sometimes, clients may encounter resistance from those they know: they may not be ready to make any changes. However, they could gently encourage them without being critical on the chance that one day they may want their support*

"How able are they to help?"

Discuss: *Others may see the client's changes and some might respect the efforts they have made by giving praising and encouraging comments. Seeing, feeling or hearing about their own changes can give the client self-belief in their achievements and helps them feel credible. This gives value to the support they can offer*

"What is the best support to give others?"
Discuss: *people tell us that being praised, included and encouraged helps them to make changes.*
Examples:

- *Praising someone for achieving their goal*
- *Including someone in their own healthy activity*
- *Encouraging someone to make changes or maintain the ones they have already made and gently encouraging those who aren't ready just now to make changes.*

Appendix 7.3: Session Planner

Appointment planner addition to Weight management programme

Appointment and insert for individuals	Practitioner tasks and discussion points	Behavioural strategies
Appointment 1	**Managing Difficult Times** Acquiring support from family and friends will help to sustain client's behaviour change.	Social support

Appointment and insert for individuals	Practitioner tasks and discussion points	Behavioural strategies
Throughout the programme sessions **Resource:** Guidance leaflet: 'As easy as PIE'	**Managing Difficult Times** Giving support to family and friends may help to sustain their behaviour change and maintain the client's own.	Social support

Appendix 8.1: Study Publication

A qualitative exploration of clients' perceptions on cascading their learning from a weight management programme through peer support to social networks

Deborah Kirby[1], Anne Taylor[1], Pat Hoddinott[1]

[1] Faculty of Health Sciences and Sport,
Nursing, Midwifery and Allied Health Professions Research Unit,
University of Stirling,
Stirling FK9 4LA

Correspondence

D Kirby, Dietitian, Cowal Community Hospital, 360 Argyll Street, Dunoon, Argyll & Bute, PA23 7RL, UK
Tel.: +44 (0)1369 708344
Email: deborah.kirby@nhs.net

Key Words

Peer support, weight management, cascading learning, social networks, intervention development

Abstract

Background

Understanding acceptable peer-led weight management support could add options to weight loss interventions. This research explores perceptions of clients attending a weight management programme for the potential of cascading their learning to their social network.

Methods

Guided by the learning from peer support literature and the Capability, Opportunity, Motivation for Behaviour (COM-B) theory, an iterative qualitative approach was undertaken using a prospective longitudinal design using purposive sampling from a diversity of perspectives. Thematic and interpretive analysis identified key themes relating to the COM-B framework.

Results

Semi-structured (24) and some serial interviews (5) were conducted with 19 participants of three weight management programmes, 12 participants at each of two time-points. Motivated by altruistic benefits, participants perceived they could indirectly offer support. Seeing their peers' readiness to change reduced the risk to relationships, giving further motivation to offer support. Participants suggested using openness to allow reflective discussions and active listening to ensure cues for support were not missed. Valued support was praise; inclusion into and demonstration of weight related activities, and encouragement. Welcoming practical healthy eating advice, they however gave precedence to the 'norms' of their social network. Lacking self-belief to give valuable support, giving up time for peers, stress from hearing peers problems were barriers to offering support.

Conclusions

Participants perceive there is potential to cascade informal peer-led support for weight management. Information on their abilities to gauge the readiness of peers to make changes, and offering support indirectly, provide new knowledge on those features making peer support acceptable.

Introduction

Humans' predilection to store calories contains a flaw; rather than promote existence, it threatens our survival by creating a vulnerability that promotes obesity. This contemporary problem of energy imbalance is linked to an increased risk of poor physical and mental health. A Body Mass Index (BMI) higher than the normal range, increases the probability of non-communicable diseases such as cardiovascular disease, Type 2 diabetes, musculoskeletal disorders and some cancers, but there is also a detriment to the mental well-being of the individual [1,2]. Maintaining an energy balance to prevent obesity or maintain weight loss is a life-long commitment and is affected by multi-factorial barriers and facilitators. Due to its complex aetiology, recent research into obesity concludes that interventions should contain a "sustained portfolio of initiatives" targeting all areas of an individual's life to support their behaviour change to a less obesogenic lifestyle [3:p.3].

This research looked at a UK professional-led NHS programme providing an opportunity for clients to hear about the components of a healthy lifestyle, and to learn the behaviour skills that support weight loss. Currently, after an initial 6-session core programme over a 12-week period, the clients receive ongoing support to encourage reflection and problem solving over a 12-month period. The programme is set in an artificial environment; occurring out-with meal times and far from the external obesogenic temptations [4]. Although problem-solving examples are discussed during the programme, these discussions may be distant from the context of clients' everyday lives where changes can be difficult to implement or maintain. In addition, recent research[5] suggests that only one third of adults with overweight or obesity referred for a formal weight management programme attend, and of those only 28% complete the course[6]. Furthermore, engaging in a formal weight management programme may not be sufficient to maintain weight longer term [7]. Frequent contact promotes trust and credibility to create an environment conducive to healthy behaviour change, but this behaviour change reverses when support is decreased or withdrawn [8]. Professionals delivering weight management programmes may not be able to increase client contact, but clients own social networks may be well placed to offer continued support and receive it for their own weight problems.

Informed by a review of the literature for weight management peer support in a doctoral thesis [9] weight loss can be promoted by tailoring interventions to the familiarity of the clients

social network. The definition of a peer is someone with whom they have a commonality and for this paper, the commonality is an experience of obesity or overweight [10]. These peers may have close social network links such as with family and friends, and more distant links such as associates at work or members of groups they attend. Identifying that obesity clusters within a social network, Christakis *et al.* [11] suggest this peer linkage could also create healthy habits. Programme clients have been reported [12] unintentionally promoting positive lifestyle changes to their peers by modelling healthy diet and activity choices.

Although highlighting many positive effects of peer support, conversely, negative effects have been suggested to prevent progression with weight loss [13, 14]. National Institute for Health and Care Excellence (NICE) PH49 [15:p.38] state: "social support provided by friends, family and associates could help to create an environment in which people felt able to make changes. However…….. if not managed effectively, social support provided by non-professionals could sometimes lead to an unhealthy co-dependency, bullying, manipulation or other negative behaviour". Dietary behaviour change may be more achievable if support came from empathic peers within their existing networks [16]. Knowing more about the facilitators and barriers to client-led support could lead to acceptable interventions cascading weight loss behaviours. By encouraging clients at a weight management programme to cascade their new skills and knowledge to their networks, evidence-based lifestyle messages could be diffused more widely as opposed to information based on fads [17].

This research focuses on the informal network support by an individual attending and learning skills during a weight management programme. The advantage to exploring an informal role is that potentially anyone could offer peer support without specific training or extrinsic reward by utilising existing community assets. The aim of this research was to explore whether participants perceived they had sufficient capabilities, opportunities and motivation to cascade their learning from the weight management programme to support their peers to lose weight.

Methods

Theoretical framework

This research was guided by the Medical Research Council (MRC) and their Framework for the development and evaluation of complex interventions' [18] with Michie *et al* [19] providing

the theoretical base in the shape of the COM-B model. This model, as part of the Behaviour Change Wheel [19] provides the integration of behavioural change theory into the practice of behaviour change interventions. Using a mechanism of action based on the three functions that affect behaviour change, the COM-B guided an exploration on the capability, opportunity and motivation required to offer or accept peer support. The first function 'capability' is divided into two types [19]: either having the physical skills to carry out the behaviour, or having the psychological skills such as the knowledge to perform the behaviour. The capability to offer weight management support to their peers is defined for this research as the skills participants have to provide a valued support, and the ability to offer this support in an acceptable way. 'Opportunity' is divided into two definitions [19]: the physical opportunity to help others as allowed by their availability and situation within their social environment, and the social opportunity as allowed by their culture and relationships. For this study, physical opportunity for the participants takes place within their social network such as home or work. Social opportunity, is interpreted as the opportunity created when the participants offer or receive support in an acceptable way. The 'Motivation' for peers to offer support can be 'reflective', a planned response or 'automatic', based on needs and wants [19, 20]. A qualitative, interpretivist approach was used to explore a deeper understanding of these three functions and the facilitators and barriers affecting them.

Recruitment and sampling strategy

Setting

Three NHS weight management groups in Scotland set the context for this research. Based on their shared aim to achieve weight loss, criterion-based purposive sampling was used to invite programme clients to participate in the research [21]. The programme Leads raised the topic of the research to their clients during the first session; the clients were unknown to the researcher. Participant Information Sheets were sent to the clients. Ethical approval had been gained and clients were reassured that non-participation would not affect their support at the programme.

Data collection

The participant chose the locations for the research: the site of the weight management programme in NHS and integrated care sites, or participant's homes. Data collection was carried out by face-to-face interviews. The interview topic guide, including was developed using the identified gaps in the literature review and the theoretical mechanisms of action for

behaviour change interventions [19], yet allowed participants the freedom to talk about the issues they perceived important to peer support. Vignettes were constructed to give extra perspective to the intervention design [22]. This was achieved by enabling participants to reflect on a situation they may not have considered, or found too sensitive to talk about. Pragmatically, the semi-structured interview questions were shaped and analysed as themes and patterns emerged from the participant's perspective in parallel with analysis and supported the iterative style of questioning. Using a prospective longitudinal design with some serial interviews, participants' perspectives were captured at different time points in their weight management journey: the first (time point 1) before they commenced the programme to collect information on their perspective to accepting support; the second (time point 2) at the end of the 12 week core programme in order to explore their perceptions on offering support. Aiming to explore the changes and requirements of useful peer support in the weight management journey, the participants at the two time points did not necessarily have to be the same interviewee. There were participants whose additional co-existing morbidities and changing priorities did not allow them to take part at all time points. The sample size was considered complete when the participants (23, 24) raised no new viewpoints. The interviews were audio recorded and transcribed by the researcher verbatim and field notes and memos were made to support the recordings.

Data Analysis

After anonymising transcriptions, the researcher undertook thematic analysis using NVivo 10 to manage data. Constructing visual maps on NVivo, a developing picture of peer support emerged that helped to develop initial reflections on the findings. COM-B was applied as an overarching theoretical framework, however new themes were derived from the interview data. To increase the validity of the thematic coding, two other researchers, AT and PH, checked the same three transcripts and agreed a consistency around emerging themes and coding data. All authors had access to all transcripts. This corroborating of views from different disciplines (nursing and general practice in addition to dietetics), helped to sense check emerging themes. The Research Steering group provided further views on the themes. In addition, reflexivity, to reduce the risk of researcher bias and assumptions was used throughout the research process by regular research team data analysis meetings every 2-3 months over four years.

Results

From three programmes, 10 clients were recruited from Programme 1 held in a RST, 5 from Programme 2 held in an UA and 4 from Programme 3 held in a VRST. Table 1 outlines the sample of 19 participants: some interviewed once (14), some twice (5).

Table 1: Sample Characteristics

Age Group	Participants interviewed at Time-point 1: pre programme sessions	Participants interviewed at Time-point 2: post programme sessions
30 -39	1	2
40-49	2	2
50-59	4	3
60+	5	5
BMI		
25-29.9 (overweight)	0	2
30-39.9 (obese)	5	5
40-49.9 (obese)	4	2
50+ (obese)	3	3
Sex		
women	8	8
Men	4	4
Area of residence [25]		
Large urban area	1	1
Urban area (UA)	1	3
Remote small town (RST)	1	1
Very remote small town (VRST)	0	4
Accessible rural	1	0
Remote rural	0	3
Work status		
Not working	10	6
Working	2	6
Social status		
Lives alone	3	1
Lives with others	9	11

The findings are ordered by the three functions that affect behaviour change: Capability, Opportunity and Motivation [19]. In reality, these functions are not separate entities and their interaction was apparent in the key themes emerging from the data (Table 2). The perceptions of the participants are presented by quotes followed by their interview number, man or woman and time point.

Table 2: COM-B thematic framework

Capability	Opportunity	Motivation
Capabilities gained through personal experiences *Capabilities learned from the weight management programme* *Capabilities to provide support that is valued by others* *The perceived lack of capability of peers to provide acceptable support*	*The opportunity for support within participants social network* *Identifying readiness to change* *Support governed by time and place* *The culture of their social environment*	*Seeing signs of readiness to change* *The motivation to support and the associated risks and benefits*

Capability

The capabilities participants' perceive they have to offer support to their social network outside the weight management programme are grouped under four main themes.

Capabilities gained through personal experiences

Participants perceived their own experiences give them capabilities to offer support; what has worked well for them when managing their weight, and what has not. Remembering the difficulties they had experienced in trying to lose weight, participants talked about giving their peer listening-time to allow them to reflect on their problems:

> *So he didn't approach me, it was just conversation and he was talking himself into it and just looking for a bit of peer reinforcement (23W time point 2)*

Being open with others on the changes they have made, was considered by participants to be helpful to their peers. In addition, viewing reflection as providing an opportunity to hear their

own thoughts, participants felt this could help peers identify their own problems and barriers to weight loss, and empower them to make progress in solving these:

> *I listen to what people have to say. And I like to listen to what interests them, what conflicts they have, what difficulties they are experiencing, share their problem… … there's more space then, for them to think about their goals (29M time point 2)*

Capabilities learned from the weight management programme

Participants' felt competent and confident in their capabilities to recount the knowledge they had acquired from the programme discussions and their suggestions for support are illustrated in table 3.

Table 3:Participants perceptions of acceptable advice and feasible solutions for weight loss

Topics advised	Participant Quotes
Coping with hunger	*Its picking out the times you're really hungry and it's being prepared for it… a sandwich there or a piece of fruit…. so you are passing on that knowledge. (21M time period 2)*
Cooking healthy meals for others	*If they know there's something to eat down at mine, they won't buy a take away. (20M time period 2*)
Accessing information to help with weight loss	*I would show them my programme book; show them the whole programme: I got a positive outcome from it and it might help them just the same.(29M time period 2)*
Shopping	*I do go shopping with her sometimes and I do kind of steer her and I managed to get her on to the mince with no fat in. (25W time period 2)*
Showing correct portion sizes	*I could talk about what they could change…. what they could cut down…. or show them the size of plate (25W time period 2)*
Giving examples of healthy option recipes	*He asked for recipes and he asked what is it you are allowed to eat? And I said you are really allowed anything but it's how you cook it and I would tell him what to do… (26W time period 2)*
Helping with practical aspects	*I was thinking more about the meal planning and that kind of thing, I could give her (internet) links too (24W time period 2)*
Avoiding triggers for overeating	*I'm hungry at lunch and I eat the first thing I come across. So, I have something ready for lunch. (23W time period 2)*
Discussing general tips on losing weight	*Encouraging her to write it down so that she can see on paper what she's putting in her mouth. (27W time period 2)*
Suggesting what food to pack when travelling	*If they were going somewhere and there was a journey ahead, there's not always choices at a service station and if it's possible, take with you what you need to eat. (19W time period 2)*
Advising on types of exercise equipment	*I don't have a Fitbit but on our phones you do steps and the steps also tell you not just the distance but also the calories you are burning. (16M time period 2)*
Planning healthy lifestyle changes	*I know my neighbour drinks a bottle of wine every night so we talked about her having a bottle of wine one night at the weekend (14W time period 2)*

Apart from their own experiences, many of the participants' positive changes were learnt through their attendance at the weight management programme. Goal setting was one of the main principles of the programme but helping others to set realistic goals around healthy changes, was only mentioned by a few participants. These participants did not report using the same detail for goal setting as in the programme but they appreciated the importance of the process for making progress:

> *I don't want to tell her anything wrong but I think it's quite simple to say to her that I found it quite helpful to have a goal in mind and also em….to plan a bit ahead (25W time point 2)*

Capabilities to provide support that is valued by others

The participants described four main actions for support that they considered would be acceptable to others: praise, encouragement, demonstration and inclusion. Participants talked about how the presence or absence of these actions could encourage or deter someone from making healthy lifestyle changes.

Participants viewed words of praise as a method of affirming others healthy actions, and helping them to acknowledge their successes. This participant was inspired to continue her healthy changes after meeting an old friend:

> *She said: "G can that be you? Is it you?" It made me feel wonderful, wonderful. (19W time point 2)*

Encouraging others to try new changes or maintain present healthy behaviours was the second theme mentioned as valuable support, and was preferred to 'being told what to do'. Comments were centred on how encouragement helped them to weigh up the 'pros and cons' of making a change by resolving any ambivalence they felt:

> *But they didn't tell me I had to do it, just what the benefits if I did do it: it was just in my time (15W time point 1)*

Participants viewed demonstration as a specific support prompting healthy changes through participants' 'role modelling' actions, giving peers an idea of new goals they could make and

reminding them to maintain their own existing healthy habits or goals. Role modelling was considered valuable in two contexts, firstly as part of their own normal routine:

> *Deep down I think she has watched me because I know for a fact that she has changed her behaviour. She loved buying sweets, these little chocolate sweets and put them in her drawer by the side of the bed and feeding on them but she's stopped that to a certain degree…. so I think some of it's definitely sunk in (29M time point 2)*

Secondly as deliberate or intentional in the belief that it would help the other person:

> *When we were on holiday, I took the 'tomatoey' vegetarian option and not pasta with cream sauce, and that influenced M to take it as well. And she thoroughly enjoyed it. (21M time point 2)*

Participants felt strongly that they were capable of offering demonstration; it gave value to support because it was both credible and acceptable. But when positive changes disappeared, so too did its credibility. This participant described the loss of credibility for her friend's support:

> *She used to do a lot of walking, used to walk with me, help me, but now she doesn't go walking with me anymore and she's put it (weight) all back on. (11W time point 1)*

Inclusion, the final action listed was described by participants as inviting someone to join in with their healthy habit. They considered themselves capable of this support, especially as this was seen by many as enjoyable, not difficult, and usually involved activities. There were many comments around inviting others to: play golf; swim; walk; go to keep-fit classes, and even share a personal trainer to increase their energy expenditure. The men in particular, perceived that including a fun aspect made the support more acceptable:

> *If you can get a laugh out of it you know, you are doing yourself a bit of good ….if it's no funny, it's no good, there's a wee bit of a competitive edge there… .you can get a wee punt (bet) against each other (20M time point 1)*

The enjoyment of being with a peer was perceived to take the sting out of failures and magnified successes; and in addition, the problem of losing weight was shared and made attempted weight loss more manageable:

> *It started from my 'steps'. And my daughter's birthday was coming up and she wanted one (Fit bit). And she's actually doing the challenge with me. And now my*

oldest daughter has one and everyone has gone into the same momentum (21M time point 2)

In a different vein, some inclusion comments were about inviting peers to join them for a coffee, which gave an opportunity to talk and reflect on their weight problems.

Participants also mentioned a negative side to inclusion that acted as a barrier to making healthy changes. This participant had benefited from his wife's support when she made a healthy packed lunch for them both on a daily basis, but when her good habits slipped, both lunches changed to those with unhealthy content:

I need to be quite focused on my changes because her relapsing means I might relapse and I don't want to. If she chooses to lapse that's fine, but don't involve me in that (laughing). (21M time point 2)

The perceived lack of capability of peers to provide acceptable support.

Commenting on the unhelpful communication received from peers that was neither credible nor realistic, participants considered this advice unbelievable and was unacceptable support. This mother explained:

He (son) is a big long stringy thing and he doesn't practice what he preaches. He eats chocolate cake and he doesn't eat a good variety of vegetables or fruit yet he would be inclined to turn around and say to me: 'You should eat less and move more' because he is a doctor and he thinks he knows it all (13W time point 1)

Other unhelpful remarks made by peers regarding participants' attempts to be healthy were perceived to be made with good intentions, but not supportive of participants healthy changes. This participant had lost more than ten stones in weight at his local slimming club:

I think I was 13 stone 12lb (with a normal BMI) when I met M and she thought I was too thin. (16M time point 1)

Directly mentioning the participant's obesity was also deemed as unhelpful. This participant had worked hard at making healthy changes when he met up with an old friend:

They're not being mean about my weight because they're comparing you to what you used to be like and you've changed. But you're not going to make changes because of

that comment, it can actually demote me because, actually, I had lost a stone when he said that, I think I could have done without that. (21M time point 1)

Opportunities for peer support

If participants cannot identify any physical or social opportunity for support in their social network, then the prospect of successful peer support is unlikely to proceed. In this section, participants' views are outlined under the five themes that are facilitators and barriers to the opportunities to offer support.

The opportunity for support within the participant's social network

There was a consensus from all participants that they had an opportunity to offer support because they all knew of a peer trying to lose weight. These were: spouse, sibling, work colleagues, acquaintances at groups attended, friends, neighbours, partners of those they know, others they didn't see locally but were in touch with through various technologies. Commonalities were highlighted as an important condition for creating an opportunity for support and participants mentioned sharing the problem of obesity, sharing similar goals, having similar social backgrounds or similar life experiences:

..... I would probably listen more, ... if they are on the same wave length, you know, and we are eating the same things (15W time point 1)

The people I have met there (at the slimming club) have been younger than me.... I prefer the same kind of peer group (17W time point 1)

There were comments from participants around the lack of support they received from others. One participant felt her mother had never given her the opportunity to learn about healthy cooking or the importance of being active; another talked about her lack of opportunity to eat healthily:

I asked my brothers to come, I asked them to sit with mom and give me physical support and they told me I was the only daughter, and it was my duty to get on with that (19W time point 1)

Identifying readiness to change

Participants commented that if they perceived members of their social network were not ready to make lifestyle changes, they would not offer support. Participants made these assessments

through informal conversations, using listening skills, and making observations on their peer's behaviour:

> *There's always the opportunity (to talk) and sometimes you just need to listen intently to find out what the message is (29M time point 1)*

The participants reflected that they understood the other person's weariness and vexations around weight management and this prevented some participants offering support; they queried its value to their peer at that time:

> *When I go shopping with her and she puts a really big bag of crisps in her trolley, I want to say: 'Put them back' but she has said I'm not in the right place, I need them, they're like a crutch. (25W time point 2)*

On the other hand, seeing the signs that peers were ready to make lifestyle changes gave them an opportunity to offer support:

> *I think she might listen to me this time, I see she is annoyed with herself that she has put on so much weight. (27W time point 2)*

Support governed by time and place

Commenting on their availability to offer support, participants felt this could be offered in places they normally interacted with others, or by social media and phone calls. Although availability did present a barrier, participants felt there were ways around this:

> *I wouldn't want to have to sit and listen to him every day (laughing) but certainly once a week if he wanted to touch base. Usually we have some time to chat about non-working things, we are usually the two that's last to leave at night. (23W time point 2)*

> *I work full time and she works part time so….no I couldn't see that fitting in…… so it would have to be opportunistic or be on Facebook (24W time point 2)*

The culture of their social environment

Regarding the hospitality they receive, both in the home and outside within their social environment, participants talked about the difficulties that occurred when aiming to eat healthily. They felt it was part of their culture that hospitality, generous with excessive provision of often unhealthy foods, over-rides goals for healthy eating:

Table 3: Acceptable approaches for offering indirect support

Approaches participants feel they could use to indirectly offer support to make lifestyle changes	Casually chatting about their experiences of weight management
	Praising someone for their visible weight loss
	Praising someone for their visible efforts even if their weight hadn't changed
	Demonstrating their new healthy changes
	Discussing what supported their weight loss in the past
Approaches participants feel they could use to indirectly achieve support to make lifestyle changes	Copying someone they see carrying out new changes
	Feeling curious and asking someone how their weight loss was achieved
	Someone demonstrating their changes to them
	Joking about someone's changes or weight loss
	Hinting about support before raising the subject
	Talking to someone they felt comfortable with about their weight
	Casually chatting about their experiences of weight management
	Mentioning the changes they would like to make
	Finding an interested ear to recount the changes they have made

Participants' preference for indirect approaches highlighted difficulties in recognising cues, hence missing the opportunity to offer or accept support:

> *I realise now that when my sister-in-law raised the topic of weight from her conversations with the health visitor… she gave me a way in, but I didn't hear it (24W time point 2)*

> *She would probably bring it up (a hint that she wanted support) and sort of slip it into the conversation. It'll be mixed up in that and it's up to me to identify this is what she's really asking so I would have to be a little bit perceptive (29M time point 2)*

Some participants felt that accepting an opportunity for support could be done more easily if the support was mutual. If they had something to offer in return, it wouldn't be a 'one-sided favour', and even then, the altruistic offer to help was preferable to receiving help:

> *I have got a very good friend; she is also my neighbour and she's very supportive, she's aware I am doing this, you know… …. the weight thing …. She's got an eye problem and she's just been given a blind (*guide*) dog, and she has asked if I will go out with the dogs when the better weather comes… (15W time point 1)*

Motivation

Participants explained their reflections and intentions, and automatic desires to help peers. These elements of motivation, as perceived by the participants, are grouped under two themes: seeing the signs of readiness to change and the associated risks and benefits.

Seeing signs of readiness to change

Stating that motivation to offer peer support, came from seeing signs that their peers wanted to make changes:

> *When we go shopping and she doesn't want to buy anything, she gets upset and she goes into the changing room because nothing's nice on and then she says 'I'm going to lose some weight' and that's when I'll say something (26W time point 2)*

Participants reported a 'feeling of helplessness' when the ones they wanted to help had struggled with obesity for many years. Reflecting that they understood their peer's weariness and vexations, participants queried the value of their support at that time:

> *It is quite difficult to help, because she knows what she should be doing, she knows herself. (27W time point 2)*

The associated risks and benefits

Participants were strongly motivated to offer support because of the benefits they perceived their peers would receive, an altruistic facilitator:

> *You want the kids to have that healthy lifestyle because I definitely feel the benefit, (21M time point 2)*

Another motivator was the benefits participants perceived they themselves would receive from helping peers make new changes. Offering support enabled participants to feel valued by friends and family, and it gave a legitimate reason to set aside time to be with them. Supporting those close introduced a new (and sometimes reintroduced an old) feeling that they had something to offer and enhanced their relationship:

So I just gave him some weight loss advice ... ... it brought us that bit closer ... ... I felt he could speak to me, because through speaking about that, he wouldn't think about his mom and her illness (26W time point 2)

Furthermore, it helped the participants to maintain the changes they had already made and helped them achieve new goals:

My sisters would just ask for a wee bit of help and I would just be like yes, let's do it. And it would encourage me as well. (14W time point 2)

The barriers to being motivated to offer support were the risks to the participant's well-being by manner of the time and worry given in supporting their peers:

I would take a lot of their problems on board and worry about it - if only they would do this... ...But I shouldn't have to tell them to do it..... it's got to come from them (29M time point 2)

I just sometimes do feel that it's all on me for some things. I do tend to be... the 'go to person' sometimes, and that can be a bit tiring, especially as I'm getting older. I just feel... .you know..... that I would quite like a bit more time to myself (25W time point 2)

One outlier described having no motivation to offer support due to their inability themselves to make changes:

I wouldn't help because I've not yet been able to make changes. My principles are such that if I can't do it....(2M time point 2)

Discussion

The concept of clients cascading their knowledge and skills in weight management to their peers and receiving mutual support is acceptable to most of the participants in this study if they had the capability, opportunity, and motivation to do so.

Capability

Participants described their capabilities for giving and receiving support that allowed people to be autonomous, self-determined, included in healthy activities and to see a demonstration of healthy behaviours in contrast to directive support. Persuasive and prompting methods enabled peer support to proceed and facilitate change; methods such as encouragement to try new healthy changes and praise for what they had achieved. Active listening allowed time for

reflection to be autonomous in making change decisions. Methods of offering support that were not acceptable were those made in a controlling or pressurising way, and undermining or doubting behaviours. These findings are confirmed in the literature. Gorin et al [26], using a sample population from an existing weight management intervention in their randomised control trial, reported their participants feeling controlled by partners. Ryden et al [27] reported that family members querying new meal recipes were not helpful for making healthy changes.

Demonstration and inclusion based on role modelling of healthy behaviours was a preferred way to cascade support for weight management and inspire others. Demonstration was sometimes given unconsciously; living their healthy behaviours; on other occasions, they consciously set out to pass behaviours on such as providing peers with health meals. Bandura's 'Social Cognitive theory' [28] describes how people will observe and replicate those they feel connected to, such as those in their social environment. Agreeing with this research, Rossini et al [29] reported the benefits to family members from the ripple effect of good behaviours carried out by the participant. Similarly, Jackson [30] described inclusion as often being a passive support in that peers did not consciously make changes; their behaviours were changed for them.

Participant's capabilities for support were dependent on being credible both from their own self-belief and secondly from the visibility of their healthy changes to their social network. Visibility was perceived especially important to enhance their role modelling effects and is confirmed by the Theory of Social Comparison by Festinger [31]. Also fitting with the theoretical work of Bellg [32], offers of peer support would happen when clients believe they are competent in making weight management changes. On the other hand, from the view of the participant accepting support, they looked only for someone trying to change and not someone who has been successful in change.

Opportunity

Opportunities for peer support in the context of their social environment depended on cultural approval: by the manner support is offered and in the form of hospitality. There were acceptable times and places to offer support, and demonstration and role modelling of healthy habits created support opportunities. Other opportunities to initiate or request support were by acting on cues to raise the topic of weight management in conversation. However, on occasion this lead to missed cues and missed opportunities for support. Faw [33] talked about

indirect requests for support through mutual engagement when a peer modelled new healthy habits and Bishop et al [12] found that participants with weight loss inspired their social circle to ask how they changed their behaviour. Neither study reported on the possibility that cues could be missed. Demark-Wahnefried [34] discovered her intervention less effective than she had expected when she recruited mothers and daughters to give each other peer support. She found that they continued their traditional culture of sharing recipes and meal preparation but missed opportunities for support because they did not engage in new behaviours of reflective talk or active listening. 'Going along' with peers desires and the normal habits of a social group or relationship rather than upset them with new changes replicate those in the literature [35,36,30].

There was great emphasis placed on seeing peers ready to make lifestyle changes that created an opportunity to offer support. There was an unwillingness to offer support when peers did not appear ready to accept it. Hearing 'change talk' and seeing 'change actions' by being vigilant in looking and listening for subtle opportunities was important. This suggests that informal peers may naturally be aware of the best time to intervene with offers of support without specific training to do so. These findings build on the work of Verheijden et al [37] who suggest that offering support that is required is more likely to have an impact on the recipient's behaviour. Similarly, Aoun et al [16] in their non-randomised quantitative study involving 36 Rotarian clubs, described the results of formal peers offering weight management interventions at times the recipient was at a stage ready to accept this: 16 clubs showed significant reductions in BMI ($P<0.01$), with another 17 clubs showing BMI reductions although not statistically significant.

Motivation

Cascading knowledge and skills to their peers was dependent on participant's motivation to do so, and this was driven by their perceived benefits and risks to offering support. This research suggests that attendees at programmes are motivated to offer weight management support without formal extrinsic encouragement or reward. Driven by the incentive of their own values and beliefs, strongest motivation was based on 'anticipation and altruism': wanting to share health benefits they had received and looking forward to others becoming healthier. The findings confirm emotional aspects of peer support[38], worry that their family is not as healthy as it could be, or happy that their family are making healthy changes, supports motivation. Examples of formal peer support in the literature confirm that intrinsic

motivation is a driver to offer support. Aschbrenner *et al* [38] reported in their pilot study that trained peers exercised with their partner because they were concerned about their partner's health rather than their own. Tessaro *et al.* [39] identified peers in their mixed methods study feeling motivated to give support due to their reward of receiving extra knowledge of nutrition in their formal role.

Drivers of motivation appeared to link with the programme participant's sense of identity, not only as a member of their family, but also as a member of their social community. Offering support to peers, out with the family circle, was driven by moral obligations such as loyalty to work colleagues or duty to support a friend struggling to make changes. This promoted the participants esteem by allowing them to feel valued for the support they were offering, especially when their peer was seen to be making progress in their changes. Participants were more motivated to accept support if they could return the favour. Furthermore, reciprocal support was perceived as beneficial to their own weight maintenance, and to create new goals.

Conversely, the risks to their health and well-being could reduce motivation to offer support Risks were the time and effort involved, the distress of seeing peers unable to make changes and the possible threat to relationships. Demark-Wahnefried [34] reported that mothers did not want to participate in a weight loss programme with their daughters due to a possible threat to their relationship. Similarly, Hammarström *et al* [40] described female participants wanting to please their family by continuing to offer favourite rather than healthy meals.

This research fits with the theoretical work of Jane Ogden et al [41] who describes the possibilities that individuals can reinvent themselves and become healthier if they have the knowledge of why they should do it and receive a demonstration on how to do it.

Strengths and limitations

The strengths of this research are lived experiences of participants expressing their views on support through their weight management journey. In contrast to many of the studies examined in the literature, this qualitative research did not focus on the weight loss outcomes of peer support, but on the process itself and is therefore able to suggest new contributions to the literature. Even though the study sample of Participants and Leads were small in number, and recruited from one type of weight management programme, they were diverse in

characteristics that were comparable to those of the typical programme clients and would share some of the same views.

Regarding limitations of this study, as with any qualitative research, social desirability bias is possible. In addition, it is unknown how generalisable the findings are to cultures that are more diverse. It is unclear whether the participant preferences can be transferable to other knowledge and skills based programmes such as cardiac rehabilitation or diabetes education. However, the preferences for support were general, not specific to weight management, and related to areas where behaviour change would be beneficial and resonated with the existing literature in the field. This study was exploratory, and participants were asked to recall or imagine offering or accepting peer support rather than actually taking part in an intervention. The differences between 'in theory' and actually doing peer support may be quite different and additional barriers and facilitators might arise.

To conclude, this qualitative research underpinned by theory and informed by participants' perceptions suggest that clients attending the weight management programme of this study have the capability, opportunity and motivation to offer informal peer-led support to cascade learning. Future testing of the potential of a peer support intervention to extend the reach of weight management programmes is required.

Transparency declaration

The lead author affirms that this manuscript is an honest, accurate, and transparent account of the study being reported. The reporting of this work is compliant with Consolidated Criteria for Reporting Qualitative studies (COREQ) [42]. The lead author affirms that no important aspects of the study have been omitted and that any discrepancies from the study as planned have been explained.

Acknowledgements

The authors would like to thank the Participants for contributing to this research; the Study Steering group, and Lead weight management dietitian for their helpful comments.

Ethics approval

Approval was applied from the School of Health Sciences Research Ethics Committee (SREC) at Stirling University, the NHS Highland R & D office (REC) and also the Integrated Research Application System (IRAS).

Conflict of interests, source of funding and authorship

The authors declare that they have no conflicts of interest

No funding. The study was undertaken as part of a Clinical Doctorate at the University of Stirling. DK was responsible for the study concept, carried out data collection, thematic analysis and drafted the initial manuscript. PH and AT contributed to the study design and checked data analysis. All authors critically reviewed the manuscript, provided edits and approved the final version for publication submission.

References

1. World Health Organisation. Obesity and Overweight. 2015;Fact Sheet No 311.

2. World Health Organization. Global status report on noncommunicable diseases 2010 Description of the global burden of NCDs, their risk factors and determinants. April 2011

3. Dobbs,R.,Sawers,C.,Thompson,F.,Manyika,J.,Woetzel,J.,Child,P.,McKenna,S.,Spatharou, A. Overcoming obesity: An initial economic analysis. November 2014.

4. Lean MEJ, Astrup A, Roberts SB. Making progress on the global crisis of obesity and weight management. BMJ 2018 Jun 13;361:k2538. .

5. Blane DN, McLoone P, Morrison D, Macdonald S, O'Donnell CA. Patient and practice characteristics predicting attendance and completion at a specialist weight management service in the UK: a cross-sectional study. BMJ Open 2017 Nov 20;7(11):e018286-2017-018286.

6. Counterweight Project Team 2012, "The implementation of the Counterweight Programme in Scotland, UK", *Family practice,* vol. 29, no. suppl_1, pp. i139-i144.

7. Albarran C, R., Heilemann M, V., Koniak-Griffin D. Promotoras as facilitators of change: Latinas' perspectives after participating in a lifestyle behaviour intervention program. J Adv Nurs 2014 10;70(10):2303-2313.

8 Artinian NT, Fletcher GF, Mozaffarian D, Kris-Etherton P, Van Horn L, Lichtenstein AH, et al. Interventions to Promote Physical Activity and Dietary Lifestyle Changes for Cardiovascular Risk Factor Reduction in Adults: A Scientific Statement From the American Heart Association. Circulation 2010 July 27;122(4):406-441.

9. Kirby D. 2019 Thesis under examination

10. World Health Organization 2008, "Peer Support Programmes in Diabetes: Report of a WHO Consultation, 5–7 November 2007", *Geneva: WHO.*

11. Christakis NA, Fowler JH. The spread of obesity in a large social network over 32 years. N Engl J Med 2007;357:370-9. N Engl J Med 2007 2007;357(4):370 - 379.

12. Bishop J, Irby MB, Isom S, Blackwell CS, Vitolins MZ, Skelton JA. Diabetes prevention, weight loss, and social support: Program participants' perceived influence on the health behaviors of their social support system. Family & Community Health: The Journal of Health Promotion & Maintenance 2013 Apr;36(2):158-171.

13. Marcoux BC, Trenkner LL, Rosenstock IM. Social networks and social support in weight loss. Patient Educ Couns 1990 06;15(3):229-238.

14. Thomas JL, Stewart DW, Lynam IM, Daley CM, Befort C, Scherber RM, et al. Support needs of overweight African American women for weight loss. Am J Health Behav 2009 Jul;33(4):339-352.

15. National Institute for Health and Care Excellence (NICE). PH49 Behaviour change: individual approaches. London. January 2014).

16. Aoun SM, Shahid S, Le L, Packer TL. The role and influence of 'champions' in a community-based lifestyle risk modification programme. J Health Psychol 2013 Apr;18(4):528-541.

17. Goldacre B. Bad Science. 2nd ed. London: Fourth Estate; 2009.

18. Craig P, Dieppe P, Macintyre S, Michie S, Nazareth I, Petticrew M, et al. Developing and evaluating complex interventions: the new Medical Research Council guidance. BMJ 2008 Sep 29;337:a1655.

19. Michie S, Atkins L, West R. The Behaviour Change Wheel: A Guide to Designing Interventions. first ed. Great Britain: Silverback Publishing; 2014.

20. Daniel Kahneman. Thinking, Fast and Slow ISBN 978-0-141-03357-0. London: Penguin; 2012.

21 Patton MQ. Qualitative Research & Evaluation Methods. Sage. 2015(4th edition).

22. Hoddinott P, Morgan H, Thomson G, Crossland N, Craig L, Britten J, et al. Intervention vignettes as a qualitative tool to refine complex intervention design. Trials 2013;14(S1):O55.

23 Trotter II RT. Qualitative research sample design and sample size: Resolving and unresolved issues and inferential imperatives. Prev Med 2012;55(5):398-400.

24. Malterud K, Siersma VD, Guassora AD. Sample size in qualitative interview studies: guided by information power. Qual Health Res 2016;26(13):1753-1760

25. Scottish Government. Scottish Government Urban Rural Classification 2013-2014

ISBN: 9781784129576 2015

26. Gorin AA, Powers TA, Koestner R, Wing RR, Raynor HA. Autonomy support, self-regulation, and weight loss. Health Psychology 2014;33(4):332.

27. Rydén PJ, Sydner YM. Implementing and sustaining dietary change in the context of social relationships. Scand J Caring Sci 2011;25(3):583-590.

28. Bandura A. Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ, US: Prentice-Hall, Inc; 1986.

29. Rossini R, Moscatiello S, Tarrini G, Di Domizio S, Soverini V, Romano A, et al. Effects of Cognitive-Behavioral Treatment for Weight Loss in Family Members. J Am Diet Assoc 2011 11;111(11):1712-1719.

30. Jackson SE, Steptoe A, Wardle J. The influence of partner's behavior on health behavior change: the English Longitudinal Study of Ageing. JAMA internal medicine 2015;175(3):385-392.

31. Festinger L. A Theory of Social Comparison Processes . Journal of Human Relations 11 May 1954;7:117-140.

32. Bellg AJ. Maintenance of health behavior change in preventive cardiology: Internalization and self-regulation of new behaviors. Behav Modif 2003 01;27(1):103-131.

33. Faw MH. Young adults' strategies for managing social support during weight-loss attempts. Qual Health Res 2014 02;24(2):267-278.

34. Demark-Wahnefried W, Jones LW, Snyder DC, Sloane RJ, Kimmick GG, Hughes DC, et al. Daughters and Mothers Against Breast Cancer (DAMES): main outcomes of a randomized controlled trial of weight loss in overweight mothers with breast cancer and their overweight daughters. Cancer 2014;120(16):2522-2534.

35. Terranova CO, Lawler SP, Spathonis K, Eakin EG, Reeves MM. Breast cancer survivors' experience of making weight, dietary and physical activity changes during participation in a weight loss intervention. Supportive Care in Cancer 2017;25(5):1455-1463.

36. Ahlgren C, Hammarström A, Sandberg S, Lindahl B, Olsson T, Larsson C, et al. Engagement in new dietary habits—obese women's experiences from participating in a 2-year diet intervention. Int J Behav Med 2016;23(1):84-93.

37. Verheijden MW, Bakx JC, van Weel C, Koelen MA, van Staveren ,W.A. Role of social support in lifestyle-focused weight management interventions. Eur J Clin Nutr 2005 08;59 Suppl 1:S179-S186.

38. Aschbrenner KA, Mueser KT, Naslund JA, Gorin AA, Zawacki SA, Pratt SI, et al. Facilitating partner support for lifestyle change among adults with serious mental illness: A feasibility pilot study. Community Ment Health J 2017;53(4):394-404.

39. Tessaro IA, Taylor S, Belton L, Campbell MK, Benedict S, Kelsey K, et al. Adapting a natural (lay) helpers model of change for worksite health promotion for women. Health Educ Res 2000 10;15(5):603-614.

40. Hammarström A, Wiklund AF, Lindahl B, Larsson C, Ahlgren C. Experiences of barriers and facilitators to weight-loss in a diet intervention-a qualitative study of women in Northern Sweden. BMC Womens Health 2014;14(1):59.

41. Ogden J, Hills L. Understanding sustained behavior change: the role of life crises and the process of reinvention. Health: 2008;12(4):419-437.

42. 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 Dec 1;19(6):349-57.

Glossary

Acceptable support – something that the participants would perceive as agreeable and would consider using (https://www.collinsdictionary.com/dictionary/english/acceptable)

Affirmation – confirming another's progress: it is a positive evaluation made by a person of another's performance or actions. Also, self-affirmation – confirming their own progress

Behaviour change (positive) – the changes that are made to adopt a healthier lifestyle

Behaviour Change Wheel (BCW) – A guide to designing interventions (Michie et al. 2014)

Behaviour change techniques (BCT) – there are a range of 26 techniques involving prompts, information, goal setting, and self-monitoring and these skills are taught to the individual to help them learn to make new habits usually based on promoting their health

Body Mass Index (BMI) Overweight and obesity among adults is measured using Body Mass Index (BMI). The BMI is calculated by dividing weight in kilograms, by the square of the height in metres (kg/m2). (World Health Organization 2000)

Waist Circumference (Alberti et al. 2007)

White European Adults are classified into the following BMI groups:	**Asian Adults are classified into the following BMI groups**:	**Description**
BMI range (kg/m^2)	BMI range (kg/m^2)	
Less than 18.5	Less than 18.5	Underweight
18.5 to 24.9	18.5 to 23	Normal
25 to 29.9	23 to 27.5	Overweight
30 and over	Over 27.5	Obese
40 and over		Morbidly obese
25 and over		Overweight and obese

International Diabetes Federation guidance on waist circumference thresholds as a measure of central obesity

	Increased risk	**High risk**
European Men	≥94 cm (37 inches)	≥102 cm (40 inches)
Women	≥80 cm (31.5 inches)	≥88cm (34.5 inches)
Asian Men	≥90 cm (35 inches)	≥90 cm (35 inches)
Women	≥80 cm (31.5 inches)	≥80 cm (31.5 inches)

Note that increased waist circumference can also be a marker for increased risk even in persons of normal BMI (Hans et al. 1996).
If BMI is greater than 35kg/m^2, waist circumference does not add to absolute measure of risk (World Health Organization 2000)

Capability – the physical strength, knowledge, skills or stamina to perform the behaviour (Michie et al. 2014, p. 59)

Client – a person who uses a service such as an individual attending a weight management programme

Cognitive Behaviour Theory (CBT) (Beck 1993) **–** A direct, action-oriented approach that teaches a person to explore and analyse their patterns of thinking and acting so that they are able to change their behaviour

Co-producers/Co-developers – professionals and people using the services, working together in an equal and reciprocal way to agree what is needed for the development of a service.

'Counterweight'© – a structured, weight management programme. For details see www.counterweight.org

Demonstration – exhibiting to others a process or action, showing proof or evidence that they are carrying out behaviour changes.

Encouragement – trying to stimulate the development of an activity, state, or belief to make a change

Effectiveness – refers to the size of the effect that has accomplished a purpose

Family network/Family support/Family circle – Family is defined as first or second degree relatives or those co-habiting under one roof (includes parent, child, spouse)

Formal/Informal weight management intervention – A formal intervention would involve the input of an individual whose role it is to offer an intervention. An informal intervention would involve an individual without payment or position to offer that intervention and could occur when providing knowledge, experience, emotional, social or practical help to others with whom they have a commonality

Heuristically – a common-sense rule or set of rules intended to increase the probability of solving some problem, a rule discovered from experience

Inclusion – including others in an activity to help remove their barriers to participation

Lay health advisors/peer advisors/peer educators/natural lay helpers/lay man – These are trusted members of the community who have received some training or education to enable them to be credible in promoting health, but they are not healthcare professionals and may only use their own natural skills

Lifestyle change intervention/programme – intervention or programme that helps promote or maintain a healthy lifestyle

Leads – trained health professionals who deliver the weight management programmes and support their clients to make lifestyle changes to initiate weight

loss and then maintain it. For this study, the word is capitalised to differentiate them from leads not in this study

Lifestyle change – making a change to promote health and well-being

Motivation – there should be more likelihood that the behaviour will occur at a relevant time than not to occur or for a competing behaviour to occur instead (Michie et al. 2014, p. 59)

Norm – something that is normal or standard in that environment

Opportunity – the behaviour should be made physically accessible, affordable, socially acceptable and there should be sufficient time for it to happen

Others – those who the participant knows within their social network who they could help or be helped by

Participant – someone who has taken part and given their perceptions in the study. For this study, the word is capitalised to differentiate them from participants not in this study

Peer – a person who has a commonality to someone else in fundamental ways: for this research the commonality is the desire to manage their weight. The relationship is one of equality

Peer support – occurs when people provide knowledge, experience, emotional, social or practical help to each other. They can be trained or untrained supporters. WHO 2007:13) define this as: "Peer support has been defined as support from a person who has experiential knowledge of a specific behaviour or stressor and similar characteristics as the target population".

Praise – Expressing commendation of others progress: it is a positive evaluation made by a person of another's performance or actions

Recipient – the individual receiving an intervention or support

Social circle – a group of people connected socially

Social network – refers to relationships with others they know

Social support – refers to the quality of care and support from those they know around them

Socioeconomic status – A person's position in society, that is described by determinants such as income, level of education achieved, occupation and ownership of property

Support – the assistance the participant gives or receives around lifestyle changes

Stakeholders – those people affected by the proposed intervention: for this research, this includes the clients who use the service (study participants) and

contributors who provide an access to knowledge about the service (programme Leads)

Weight loss – the amount of weight at which health benefits are gained is defined as 5 – 10% of the individuals body weight. (SIGN 2010)

Weight maintenance – this is the weight at which one is able to remain stable and is usually defined at <3% of body weight in adults

Weight management – these are techniques that cover long-term lifestyle plans that promote healthy eating and daily physical activity. The term covers not only aiming to achieve weight loss but also considers the maintenance of a healthy BMI in the long term

Weight management Intervention – intervention or programme that helps promote or maintain a healthy weight


every
difficult
thinking
supportive
coming
person
always
started
thought
trying
making
worked
exercise
daughter
problem
helped
friends
others
anything
things
going
family
saying
health
might
someone
sometimes
maybe
talking
topic
looking
lifestyle
ready
helping
support
thoughts
talked
asked
anyway
house
something
tried
overweight
people
please
getting
group
wrong
point
times
advice
laughing
husband
participants
today
little
first
raise
leaflet
think
whether
change
actually
right
still
anyone
friend
setting
around
wanted
weight
together
losing
school
motivated
asking
eating
offer
mentioned
better
moment
thing
changes
different
colleagues
probably
giving
years
programme
knows
rather
thank
somebody
approach
neighbour
walking
class
management
months
learned